

THE MINISTRY OF AGRICULTURE IN MANITOBA

1870 - 1970

by

J.H. Ellis, D.Sc., F.A.I.C.
Professor of Soils (Retired)

Manitoba
Department of Agriculture

Winnipeg, Manitoba.

December, 1970.

Published by
The Economics and Publications Branch
Manitoba Department of Agriculture
Winnipeg, Manitoba
1971

By Authority of
The Honourable Samuel Uskiw
Minister of Agriculture
Printed by R.S. Evans - Queen's Printer for the Province of Manitoba

TO MARJORIE

Without whose willing heart and
filial devotion this work could
not have been undertaken

Professor J.H. Ellis

Joseph Henry Ellis arrived in Canada from Warwickshire, England, in the early years of the Century and soon became a strong supporter of his adopted land. His early experience on a Glenboro farm followed by work on the Dominion Experimental Farm at Brandon, and enrolment in the Manitoba Agricultural College in 1913, started him on a lifetime career in research, teaching and extension work, with particular emphasis on soil science, embracing the related fields of geomorphology, ecology, crop production, land-use and conservation.

From conducting the pioneer agronomic experiments in the Department of Field Husbandry at the Manitoba Agricultural College with which the author was involved as student-assistant, and on graduation, as Experimentalist, his activities in soil and crop management led to field and laboratory studies of Manitoba soils, and to the formation of the Soil Science Department of The University of Manitoba which he developed and served as Departmental Head until statutory retirement from the University in 1955.

Early in his career a close voluntary liaison was established between the soils departments of the Universities of Manitoba, Saskatchewan and Alberta which led to mutual co-operation and co-ordination of soil survey work in the western provinces, to the involvement of the Federal Department of Agriculture in soil survey activities, to the formation of the Canadian Society of Soil Science, and to the recognition of soil science as an accepted scientific discipline in Canadian universities.

Following his retirement from The University of Manitoba he was employed as a consultant in the Department of Mines and Natural Resources and the Department of Agriculture. Serving in this capacity he continued to contribute to Manitoba agriculture through his extensive knowledge, boundless energy and sincere philosophy of life.

Dr. Ellis received a B.S.A. degree from The University of Manitoba, a M.Sc. degree from the University of Minnesota and was honored by a Doctorate from The University of Manitoba. He is a Charter Member and Fellow of the Agricultural Institute of Canada, a Fellow of the Canadian Society of Soil Science, a Fellow of the Appraisal Institute of Canada, a member of long standing in the British Society of Soil Science and the American Society of Soil Science and is a member emeritus of the American Society of Soil Science and of the American Society of Agronomy.

It is against this background that "The Ministry of Agriculture in Manitoba 1870 - 1970" was researched and written.

H. A. Craig
Editor.

TABLE OF CONTENTS

	Page
PRELUDE - Agricultural Beginnings in Rupert's Land	1 - 23
PART I	
HISTORICAL BACKGROUND	25
1. DISTRICT OF ASSINIBOIA UNDER SELKIRK SQUIREARCHY, 1812 to 1834	28
2. DISTRICT OF ASSINIBOIA UNDER HUDSON'S BAY COMPANY SOVEREIGNTY, 1835 to 1869	28
(1) The Council of Assiniboia	29
(2) Community Governments Assumed by Specific Groups Concurrent with Council of Assiniboia	30
(a) The Metis Buffalo Hunt	30
(b) The Settlement at Portage la Prairie	30
(3) Transfer of Rupert's Land to Canada	32
3. GOVERNMENT ADMINISTRATION OF AGRICULTURE IN RUPERT'S LAND PRIOR TO 1870	34
(1) Under the Fur-Trade Regime	34
(2) Under the Selkirk Squirearchy	36
(3) Under Company Sovereignty	36
(a) Proceedings of Council held at Fort Garry, May 4th, 1832	37
(b) Proceedings of Council held at Fort Garry, April 30th, 1835	38
(c) Minutes of Council of Assiniboia, June 5th, 1841	38
(d) Laws of Assiniboia Passed by the Governor and Council of Assiniboia, April 11th, 1862	39
(e) Additional Endeavors of the Council of Assiniboia	40
(f) Agricultural Demonstrations and Experimental Projects in the Red River Settlement	41
(g) Agricultural Development in Red River Settlement under the Council of Assiniboia	47

	Page
PART II	
THE FORMATION OF THE GOVERNMENT OF MANITOBA AND OF THE MINISTRY OF AGRICULTURE AS A DEPARTMENT OF PROVINCIAL GOVERNMENT	50
PART III	
HISTORICAL DEVELOPMENT OF THE MINISTRY OF AGRICULTURE	64
1. THE INITIAL PERIOD, 1871 to 1882	64
(1) Formative Stages	64
(a) First Sub-Period - Joint Ministry of Public Works and Agriculture	65
(b) Second Sub-Period - Ministry of Agriculture Inaugurated as a Separate Portfolio	67
(c) Third Sub-Period - Minister and Bureau of Agriculture and Statistics	69
(2) Financial Support Provided by the Legislature	71
(3) Immigration Activities, 1871 to 1882	73
(4) Agricultural Development During the Initial Period, 1871 to 1882	79
2. THE SECOND PERIOD - DEPARTMENT OF AGRICULTURE, STATISTICS AND HEALTH, 1883 to 1889	86
(1) Legislative Acts Relating to the Reorganization of the Ministry of Agriculture	86
(2) Other Acts of Agricultural Interest	88
(3) Legislative Support of the Reorganized Department and its Activities	90
(4) Immigration Activities Enlarged	92
(5) Agricultural Statistics and Development During the Second Historic Period, 1883 to 1889	93
(6) Public Health Activities to 1889	108
3. THE THIRD PERIOD - DEPARTMENT OF AGRICULTURE AND IMMIGRATION	111
A. The Pre M.A.C. Sub-Period, 1890 to 1905	111
(1) Revision of Act Respecting the Ministry of Agriculture	111

	Page
(2) Financial Support of Department	112
(3) Immigration Activities, 1890 to 1905	112
(4) Agricultural Societies and Farmers' Institutes	117
(5) Aid to Livestock Associations	122
(6) Specific Departmental Activities, 1890 to 1905	125
(a) Provincial Veterinarian	126
(b) Provincial Dairy Superintendent	127
(c) Provincial Bacteriologist	130
(d) Provincial Noxious Weeds Inspector	131
(e) Provincial Game Guardian	133
(f) Additional and Aperiodic Activities, 1890 to 1905	134
(7) Public Health Activities, 1890 to 1905	139
(8) Agricultural Development During the 1890 to 1905 Sub-Period	141
(9) Agricultural Education, 1890 to 1905	146
(10) General Conclusions re Departmental Activities 1890 to 1905 Sub-Period	150
B. The M.A.C. Sub-Period, 1906 to 1924	151
I. Continuing Departmental Activities	156
(1) Immigration - Colonization and Employment Services	156
(2) Services to Agriculture	157
(a) Services and Aids to Dairying	158
(b) Services and Aids to Livestock Associations and the Livestock Industry	162
(c) Provincial Noxious Weeds Inspector and Provincial Weeds Commission	171
(3) Publications Branch and Agricultural Statistics ..	172
(a) Publications	172
(b) Crop Information and Agricultural Statistics ..	174
(4) Protection of Game and Evolution of the Game Branch	175
(5) Public Health	177
(6) Miscellaneous Administrative Duties	179

	Page
II. New and Enlarged Activities	181
(1) Manitoba Agricultural College	181
(a) Financial Support of the Institution	181
(b) The Board of Directors	182
(c) The Faculty of the M.A.C.	186
(d) The Work and Activities of the Institution ..	188
(2) Provincial Demonstration Farms	252
III. Aperiodic and Special Activities	255
(1) Joint Dominion-Provincial Activities	255
(2) Special Provincial Activities	256
(a) Grain Marketing	256
(b) Livestock Marketing	261
(c) Economic Relief	262
IV. Agricultural Development During the 1906 to 1924 Sub-Period	266
V. General Comments re Departmental Activities, 1906 to 1924 or M.A.C. Sub-Period	272
C. The Post M.A.C. Sub-Period, 1925 to 1959	274
I. Interval of Retrenchment and Agricultural Difficulties	274
(1) Effect of Retrenchment and Agricultural Difficulties on Departmental Activities	289
(a) Effect of Financial Stringency in the Initial Years of the 1925 to 1959 Sub-Period	289
(b) Transfer of Activities and Duties to Conform with the Reorganization of Government Departments	290
(2) Innovations Initiated or Undertaken to Deal with Special Problems in the First Half of the 1925 to 1959 Sub-Period	296
(a) Investigations Resulting in the Introduction of Fertilizers into Agricultural Practice on Manitoba Farms ...	297
(b) Initiation and Evolution of the Systematic Survey and Investigation of Manitoba Soils ..	301

	Page
(c) Combating the "Decade of Drought"	303
(d) The Land Rehabilitation Act	325
(e) Rural Rehabilitation Commission	326
(f) Debt Adjustment	328
(g) The Manitoba Economic Survey, 1937 to 1939	329
(h) Veterinary Diagnostic Laboratory	331
(i) Launching the Manitoba Sugar Beet Industry	331
(j) War-Time Committee on Agriculture	333
II. Activities and Progressive Development of Departmental Branches During the Post M.A.C. Sub-Period	335
(1) Specific Activities and Duties of the Deputy Minister's Office During the Post M.A.C. Sub-Period	335
(2) Extension Service Branch	339
(a) Director of Extension	342
(b) Agricultural Extension Personnel	359
(c) Activities of Extension Service Specialists	370
(3) Dairy Branch - 1925 to 1959	449
(a) Directors and Assistant Directors	449
(b) Dairy Branch Specialists	450
(c) Activities of Dairy Branch Specialists and District Supervisors	450
(d) Dairy Farm Cost Accounting	453
(e) Innovations and Regulatory Actions	454
(4) Livestock Branch - 1925 to 1959	457
(a) Personnel Involved	457
(b) Activities of Livestock Branch	458
(c) Cattle Brands and Stallion Enrolment	464
(d) Veterinary Services	465
(5) Weeds Commission - 1925 to 1959	470
(a) Personnel of Weeds Commission - 1925 to 1959	471
(b) Activities of the Weeds Commission - 1925 to 1940	471

	Page
(c) Activities of Weeds Commission Enlarged, 1940 to 1959	475
(6) Publications Branch - 1925 to 1959	477
(a) Directors and Assistant Directors	478
(b) Publication Services, 1925 to 1959	478
(c) Statistics and Services Involved, 1925 to 1959	478
(d) Consumer Information Service, 1957 to 1959	479
(e) Grasshopper Control Campaigns	480
(7) Employment Services - 1925 to 1935, and 1943 to 1959	483
(a) Employment Services of Canada - Manitoba Government Offices, 1925 to 1935.	483
(b) Provincial Farm Help Service, 1943 to 1959..	485
(8) Co-operative Services Branch - 1949 to 1959 ...	488
(a) Personnel	488
(b) Co-operatives	488
(c) Credit Unions	489
(d) Amalgamation of Co-operative Associations and Credit Union Services	489
(e) Activities Involved, 1949 to 1959	490
(f) Marketing Board	491
(9) Debt Adjustment Board - 1930 to 1959	491
(10) Support of Agricultural Research - 1925 to 1959 .	492
III. Agricultural Development in Manitoba During the 1925 to 1959 Sub-Period	493
IV. Additional Comments - 1925 to 1959 Sub-Period ...	517
(1) Innovations Initiated at the Close of the 1925 to 1959 Sub-Period	517
(a) The Agricultural Credit Act	518
(b) Crop Insurance	518
(2) The Special Role of the Agricultural Representatives	527
(3) Urban-oriented Influences	528

	Page
(a) Fractionation of Agriculture	529
(b) Invasion of Farming by Financial Interests	530
4. THE FOURTH PERIOD - 1960 to 1969	531
(1) Departmental Reorganizations	531
(2) Legislative Support of the Ministry	535
(3) Canada-Manitoba Agreements (A.R.D.A.) and (F.R.E.D.)	540
(a) A.R.D.A.	540
(b) F.R.E.D.	542
(4) Commercial Pressures and Economic Planning	543
(5) Continuing Departmental Activities and Services, 1960 to 1969	546
(a) Extension Service Branch	547
(b) Soils and Crops Branch	552
(c) Animal Industry Branch	559
(d) Veterinary Services Branch	564
(e) Economics and Publications Branch	567
(f) Co-operative and Credit Union Services Branch ..	573
(6) Provincial Corporations of Agricultural Affiliation ...	576
(a) The Manitoba Credit Corporation	576
(b) Manitoba Crop Insurance Corporation	579
(7) Predator Control	581
(8) The Human Element	582
(9) Agricultural Development in Manitoba During the 1960 to 1969 Period	583
(a) Production of Field Crops and Arable Land Use	583
(b) Problem of Grain Disposition	587
(c) Livestock Production	596
5. WITH A GLANCE BACKWARD	609
(1) The Pioneer Era	616
(2) Era of Traditional Farming	619
(3) Era of Urbanization and Fractionation of Agriculture	621

APPENDIX

	Page
I. Graphic Presentation of Supply Voted by Component Sessions of Each Legislature	631
II. The M.A.C. Staff, 1906 to 1924	633
III. Crop Reporting Districts	637
IV. Agricultural Societies	644
V. Horticultural Societies	645
VI. Women's Institutes	646
Index (Subject Matter)	650
Index (Personnel)	658

TABLES

		Page
Table 1.	Population and Agricultural Data - Lower Settlement and Grantown, District of Assiniboia	48
	2. Population and Agricultural Data - Grantown and Indian Settlements, District of Assiniboia	49
	3. Ministers of Agriculture and the Lieutenant-Governors and Premiers Under Which They Served from Date of Inauguration of the Province of Manitoba, July 15, 1870	56
	4. Provincial Lands Commissioners (Subsequent to June 30, 1887)	61
	5. Provincial Railway Commissioners (Subsequent to September 10, 1886)	62
	6. Manitoba Power Commissioners (Subsequent to May 27, 1933)	63
	7. Payments Made in Connection with the Government of Manitoba up to December 31, 1870, as Recorded in the Public Accounts of Manitoba	73
	8. Government Expenditures as Recorded in Public Accounts of the Province of Manitoba during the Period 1871 to 1882	74
	9. Supply Voted by the Legislature for "Immigration and Agriculture" During the Initial Period, 1871 to 1882, and Expenditures for the Same Period as Recorded in Public Accounts of Manitoba	76
	10. Supply Voted by Legislature for Department of Agriculture, Statistics and Health, 1883 to 1889, and Supply Voted for all Departments for the Same Period	91
	11. (a) Cultivated Farm Acreage, and the Classes of Crops in Acres and Percent Grown in Manitoba by Years - 1883 to 1889	98
	(b) Total Number and Kind of Farm Livestock and Number per 100 Acres of Cultivated Farm Land in Manitoba by Years - 1883 to 1889	98
	12. Supply Voted by the Legislature for Department of Agriculture and Immigration During Pre-Manitoba Agricultural College Sub-Period, 1890 to 1905, and Supply Voted for all Departments for the Same Period .	114

	Page
Table 13. Annual Grants to Agricultural Associations Listed in Supply Votes of the Ministry of Agriculture by Years in Post M.A.C. Sub-Period - 1890 to 1905	123
14. Cultivated Farm Acreage and the Classes of Crops in Acres and Percent Grown in Manitoba by Years - 1890 to 1905	142
15. Total Number and Kind of Farm Livestock and Number per 100 acres of Cultivated Farm Land in Manitoba by Years - 1890 to 1905	143
16. (a) Annual Production of Farm and Creamery Butter in Manitoba - 1890 to 1905	145
(b) Annual Production of Factory Made Cheese in Manitoba - 1890 to 1905	145
17. Supply Voted by the Legislature for Department of Agriculture and Immigration During the Manitoba Agricultural College Sub-Period, 1906 to 1924	152
18. Stallion Enrolment, Department of Agriculture and Immigration, 1906 to 1924	170
19. Amounts Provided in Department of Agriculture and Immigration Annual Votes for Vital Statistics, Marriage Licence Administration and Grants to Hospitals Under "The Charity Aid Act" for the Years 1906 to 1924	178
20. Students Enrolled at Manitoba Agricultural College - 1906 to 1924	197
21. Cultivated Farm Acreage and the Classes of Crops in Acres and Percent, Grown in Manitoba by Years - 1906 to 1924	267
22. Five Year Moving Average Percent of the Various Classes of Farm Crops Grown on Manitoba Farms - 1906 to 1924	268
23. Relative Percentage of Total Grain Acreage Sown to Wheat, Oats, Barley, Flax, Rye and Mixed Grain in Manitoba - 1906 to 1924	269
24. Total Number and Kind of Farm Livestock and Number per 100 Acres of Cultivated Farm Land in Manitoba by Years - 1906 to 1924	270
25. Average Number and Kind of Livestock per Farm in Manitoba - 1906 to 1924	271

	Page
Table 26. Number of Creameries and Cheese Factories in Manitoba and Production of Dairy Products by Years - 1906 to 1924	273
27. Provincial Mean Annual Yields Per Acre and Weighted Price Per Bushel of Wheat, Oats, Barley and Flax; and Average Mean Annual Prices Per Cwt. (live weight) of Cattle, Sheep and Hogs Sold at the Stockyards; in Each of Three Successive Groups of Years: (a) 1925 to 1938; (b) 1939 to 1945; and (c) 1946 to 1959	277
28. Supply Voted by the Legislature for Department of Agriculture and Immigration During the Post-Manitoba Agricultural College Sub-Period, 1925 to 1959	280
29. Comparison of the Disbursements and Grants Made on Behalf of the M.A.C. and of the University of Manitoba for the Five Fiscal Years 1920-1924, with the Total Grants to the University for the Five Fiscal Years 1925-1929 (Exclusive of Capital Expenditures)	293
30. Species of Fur-Bearing Animals Kept on Licensed Fur Farms During the Three Years 1925-26 to 1927-28	295
31. Number of Wildlife Pelts Recorded by the Deputy Minister as Taken in Manitoba in the Three Years, 1927-28 to 1929-30	295
32. Water Development Projects Installed in Manitoba Under P.F.R.A. from Inception, 1935 to End of Post M.A.C. Sub-Period, 1959	323
33. Community Water Storage and Irrigation Projects Installed in Manitoba from Inception, 1935 to End of Post M.A.C. Sub-Period, 1959	324
34. Major Water Control and Reclamation Projects Installed in Manitoba by Special Votes of Parliament, Administered by P.F.R.A. from 1935 to the End of Post M.A.C. Sub-Period, 1959	325
35. Number of Municipalities Involved, and Total Number of Bounties for Bears, Timber Wolves, Coyotes, and Foxes, Paid Out Annually by Municipalities from 1935 to 1959, on the Basis of 50 Percent Reimbursement by Department of Agriculture Under "The Predator Control Act"	337

	Page
Table 36. Agricultural Representatives and Districts Served During Post M.A.C. Sub-Period - 1925 to 1959	344
37. Agricultural Society Charters and Number of Active Agricultural Societies and Society Members in Post M.A.C. Sub-Period, 1925 to 1959; and in Subsequent Years	349
38. Number of Agricultural Society Fairs and of Judges Provided by Extension Service Branch - 1925 to 1959	350
39. Number of Spring Fat Stock Shows as Recorded in Extension Service Reports - 1925 to 1959	350
40. Seed and Dressed Poultry Shows Held, as Agricultural Society Projects, by Years in the 1925 to 1959 Sub-Period	351
41. Number of Plowing Matches Held Annually - 1925 to 1959	353
42. Numbers of Agricultural Societies Holding "Standing Crop" and "Standing Crop and Seed" Competitions in the 1925 to 1959 Sub-Period	354
43. Number of Horticultural Society Charters; Membership Grants; and Number of Fairs Held in Post M.A.C. Sub-Period and in Subsequent Years ..	356
44. Number of Active Women's Institutes in Manitoba and Total Number of Members in Post M.A.C. Sub-Period, 1925 to 1959; and in Subsequent Years ..	357
45. (a) 4-H Clubs - Kind and Number of Clubs and of Club Members by Years, 1925 to 1959	360
(b) 4-H Clubs - Kind and Number of Clubs and of Club Members Subsequent to 1959	362
46. District Home Economists and Districts Served - 1951 to 1959	366
47. Summary of Number of Station Stops, Number in Attendance, and Number of Forage Crop Seed Sales Made from Forage Crop Cars and Good Farming Cars - 1924 to 1929	377
48. Soil Conservation Clubs, Location, Year Established, and Membership from Inception to March 31, 1959 ..	394
49. Miles of Field Shelterbelts; and Number and Species of Trees and Shrubs Planted in Soils and Crops Tree Planting Projects - 1954 to 1959 and 1960 to 1969	396

	Page
Table 50. Miles of Field Shelterbelts Planted by Various Agricultural Representative Districts During the Periods 1954 to 1959 and 1960 to 1969	397
51. Average Number of Beekeepers and of Colonies Per Operator - 1925 to 1959	430
52. Numbers of Total and Farm Population in Manitoba; and Farm Population in Percent of the Total Population for the Census Years - 1931 to 1966...	437
53. Total Number of Farms, and Number and Percent of Manitoba Farms Recorded as Keeping (a) Hens and Chickens; and (b) Turkeys, in specific census years ..	437
54. Number and Percent of Manitoba Farms Reporting Flocks of Hens and Chickens, Grouped into Various Recalculated Flock Size Classes, in Census Years - 1946 to 1966	438
55. Number and Percent of Manitoba Farms Reporting Flocks of Turkeys, Grouped into Various Recalculated Flock Size Classes, in Census Years - 1946 to 1966	438
56. (a) Summary of Royal Winter Fair Winnings by Manitoba Exhibitors Prior to War Years - 1925 to 1938	462
(b) Summary of Royal Winter Fair Winnings by Manitoba Exhibitors Subsequent to War Years - 1946 to 1959	463
57. (a) Stallion Enrolment - Draft Horse Breeds, 1925 to 1959	466
(b) Stallion Enrolment - Light Horse Breeds, 1925 to 1959	467
58. Comparison of the Number of Registered Stallions of Draft Horse Class with the Number of Registered Stallions of Light Horse Class, and the Relative Percentage of Each Class by Five Year Periods - 1924-1925 to 1958-1959	468
59. Number of Manitoba Farms by Census Years and by Size-Classes, 1926 to 1966	495
60. Cultivated Farm Acreage, and the Classes of Crops in Acres and Percent, Grown in Manitoba by Years - 1925 to 1959	497
61. Relative Percentage of Total Grain Acreage Sown to Wheat, Oats, Barley, Flax, Rye and Mixed Grain in Manitoba - 1925 to 1959	499

	Page
Table 62. Annual Mean Yields of Wheat, Oats, Barley, Flax, Rye and Mixed Grain in Manitoba - 1925 to 1959 (Expressed in Bushels Per Acre)	501
63. Total Number and Kind of Farm Livestock, and Number per 100 Acres of Cultivated Farm Land in Manitoba by Years - 1925 to 1959	504
64. Average Number and Kind of Livestock Per Farm in Manitoba - 1925 to 1959	505
65. Tractors, Trucks and Other Machines on Manitoba Farms as Recorded in Census Data - 1921 to 1966 ...	507
66. Farm Machines Sold in Manitoba as Reported in Annual Crop Bulletins in Post M.A.C. Sub-Period, 1925 to 1959; and in Subsequent Years	508
67. Number of Creameries and Cheese Factories in Manitoba, and Production of Dairy Products, by Years - 1925 to 1959	512
68. Number and Kind of Poultry in Manitoba - 1925 to 1959	515
69. Number of Beekeepers; Number of Colonies; and Estimated Total Production of Honey and Beeswax in Manitoba by Years - 1925 to 1959	516
70. Supply Voted by the Legislature for Department of Agriculture and Conservation, 1960 to 1967; and Department of Agriculture, 1968 to 1970	536
71. Number of Credit Unions, Number of Members and Number of Loans Issued, 1960 to 1968	575
72. Number of Approved Loans and Amount of Approved Loans Issued by Manitoba Agricultural Credit Corporation - 1959-60 to 1967-68	578
73. Number of Municipalities Involved, and Total Number of Bounties for Bears, Coyotes, and Foxes, Paid Out Annually by Municipalities from 1960 to 1965, on the Basis of 50 Percent Reimbursement by Department of Agriculture Under "The Predator Control Act"	582
74. Cultivated Farm Acreage and The Classes of Crops in Acres and Percent, Grown in Manitoba by Years - 1960 to 1969	583
75. Relative Percentage of Total Grain Acreage Sown to Wheat, Oats, Barley, Flax, Rye and Mixed Grain in Manitoba - 1960 to 1969	584

	Page
Table 76. Acres Planted and Average Yield Per Acre of Grain Crops in Manitoba - 1959 to 1969	585
77. Annual Production of Grain Crops in Manitoba, 1959 to 1969	586
78. Commercial Fertilizer Sales in Manitoba, in the 1960's, in Comparison with Fertilizer Sales 1946 to 1959	587
79. (a) Acreage of Miscellaneous Field Crops Grown in Manitoba - 1960 to 1969	588
(b) Average Yield Per Acre of Miscellaneous Field Crops Grown in Manitoba - 1960 to 1969	588
80. Acreage of Miscellaneous Field Crops Grown in Manitoba Prior to 1960	589
81. Canadian Wheat Supplies and Disposition for Crop Years (Aug. 1 to July 31) 1935-36 to 1968-69	597
82. Inward Carry-over of Wheat, Oats and Barley in the Prairie Provinces, 1935-36 to 1939-40, and in all Canada, 1940-41 to 1968-69, Recorded as at the Beginning of Each Crop Year, August 1	598
83. Total Number and Kind of Farm Livestock and Number per 100 Acres of Cultivated Farm Land in Manitoba by Years - 1960 to 1969	603
84. Average Number and Kind of Livestock Per Farm in Manitoba, 1960 to 1969	604
85. Number of Creameries and Cheese Factories in Manitoba and Production of Dairy Products by Years - 1960 to 1969	606
86. Number and Kind of Poultry in Manitoba - 1960 - 1969	608
87. Number of Beekeepers; Number of Colonies; and Estimated Total Production of Honey and Beeswax in Manitoba, by Years, 1960 to 1969	609
88. Mean Percentage of the Various Classes of Field Crops in Manitoba on Land Under Cultivation by Periods	611
89. Average Percentage of Total Grain Crops Sown in Manitoba to Wheat, Oats, Barley, Flax, Rye and Mixed Grains, in Succeeding Periods	612
90. Mean Average Number of Farm Livestock in Manitoba Per 100 Acres of Cultivated Farm Land by Periods - 1883 to 1969	615
91. Percentage of Farms in Manitoba Reporting the Various Kinds of Farm Livestock in Successive Census Years	615

FIGURES

	Page
Figure 1.	Annual Yield and Five Year Moving Average Yield of Wheat Per Acre in Manitoba and in Crop Reporting District No. 1 (Melita) 276
2.	Estimated Value of Net Agricultural Production - 1925 to 1959 278
3.	Supply Vote, Department of Agriculture - 1906-1924 and 1925-1959. 279
4.	Average Yield of Grain Crops in Manitoba Crop Reporting District No. 1 (Melita) - 1925 to 1959 305
5.	Branches and Services of Department of Agriculture and Immigration 340
6.	Farm Land Under Cultivation by Periods - 1883 to 1959+ 498
7.	Number of Horses and Number of Tractors on Farms by Census Years, 1925 to 1959 506
8.	Number of Milk Cows by Years - 1925 to 1959 510
9.	Number of Cattle Other Than Milk Cows by Years - 1925 to 1959 511
10.	Number of Swine and Sheep by Years - 1925 to 1959 514
11.	Branches and Services of Department of Agriculture and Conservation - 1959-60 to 1963-64 533
12.	Branches and Services of Department of Agriculture and Conservation - 1964-65 to 1965-66 534
13.	Branches and Services of Department of Agriculture - 1966-67+ 538
14.	Western Canadian Wheat Supply 599
15.	Western Canadian Wheat Disposition (Domestic and Export) 600
16.	Five Year Moving Average of Production and Disposition of Western Canadian Wheat 601
17.	Internal Carry-over of Wheat (Annual and Five Year Average) 602
18.	Mean of Supply Votes During the Component Sessions of Each Legislature for the Administration and Maintenance of all Departments of Provincial Government 631
19.	Mean of Supply Votes During the Component Sessions of Each Legislature for the Administration and Maintenance of the Agricultural Department of the Province 632

ILLUSTRATIONS

	Page
1. Native flora in upland prairie region: Manitou-Darlingford District	xxx
2. Native flora in aspen-grove region: Reston-Tilston District	xxx
3. Native flora in mixed boreal forest region: Riding Mountain Area	xxxii
4. Native flora on peat: Washow Bay District	xxxii
5. Chippewa-Metis camp of birch-bark lodges with buffalo hide tipi in background, 1873 (Courtesy of Manitoba Archives)	100
6. Early pioneer home of sod in prairie region - a "Soddy"	100
7. Pioneer home of logs in the forest region	101
8. Pioneer home in Rosenfeld district	101
9. Well-established Mennonite farm home: Altona district	102
10. Settler's home: Washow Bay Settlement Project, 1969	102
11. Common types of Manitoba farm homes after three decades of farming	103
12. Pioneer farming - Plowing with oxen: Ethelbert district	104
13. Plowing with 16 inch sulky plow - a popular implement with homesteaders around 1900	104
14. Farming with horse power on Morris clay prior to the general use of tractors	105
15. Homesteader working under difficulties, 1903 (Courtesy of Manitoba Archives)	105
16. Early phase of mechanization - breaking bushland with steam tractor power, 1921	106
17. Early phase of mechanization - plowing arable field with early type of gasoline tractor, 1916	106
18. Plowing match at Portage la Prairie, 1919	107
19. Cutting, stacking and threshing scenes in Manitoba around 1910	202
20. Harvesting grain in Manitoba, 1915	202
21. The days of harvester excursions, 1903 - A Winnipeg stop-over at C.P.R. station on the way to the wheat fields. (Courtesy of Manitoba Archives)	203
22. Manitoba Department of Agriculture and Immigration Colonization Office, St. Paul, Minnesota, U.S.A., 1916. (Courtesy of Manitoba Archives)	204

	Page
23. Manitoba Department of Agriculture Exhibit at International Soil Products Exhibition at Kansas City, 1918-1919	204
24. Pioneering with apples - Orchard of A.P. Stevenson, Morden, Manitoba, 1915	205
25. Demonstration plot of raspberries on reclaimed land in Pasquia Land Settlement Project, 1964	205
26. Staff and students of Manitoba Department of Agriculture Dairy School, March 1898	206
27. First experimental plots at Manitoba Agricultural College, Fort Garry, 1914	206
28. Manitoba Agricultural College, Tuxedo Site, 1906-07 to 1912-13.	207
29. Manitoba Agricultural College, Fort Garry Site, just after construction	207
30. Experimental plots at M.A.C., 1917	208
31. Pasture crop substitutes for summerfallow experiment, M.A.C. Fertility Field, 1921	208
32. Forage Crop Breeding Plots, M.A.C. (circa 1922) White Dutch Clover and selected varieties of farm grasses	209
33. Manitoba Flint Corn developed by Professor W. Southworth, M.A.C., 1924	209
34. Livestock parade at Winnipeg Industrial Exhibition, 1913 ...	309
35. Boys' Fat Calf Competition, Winter Fair, Brandon, 1919.	310
36. Holtby J. Moffat, Carroll, Manitoba with Grade Hereford Calf that won First Prize at the 1916 Calf Show, Brandon ...	311
37. George English, Harding, Manitoba with Grade Shorthorn Calf that won Second Prize at the 1916 Calf Show, Brandon ...	311
38. Local agricultural fairs at a number of Manitoba points	312
39. Representatives of the Manitoba Pig Clubs at the M.A.C., 1923	313
40. Personnel attending the Manitoba Farm Boys' Camp conducted by the Extension Service Branch	314
41. Dairy herd and buildings on the farm of W.J.Cummings, 1916	315
42. Flock of 2500 sheep near Gladstone, Manitoba, 1913	316
43. Provincial Demonstration Farm, established 1917, at Birtle, Manitoba	316
44. Beginning of systematic soil survey in Manitoba, 1927	412

	Page
45. Surface soil eroded from headland to a depth of 12 inches, Melita, 1935	412
46. Soil drift on fields north of Melita in South Western Manitoba during the drought period of the 1930's	413
47. Soil drifting checked by established shelterbelts in the drought period of the 1930's, Denbow District, Southwestern Manitoba	413
48. "Bennet buggies" parked near Lyleton elevator by school children, 1936	414
49. Farmers in Turtle Mountain district, with maps of their own farms, planning soil erosion control together with Department of Agriculture Soil Specialists	414
50. Initial Step	415
51. Gully-filling in progress; when completed was seeded to grass with a nurse crop of winter rye	415
52. Incipient gullying in Alexander District	416
53. Deep gully reclaimed by filling-in, and stabilized by seeding down to grass-legume mixture, Alexander District	416
54. Tree-planting machine in action	417
55. Field shelterbelt, well established	417
56. Brush knocked down by ball and chain in winter period 1962-63	418
57. Brush piled and burned in following summer 1963	418
58. Crop grown, on same site as 56 and 57, in 1964	419
59. Brush piling machine used in custom clearing	419
60. Fertilizer demonstration on farmer's field by Soils and Crops Branch	420
61. Provincial Soil Testing Laboratory Service established in 1963-64. Located in Laboratory of Soils Department, University of Manitoba (Courtesy of P. Fehr, University of Manitoba)	420
62. Native vegetation and weeds on peaty area of former lakebed prior to reclamation, Pasquia Area, 1950	421
63. After reclamation - Farmstead on same site as above, Pasquia Area, 1968	421
64. Reedgrass, horse-tail and dandelions on hydromorphic area prior to reclamation, Pasquia Land Settlement Project, 1950	422
65. Demonstration plots of legumes and grass-legume mixtures after installation of drainage works, Pasquia Land Settlement Project, 1964	422

	Page
66. Wheat field in the northeastern portion of the Portage Plains, 1961, after many years of fallow-grain culture. The more vigorous crop across the foreground shows the effect of being sown on a strip of newly-broken headland, or former sod margin of the field.	423
67. Square yards of red clover grown on peat in the Arborg District on plots treated with: Nitrogen and Phosphate; Phosphate; no fertilizer; Nitrogen, Phosphate and Potash; and Sulphur	423
68. Public Speaking Group at Leadership School	519
69. Leisure Time Craft Group at work	519
70. Mrs. S.D. Price, Warren, Manitoba, President, Women's Institute Advisory Board, 1969-70, with some of the Manitoba entries in Homecraft Competition	519
71. Beef Cattle judging demonstration	520
72. Poultry culling demonstration	520
73. 4-H Club Manager's Visit, Kenton, Manitoba	520
74. Some 4-H Club activities:	
(a) Seed Grain Clubs (d) Dairy Heifer Clubs	
(b) Beef Cattle Clubs (e) Garden Clubs	
(c) Swine Clubs (f) Poultry Clubs	521
75. Better Farming Train, 1912 - afternoon program for women and school children	522
76. Field Husbandry Forage Crop Exhibition Car - Livestock Special Train, 1923 (Courtesy of Manitoba Archives)	522
77. Extension lecture at farmers' meeting on a farm in Gilbert Plains District	523
78. Agricultural representative demonstrating spraying for warble-fly control	523
79. Building of Manitoba Department of Agriculture exhibits prepared by Extension Service and M.A.C. (Courtesy of Manitoba Archives).....	524
80. Field Crops Division experimental plot of tobacco at Marchand, Manitoba	525
81. Alfalfa with and without sulphur applied as gypsum; South Junction, Southeastern Manitoba	525
82. Homemade haystacker by means of which hay was stacked quickly and efficiently without the high overhead for expensive machinery	526
83. Herd of beef cattle and stacks of native hay grown on leased Crown Land, Interlake Area	526

MAPS

		Page
Map I.	Physiographic Regions and Landscape Areas	vi
II.	District of Assiniboia	24
III.	First Lots Surveyed in Red River Settlement by Peter Fidler	35
IV.	Historic Boundaries of Manitoba - 1870; 1881; 1912 . .	85
V.	Townships from which Information Regarding Crops in Manitoba was obtained	97
VI.	Boundary of Area in Manitoba to which P.F.R.A. Applied in Earlier Years	322
VII.	Extent of Agricultural Development in Manitoba Averaged for the Years 1952 to 1957	502
VIII.	Map of Rural Development Area	544
IX.	Manitoba Counties as Grouped into Crop Reporting Districts - 1884 to 1886	639
X.	Manitoba Crop Reporting Districts - 1892 to 1917	640
XI.	Manitoba Crop Reporting Districts - 1918 to 1920	640
XII.	Manitoba Crop Reporting Districts - 1921 to 1933	641
XIII.	Manitoba Crop Reporting Districts - 1934 to 1961	642
XIV.	Manitoba Crop Reporting Districts - 1962+	643

PREFACE

The Ministry of Agriculture in Manitoba dates back to January 13th, 1871, with the appointment of the Hon. Thomas Howard to the short-lived joint portfolio of Minister of Public Works and Agriculture, and with the appointment on December 3rd, 1874 of the Hon. Colin Inkster to be the Minister of Agriculture and the Hon. Joseph Royal to be the Minister of Public Works. Therefore, the close of Manitoba's first century as a Province is obviously an appropriate time to review, and to undertake the production of a reasonably complete historic record of the evolution, development and activities of the Manitoba Ministry of Agriculture.

In attempting this assignment, however, it soon became evident that any such review would involve some reference to the concomitant development of agriculture on Manitoba farmlands, and because agriculture (although circumscribed and primitive) had been introduced prior to the inauguration of Manitoba as a Province, it also appeared desirable, for completeness, that a review of agricultural beginnings in Rupert's Land should be included and presented as a prelude to the main dissertation.

The historic review of the Manitoba Ministry of Agriculture is presented herein by periods corresponding to intervals during which the Department of Agriculture functioned by authority of successive legislative acts and under different titles, except in the case of the long period during which the Ministry was designated as "The Department of Agriculture and Immigration". This long period was conveniently subdivided into three intervals or sub-periods, by virtue of a mid sub-period of 18 years during which the Manitoba Agricultural College was established and operated as a major activity of the Ministry on which - both at the time and in subsequent years - its influence was profound. The six resulting intervals thus derived reflect and correspond to various stages in the evolution and development of the Ministry.

The evolution of farming throughout the Province, on the other hand, though influenced by the leadership and service rendered in successive periods by the Ministry, was also influenced by the vagaries of transport, international trade, industry and commercialism, as well as by aperiodic crises arising from natural and other causes. Consequently, reviewed in retrospect, agricultural development on Manitoba farms cannot be correlated with exact intervals of time, but can be co-ordinated with three periods or eras (i.e. a Pioneer Era; an Era of Traditional Farming; and an Era of Urbanization and Fractionization of Agriculture), each of which did not begin or end abruptly (as in the case of the succeeding intervals of the Ministry of Agriculture) but each in turn overlapped or co-existed with the preceding and the succeeding era; and each of which, in varying degree, continued to co-exist at the close of Manitoba's first century.

The task of bringing together, into one compilation, a record of the evolution, development and activities of the Manitoba Department of Agriculture during the first century of the existence of Manitoba as a Province originated with J.M. Parker and H.A. Craig - Directors respectively of the "Soils and Crops" and of the "Economics and Publications" branches

of the Provincial Department of Agriculture - . To these men must go full credit, not only for suggesting the project but for making provision for this work to be undertaken, supported and brought to conclusion.

The information assembled in this treatise was obtained from a wide variety of sources, including: Government publications and documents such as *Sessional Papers and Statutes of Manitoba*; "Statistics of Agriculture - Manitoba and the North West Territories", Dominion Department of Agriculture, 1883-1884; printed Annual Reports of the Manitoba Department of Agriculture, 1880 and 1888 to 1921, typed Annual Reports submitted by departmental branches to the Manitoba Minister of Agriculture, 1923 to 1959, and printed Annual Reports of the Manitoba Department of Agriculture for the years ending March 31st, 1960 to 1968; Annual Crop Bulletins, 1883 to 1962, and Yearbooks of Manitoba Agriculture, 1963 to 1969; Annual Reports of the Manitoba Agricultural College, 1906-07 to 1923-24; and from consulting numerous historical works acknowledged by footnotes accompanying the respective references. These sources of information were supplemented by personal experiences acquired through over sixty years in close association with Manitoba farmers and with professional agriculturists in Provincial and Dominion Departments of Agriculture, the Manitoba Agricultural College and the University of Manitoba.

In the process of acquiring recorded information, the writer is indebted to the librarians who gave generous assistance in making information available, i.e.: Mrs. Eleanor E. Riley and Mrs. Jean A. Preston, Department of Agriculture Library; Miss Marjorie Morley and assistants, Provincial Library; H.W.L. Bowsfield and J.A. Bovey, Provincial Archivists; Miss Janet Usher, Secretary to the Dean of Agriculture, University of Manitoba; Miss Malvina Bolus, Editor of the Beaver Magazine, and Mrs. Shirlee Smith, Librarian, Hudson's Bay Company, Winnipeg; to all of whom the author is under obligation for, and deeply appreciative of, the unfailing courtesy with which helpful suggestions and information in each case were extended.

The author also is under obligation to various Directors and specialists in the component branches of the Department of Agriculture for consultations freely granted, for information generously supplied in respect of branch activities, and for access to documents, not otherwise available, whenever such were requested, and to Roy Sitko, Draftsman, Lands Branch, for preparation of the charts and sketch maps included in this treatise.

Special commendation is given to Mrs. Mary Tuck, who in the preparation and production of this work, from beginning to end, assisted in research, checked and assembled data, typed and retyped draft copies, compiled appendix material, gave valuable assistance and criticisms as the work progressed, and produced the typed submission of the treatise in its final form.

It is also a pleasant duty to record that after the preparation and completion of this work, the Manitoba Centennial Corporation provided a grant-in-aid towards the publication of the treatise as a Department of Agriculture Centennial Project.

J. H. E.



1. Native flora in upland prairie region
Manitou -Darlingford District

AS IT WAS IN THE BEGINNING

2. Native flora in aspen grove region
Reston-Tilston District





3. Native flora in mixed boreal forest region
Riding Mountain Area

4. Native flora on peat
Washow Bay District



PRELUDE

AGRICULTURAL BEGINNINGS IN RUPERT'S LAND

Prior to the inauguration of the Manitoba Ministry of Agriculture there had to be, however humble, some form of agriculture in need of ministerial services, and a government with authority to appoint and support such a ministry.

The inauguration of the Government of Manitoba and of the Ministry of Agriculture is well documented and duly authenticated, but evidence in respect of the primitive beginnings of husbandry, and of the introduction of European forms of agriculture into the territory now known as Manitoba, is far too meagre, and may be likened unto glimmers of light seen dimly through the mist of times long past.

In an endeavor to contribute pertinent evidence from random readings in respect of the early history of agriculture in Manitoba, a review of references thus acquired is introduced at this point as a prelude to the more detailed history of the evolution, development and activities of the Ministry of Agriculture during Manitoba's first century (1870-1969), which constitutes the body of this treatise. It is presented not only as background material, but it is included also in the hope that it may prompt interested agronomists (possessed of the "seeing eye", the "understanding mind", and hearts blessed with love for the land) to undertake more exhaustive and co-ordinated research into original documents, and thus to secure whatever hidden evidence there may be in respect of the introduction and development of agriculture during, and prior to, the two preceding centuries (i.e. 1670 to 1870). Thus at some future time it may be possible thereby to clarify evidence which at the present time may be questionable and only as accurate or authentic as the references from which such items of information were derived.

1. THE MOUND BUILDERS AND AGRICULTURE IN MANITOBA

The earliest cultural works of primitive people in what is now Manitoba appear to consist of mounds constructed by an extinct race of mound-building inhabitants. Mound-building inhabitants of North America are generally believed to have practised primitive forms of agriculture, but the extent to which the mound-building inhabitants of southern Manitoba engaged in agriculture is open to question.

In a treatise dealing with mound builders as a cultural group of native American race, Shetrone* states that maize or Indian corn was a staple agricultural product with the builders of the man-made mounds distributed over north and central America; and that beans, squash, pumpkins, melons, sunflowers and tobacco were additional cultivated products. He also refers to

* Shetrone, H. C. - "The Mound Builders"; D. Appleton & Co., N.Y. and London; 1931.

grains and ears of corn, either in a charred condition or as impressions in the ground; to digging sticks and hoes made of blades of stone and of the shoulder blades of elk and deer; to pottery for storing grain, meals and seeds; and to stone mortars and pestles for grinding grain that were discovered in man-made mounds through exposure by excavation. It must be noted, however, that the artifacts referred to in the Shetrone treatise, as indicative of agricultural activity in prehistoric times, appear to have been discovered in sites south of the Manitoba-U.S. border. It is of interest therefore to give some consideration to the mounds and artifacts of the indigenous race of mound builders that were observed at various points in southern Manitoba when the territory at large was still under virgin conditions.

In a treatise dealing with Indian life in the Upper Great Lakes region, Quimby* describes a prehistoric mound-building people (designated as the Hopewell Indians) as farmers, traders, and artists of exceptional ability, who occupied the central Mississippi, Ohio, and Illinois river valleys for a thousand years beginning around 500 B.C. Further, he points out that around 100 B.C. some groups of Hopewell Indians entered the Great Lakes region. These people made their living by farming and supplemented their food production by hunting and fishing. They raised corn, squash, perhaps beans, and probably tobacco.

It seems highly probable that the movement of these corn-growing Woodland tribes, northward and westward, into the territory now crossed by the Canadian-U.S. border, was determined in large measure by the ability of native corn to come to maturity under the climatic conditions and length of growing season that prevailed in the territory in which the corn was sown.

It is not to be expected that corn initially grown was homogenous in respect of maturity, hence, harvesting the earlier maturing ears that would naturally occur as the corn was grown further and further north would result, in the process of time, in the inevitable selection of earlier maturing strains or types, and thus permit corn to be grown still further northward in areas that would not be favorable for the corn initially grown in more southern locations.

The northward and westward movement and the occupancy of territory by the mound-building inhabitants, however, did not stop south of Lake Superior or on the banks of the Missouri. In addition to the evidence presented by Quimby that mound-building Indians occupied the Upper Great Lakes region, it is well established that prehistoric man-made mounds occurred along Rainy River. This stream was part of the water route used in historic, and probably in prehistoric, times in travelling from Lake Superior to the Lake of the Woods and to the Manitoba Lowlands.

Man-made mounds of uncertain date also were discovered along the Red River, and others were discovered in the Antler district of southwestern Manitoba into which the Souris River flows in a northerly direction after making a loop southward to within 40 to 50 miles of the Missouri River.

* Quimby, G.I. - "Indian Life in the Upper Great Lakes"; University of Chicago Press; 1961; Pages 72-73.

In 1879, Bryce* described a number of the man-made mounds found in the Red River area. One mound was located on the site now occupied by the Fort Garry Court in the City of Winnipeg; one, which was examined by Bryce and his associates in 1879, was located at St. Andrews, 17 miles north of Winnipeg; one was located at a site two miles above the town of Selkirk on the east bank of the Red River; one at Netley Creek; and one on a site two miles from Winnipeg on the banks of the Assiniboine River.

In 1884 Bryce and associates examined a number of mounds along 90 miles of the Rainy River east of Manitoba. In 1886 he also examined mounds in southwestern Manitoba and reported that there were 21 mounds within four square miles of the Antler Creek area.

In respect of the mounds examined by Bryce in the Antler area, no artifacts or bones were found, and he concluded that they were observation sites (?). On the other hand, mounds examined by him along the Red River contained artifacts and skeletons, and hence were obviously burial mounds.

Various artifacts were recovered by Bryce from mounds in the Red River and Rainy River districts which he described and designated as: flint-skinning implement; horn fish spear; conjurer's tube of soapstone; native copper drill; copper cutting knife; pottery cup; and ornaments of bone and shell. Artifacts indicative of agricultural activity in prehistoric mounds, however, do not appear to have been uncovered in any of these excavations. Moreover, the expressed supposition** that the mound builders of Manitoba were agriculturists because the mounds were located in good agricultural districts is not justified. This incidence is much more likely to be indicative of local soil material favorable for the construction of mounds with the limited tools and means available.

On the other hand, the construction of earth mounds 6 to 50 feet in height, and 60 to 150 feet in diameter, shows that the people who moved such quantities of earth with primitive tools and containers had the ability, the will, and the means of working with soil; and that they possessed a sufficient degree of leadership and organization to work together on a community enterprise. Moreover, because the mounds were constructed of material described as "black surface mold", the stripping of surface soil would still leave reasonably productive soil exposed on cleared sites in flood-plain areas which — if the mound builders were disposed to do so — could be used for the planting of crops without much additional labor.

In respect of the period when construction took place, Bryce estimated that the man-made mounds in Manitoba were erected from 800 to 400 years ago, which would place the date of construction between 1080 A.D. to 1490 A.D.***

* Bryce, Rev. Dr. Prof. George; Transaction 24; The Historical and Scientific Society of Manitoba; 1904.

** Bryce, George - "Lord Selkirk's Colonists"; Clarke Bros. and Co., Winnipeg; 1909; Page 13.

*** It may be of interest to recall that the construction of man-made mounds is not peculiar to North America. A neolithic people invaded Britain from Europe about 2300 B.C. These new stone-age people practised a semi-nomadic agriculture and buried their dead in long barrows or mounds. A later invasion into Britain of Bronze age men and women took place about 1900 B.C. These invaders were known as the Beaker people. They buried their dead in round barrows or mounds, and were more nomadic than the stone-age people who preceded them.

More recent studies of mound sites were undertaken by Vickers* in the Rock Lake and Pelican Lake area of southern Manitoba, and he records finding stone hoes at the Lowden site (SW 26-5-16W) and a mano and melate at the Avery site (SW14-3-13W). Commenting on these artifacts, Vickers notes that they suggest digging, gathering, grinding, and perhaps a limited agriculture.

In reference to mound builders in Western Canada, Jenness** states:

"The Prairie Provinces and the MacKenzie basin have proved barren fields for the archaeologist, apparently because their inhabitants have always been migratory peoples who never stayed long enough in one place to leave extensive remains. In the southern parts of the Prairie Provinces are burial mounds similar to those of Dakota (?) and other states to the southward. They contain, besides a few human bones, fragments of crude pottery, shell beads, and other stray objects already recorded by early explorers of the plains, so that they add very little to our knowledge. . . . But nowhere have archaeologists found evidence of other inhabitants than those of the present day, or traces of even their occupation earlier than a century or two before the arrival of the white man."

From the scarcity of agricultural artifacts, it may be assumed that the mound builders in Manitoba were hunters rather than agriculturists, and if the mound builders did practice some form of primitive agriculture in southern Manitoba, the nomadic Indian tribes — Assiniboine and Plains Cree — that moved into the Manitoba prairie region, in more recent times, apparently failed to acquire in any large degree the virtue of industry in agricultural practice, or lost, in historic times, whatever skills they may have had in this connection. It is also within reason that any inherited tendency there may have been for nomadic Indian tribes to engage in cultural operations and sedentary use of land in the plains region of Manitoba would be checked by the acquisition of horses, subsequent to 1730-1750 A.D., which gave these tribes increased mobility. This increased mobility would further foster a nomadic way of life and link the movements of the native tribes more closely with those of the migratory buffalo herds on which they depended for their primary means of subsistence.

Consequently, although it has been well authenticated by archaeological research that a race of mound-building inhabitants lived in prehistoric times in the warmer portion of North America (Mexico and the southern and central portions of United States) and that these inhabitants engaged in agriculture to the extent of domesticating or growing Indian corn or maize, and other warm season crops (thus initiating primitive forms of agriculture which were later adopted by Indian tribes of the south that succeeded these mound-building inhabitants); it is doubtful if the builders of man-made mounds in Manitoba (located in a region less favorable for the production of warm season crops) can be credited with carrying out agriculture extensively in this province.

* Vickers, C. - "Archaeology in the Rock & Pelican Lake Area of Southern Manitoba"; Proceedings of Historical and Scientific Society of Manitoba, 1944-45; Pages 14-24.

** Jenness, D. - "The Indians of Canada"; National Museum of Canada Bulletin 65, Anthropological Series No. 15; 1960; Page 225.

It is more probable that as the prehistoric mound-building inhabitants spread their habitation further and further northward, the increased difficulty of maturing the indigenous types of corn, in the cooler climate and shorter growing season of southern Manitoba, caused these people to live more and more by hunting and by gathering natural foods, and to become less and less agricultural in their pursuits.

2. NATIVE TRIBES AND AGRICULTURE IN MANITOBA

It is generally considered, though it may not be entirely correct, that in the pre-European period the Indian tribes of what is now Manitoba depended primarily for subsistence on hunting and fishing, and to a lesser extent on the gathering of wild fruits and native plants; and that the production of food crops by soil cultivation had no place in their way of life. It is well known, however, that primitive forms of crop production involving land cultivation as a way of life were practised by so-called agricultural tribes (i.e. Iroquois and Huron) that inhabited the territory east of Lake Huron in the Lakes Forest and Deciduous Forest regions in southern Ontario. These more or less sedentary agricultural tribes are credited with cultivating a number of crops including maize, squash, beans, sunflowers and tobacco.

In addition, transitional semi-nomadic semi-sedentary ways of life also appear to have been in existence, especially at points of contact between the natives of the Lakes Forest and the tribes of the Boreal forest regions. For example, the shattering of the Huron settlements in the vicinity of Ste. Marie, through attacks by the Iroquois around 1648 and 1654, brought about closer contact between the Ojibwa in the Boreal forest region and the Hurons who fled westward from the Lakes Forest region. This contact would have had some influence on the Ojibway, but the extent to which the latter may have acquired some measure of Huron skills and knowledge of agriculture is something of an enigma, and in the absence of historic evidence, too far away in time to hold out much hope of solution.

In respect of agricultural activities practised by native races prior to contact with Europeans, in the area now occupied by Manitoba, the two most northerly tribes (i.e. the Eskimo - "eaters of raw meat" - who inhabited the tundra region, and the Chippewyan, who followed the movement of the caribou in the forest-tundra transition) can be dismissed as gatherers of native or natural foods to whom agriculture or land cultivation was entirely foreign. These tribes inhabited the tundra and northern portion of the Boreal forest region and lived under conditions where the growing of corn and tobacco (crops of continental American origin) would be out of the question because of the cool climate and short growing season. It is not so easy however to reach conclusions in respect of the more southern tribes, i.e.: (1) the Ojibwa, (2) Cree, (3) Assiniboine, and (4) Sioux, which, at the beginning of the 19th century, found a meeting place on the Red River section of the prairie and aspen grove regions.

In respect of the four Indian tribes that found a meeting place in the Red River region at the beginning of the 19th century, reference may be made to Jenness' treatise on "The Indians of Canada".*

* Jenness, D. - "The Indians of Canada". National Museum of Canada Bulletin 65, Anthropological Series No. 15; 1960; Page 279.

(1) OJIBWA

The Ojibwa or Chippewa (both forms of the same word), sometimes designated as Saulteaux, from their meeting place at the falls (Sault) of Ste. Marie, initially occupied the territory north of the Great Lakes from Georgian Bay to the eastern edge of the Manitoba prairies. The eastern bands of the Ojibwa (Ottawa group) were in contact with the Iroquois and Hurons, and the western bands came in contact with the Cree and Assiniboine tribes.

"The (eastern or) Ottawa (group of Ojibway) were close friends of the Hurons from whom they learned to cultivate maize . . . After destroying the Hurons, therefore, the Iroquois turned their arms against the Ottawa and drove them from Georgian Bay. Some fled west towards Lake Superior* . . . and some of the Lake Superior Ojibwa occupied parts of Manitoba.**

"All the Ojibwa tribes subsisted to a considerable extent on vegetable foods. They gathered and stored away, in the late summer, vast quantities of wild rice that grew in the shallow water around the edges of the lakes. In the spring they collected the syrup from the maple trees, and in the summer large stores of berries, which they preserved for the lean months of early winter. So although they did not practise agriculture (except some of the Ottawa bands adjacent to the Hurons), they were not so completely dependent on fish and game as other Canadian tribes that did not cultivate maize. Nevertheless, they were as keen hunters, and as keen fishermen, as other Indians.***

A somewhat different version of Ojibwa agriculture is given by Harmon, D.W.**** - a trader in the employ of the North West Company from 1800 to 1819 - who, in describing the Indians east of the Rockies, stated that the Saulteaux (Ojibwa), who remain about the Lake of the Woods, plant corn and potatoes, and those who live back from Mackana raise large quantities of Indian corn, beans, etc. The Journal of Alexander Henry, the Younger,***** written about the same time (1792-1808) records that the Coures Oreilles (Ottawa tribe of Ojibway-Chippewa) carried on agriculture at Netley Creek. It would appear also that, before the Mandans were pushed westward by the Sioux, the Ojibwa had been in contact with the Mandan tribe, because in David Thompson's narrative, it is stated that the Chippewa now came into contact with the Mandans on the southern branches of the Red River.

It is of interest to note, in connection with the Ojibwa and agriculture, that following the amalgamation of the Hudson's Bay Company and the North West Company, Nicholas Garry, Deputy Governor of Hudson's Bay Company, on a visit to the Red River territory in 1821, observed Saulteaux

* Ibid - Page 282.

** Ibid - Page 283.

*** Ibid - Page 279.

**** Lamb, W. K. (Ed.) - "Sixteen Years in the Indian Country - The Journal of Daniel William Harmon, 1800-1816"; Reprint by the MacMillan Co. of Canada Ltd.; 1957; Page 211.

***** Coues, Elliott (Ed.) - "Henry & Thompson Journals"; Ross & Haines Inc., Minneapolis, Minnesota; 1965; Vol. II, Page 448.

(Ojibwa) Indians under Chief Peguis encamped at Netley Creek in the midst of their corn fields; and who, like their relatives in Canada, made sugar from the sap of the maple (box elder).

(2) CREE

The Cree (contraction of Kristineaux, the French form of the name) were closely related and almost equal in number to the Ojibwa. They occupied or wandered over the Boreal forest region, north of that occupied by the Ojibwa, from east of James Bay to Lake Winnipeg and westward into central Saskatchewan south of the Churchill River, and into Alberta. They divided into two groups, i.e. the Woodland Cree, sometimes called Swampy Cree or Muskegon, and the Plains Cree who spread out over the prairies south of the Boreal forest region.

The Woodland Cree were essentially hunters of woodland caribou, moose, beaver, bear and hares, and thus appear to have followed a way of life more comparable to that of the Chippewyan than of the Ojibwa.

The Plains Cree in prehistoric times probably comprised only those few small bands that periodically moved out from the edge of the forest to hunt buffalo on the prairies. The introduction of horses and firearms induced other bands to join them until they became a serious menace to all the tribes along what is now the International Boundary. On the whole, their way of life appears to have been similar to that of the Assiniboine.

(3) ASSINIBOINE

"The plains' tribe that initially lived nearest to the Iroquoians during the early seventeenth century was the Assiniboine. They were then hunting in the country around Lake of the Woods and Lake Nipigon, and though depending mainly on the chase, gathered large quantities of wild rice, which they cooked, like their neighbors the Ojibwa in clay pots and vessels of birch bark. By the eighteenth century, however, most of them had moved away to the northwest and divided into two branches, one of which lived on the edge of the forest northwest of Lake Winnipeg, in close contact with the Cree, while the other centred about the valley of the Assiniboine River a little to the southward.

"The acquisition of horses and firearms about the middle of the eighteenth century increased the range of their movements, and shifted their centres a little farther west. With their Cree allies they fought bitterly against the Blackfoot confederacy for the control of the Canadian prairies; and they waged war on the Sioux, Mandan, and other tribes of the United States.

"In historical times, the Assiniboine were a typical plains' tribe living in large conical tipis made of buffalo hide. They moved their camps from place to place frequently . . . and their existence depended on the migratory buffalo."*

(4) SIOUX

Jenness claims that

"strictly speaking - the Sioux are not a Canadian tribe"

and that

* Jenness, D. - "The Indians of Canada"; Pages 308-309.

“survivors and descendants of the bands that, under their leader Sitting Bull, rebelled against the United States government in 1876, annihilated the force under General Custer that was sent against them, and found asylum in Canada. Previous to that date they crossed the International Boundary line comparatively seldom, although they bitterly opposed inroads of the Ojibwa, Assiniboine, and Blackfoot into the prairie farther south.”

However, the numerous references to the Sioux in early historic accounts of the Red River Settlement imply that bands of Sioux visited southern Manitoba and the southern district of Assiniboia somewhat more frequently than implied by the foregoing paragraph.

It is generally assumed that in their nomadic way of life the restless Sioux in historic times had little or no interest in land cultivation, as this would involve a way of life that was, at least, semi-sedentary. Nevertheless, the Sioux are credited with having had some acquaintance with agriculture.

In this connection Leechman* states that agriculture was not practised as extensively by the plains tribes (as by the tribes of the eastern woodlands) but that the Sioux had gardens and the eastern (plains) tribes sometimes grew corn, and that tobacco was an important crop.

The growing of tobacco by the plains tribes may be considered as being in a somewhat different category to the practice of agriculture for the purpose of providing food. In his description of the Blackfoot tribe, whose territory extended from the Rockies to the Saskatchewan prairies - and who, centuries ago, according to Leechman,** lived on the eastern edge of the prairies in the Red River country near Winnipeg - Jenness quotes from David Thompson's Narrative that

“the planting of tobacco was a sacred ceremony among plains tribes, and its smoking on formal occasions just as necessary a ritual as it was among the Iroquoians.”***

Also in writing of the Piegans, who at that time ranged from the Saskatchewan to the Missouri River east of the Rocky Mountains, Thompson records:

“These people must also have something to which they can attach somewhat of a supernatural character for religious purposes; and for this purpose they have adopted the Red Pipe and Pipe Stem and which seems to have been such from old time; for until the year 1800 they always raised tobacco in proportion to their wants. . . . When they became acquainted with the tobacco of the United States brought by traders which they found to be superior to their own, they gradually left off cultivating it and after the above year raised no more. The tobacco they raised had a very hot taste in smoking and required a great proportion of bears-berry weed to be mixed with it.”

Agriculturists of the present day, who have tried to grow tobacco in Manitoba, know that the successful culture of tobacco, under the climatic conditions that prevail on the Canadian prairies, is subject to serious limitation and requires something more than an elementary knowledge of crop production. Consequently, if the plains' Indians in prehistoric times

* Leechman, D. - "Native Tribes of Canada"; W.J. Gage & Co. Ltd.; Toronto; Page 110.

** Ibid - Page 104.

*** Jenness, D. - "The Indians of Canada"; Page 322.

produced their own smoking material, rather than acquiring it by barter or trade from other tribes, then Thompson's observations would imply that the nomadic tribes of the plains should be given credit for a certain degree of agricultural know-how. For example:

- (1) tobacco growing by the plains' tribes may have been a relic of agricultural art formerly practised by a people who, as horses were acquired, became more and more dependent on buffalo herds for subsistence, so that the practice of agriculture (except for the culture of tobacco) fell into disuse as the plains' tribes adopted, more and more, a strictly nomadic form of existence; or
- (2) agricultural skill and practice may have been less general in the tribe as a whole, and tobacco growing may have been an art practised by medicine men to obtain an ingredient needed for ceremonial or sacred purposes.

It may be noted also that other plant material was used by Indians for pipe smoking, such as the tobacco substitute Kinnickinnick, which could be made from the inner bark of red osier dogwood (*Cornus stolonifera*) or from the more highly prized leaves of bear-berry (*Arctostaphylos uva-ursi*).

It would appear therefore that the four tribes, which found a meeting place in the Red River territory (i.e. Chippewa, Cree, Assiniboine, Sioux), fall into two categories as far as the contributions they may have made to agriculture in Manitoba:

- (1) the Indians of the Lakes Forest region and the southern portion of the Boreal Forest region, who had contact with the eastern agricultural tribes, may have contributed
 - (a) an elementary knowledge of the practice of growing corn (maize), beans, squash and tobacco,
 - (b) a knowledge of the use of wild rice,
 - (c) the making of sugar from the box elder, and
 - (d) the use of wild fruits and native herbs, etc.; and
- (2) the plains' tribes who, after the acquisition of horses around 1700 to 1730, roamed the prairies and followed the migratory herds of buffalo on which they became dependent for subsistence. The chief contributions of these tribes to the life of the early Europeans, to the early settlers, and to their mixed racial progeny, would appear to be
 - (a) the supplying of horses, and
 - (b) the making of pemmican from buffalo meat, fat and wild fruit.

Attempts to determine the extent to which the four tribes which found a meeting place in the Red River region engaged in some form of agriculture for subsistence in prehistoric times, or to ascertain the contributions they may have made to agricultural development in Manitoba, are made more difficult because of the close association that existed between Europeans and

natives from the time contact was first made between the two cultures, down to the co-existence which characterized the first few decades of the Red River settlement.

These contacts resulted in an interaction between the European and Indian cultures which was further influenced by the fact that the fur-traders, comprising the European element, were males generally living without the restraining and stabilizing influence of European women.

The early contact of the two cultures had three important aspects. There was

- (1) the influence of European culture on the Indian way of life, which was changed, in varying degrees, from dependence for family and tribal subsistence on natural food products which they procured for themselves, to dependence on trade goods for certain needs, wants, and luxuries, for which they bartered furs; and the end result was that hunting and trapping became an occupation carried on by natives as a means of earning a livelihood by barter instead of a direct means of obtaining subsistence for daily needs;
- (2) the influence of native culture on the Europeans engaged in the fur-trade that was manifest in the changes which took place in dress, food habits, and way of life, both in the case of:
 - (a) traders who lived with, or in close contact with, the native tribes, and
 - (b) post managers and white fur-traders who, by marrying Indian women, made them respectively, a combination of servant, wife, and first lady of the trading post; and company servants who brought in native women to cohabit and share in their mode of life; and
- (3) the new race of mixed bloods resulting from the union of fur-trade employees of European or New France origin, and Indian women, who combined in themselves - and in varying degrees of dominance - the cultures of the two parental races.

This fusion of cultures at the trading posts also extended to the gardens and cultivated plots where Indian corn of North American origin was grown in association with crops produced from potatoes and seeds introduced from Europe; and it is not difficult to imagine who were the chief cultivators or gardeners where Indian blood ran in the veins of the chatelaine of the respective forts and less pretentious trading posts.

In addition, this agricultural fusion of culture extended to the agricultural plots and gardens of the mixed bloods. Ross, in describing the activities of the Metis wife left at home in the Red River settlement while the half-breed husband followed the buffalo hunt, tells how

"This industrious helpmate makes shift, with the aid of the hoe, to put down a few grains of Indian corn, and sometimes a few seed potatoes also."*

* Ross, A. - "The Red River Settlement"; Reprinted by Ross & Haines Inc., Minneapolis, Minn.; 1957; Page 89.

The first known map of the Canadian North West Territories, prepared by Peter Pond around 1785 and based on his 13 years' experience as a trader-explorer, carries the notation that the Maundiens (Mandans) brought Indian corn for sale to Fort Epenite (Pine Fort) on the Assiniboine.* - This fort was built on N.E. 36-8-14W in 1754 and abandoned in 1794.

In the winter of 1797-98 David Thompson, who left the service of H.B. Co. in 1797 to enter the service of the Company of Merchants of Montreal, set out from Assiniboine House (where John McDonell stated the Mandans and Gros Ventres came from the Missouri to trade) to visit the Mandan villages. He recorded that the inhabitants of these Mandan villages had not been many years on the banks of the Missouri River and that their former residence was on the headwaters of the southern branches of the Red River** from which they had been driven by repeated attacks from the Chippewa Indians. Thompson found*** that the ground the Mandans cultivated was the alluvial river deposits and that a portion was allocated to each family by a council of old men. The principal tillage implements used are described as the hoe and pointed stick hardened in the fire, and that shoulder blades of buffalo and deer were preferred. The produce raised was mostly maize of a small red kind, with other varieties all of which came to perfection, with pumpkins and a variety of small beans and melons of full size and flavor. Despite the crude implements these people raised not only enough for themselves but also a surplus for trade with their neighbors.

This practice of growing crops by the Mandans for trade with their neighbors continued until after the incoming of settlers into Manitoba. Old timers in the Melita district**** recall that Mandan Indians came into Manitoba as far north as the big bend of the Assiniboine, near Virden, as late as 1897, to trade dried corn, dried squash, and decorated leather goods.

3. THE FUR TRADE AND AGRICULTURE

When the fur trade was undertaken by the trading adventurers who came into northern Manitoba by way of Hudson Bay in 1670; and by the rival fur-trader-explorers who came into southern Manitoba from the St. Lawrence by way of Rainy River and the Lake of the Woods in 1732-33; two prime problems had to be resolved.

The respective trading companies and independent traders had to determine:

- (1) how to secure wildlife furs through trade with the natives; and
- (2) how to obtain and maintain adequate supplies of provisions for those engaged in the trade.

* Tyrrell, J. R. (Ed.) - "David Thompson's Narrative"; Publication of the Champlain Society, XII; 1916; Footnote, Page 244.

** Ibid - Page 225.

*** Ibid - Page 230 and following pages.

**** Reekie, Isabel M. - "Along the Old Melita Trail"; Modern Press, Sask.; 1965; Page 3-4.

(1) The first problem was resolved by adopting the process of barter or the exchange of trade goods for the pelts procured by the natives.

(2) The second problem presented peculiar difficulties and involved two aspects.

- (i) Subsistence was required for the officers and company servants assigned to forts and trading posts as they were established for the purpose of acquiring furs, or for temporary inland storage; and
- (ii) provisions were required to maintain the voyageurs engaged in carrying trade goods to the points of barter, and in transporting the furs enroute from inland trading posts to the respective points of embarkation to European markets.

In the earlier years of the fur trade the provision problem was somewhat different for the company operating from Hudson Bay to that which faced the traders who came to Rupert's Land from the St. Lawrence.

From the time the Hudson's Bay Company established its so-called "factories" on the shores of Hudson Bay until the trader-explorers of New France advanced into Rupert's Land by way of the Lake of the Woods, the policy adopted by the Hudson's Bay Company was to persuade the natives to bring their pelts to the company's "factories" established on "the Bay". Under this policy the natives provided the internal transport and the Company acquired out-going furs at seaboard for a minimum of cost.

In the case of the St. Lawrence-based fur-trade, however, the traders had to travel from the east by water-ways to the source of furs in Rupert's Land, there to barter for pelts either at native encampments or at inland posts established by the traders along the trade routes. The furs thus acquired had then to be transported by well-organized fur-brigades from the points of acquisition or inland storage to the fur-trade headquarters at Montreal. This made it imperative for provision depots to be provided in conjunction with the trading posts as a source of food supply for the voyageurs or canoemen of the fur-brigades as they rushed the cargoes of fur in transit via the water routes to the eastern seaboard.

The competition resulting from the establishment of inland trading posts by the St. Lawrence traders ultimately forced the Hudson's Bay Company to move inland, and to construct rival forts or trading posts, with the result that this company also in time had to face the additional problem of providing provisions for personnel engaged in the transport of supplies and trade goods to, and of furs from, the interior.

In the initial period of Hudson's Bay Company operations the chief source of provisions appears to have been:

- (1) such supplies as could be brought by ship to seaboard on "the Bay"; and
- (2) such "country provisions" of game, fish and wild fruits as could be either
 - (i) acquired in trade from the natives, or
 - (ii) procured in the wild by the company employees for themselves.

Under the primeval conditions first encountered, it is recorded that game was abundant on the lands and fish was plentiful in the waters of the virgin territory; and, in the early times, the Hudson's Bay Company employees (who initially were sent into the interior to solicit trade with the native tribes or to obtain information in respect of unknown territory) were expected to live off the country. However, despite the reported abundance of game in those times, migratory wildlife could be present or absent in a given place, at a given time, hence narrations of early explorers (such as Samuel Hearne,* etc.) contain repeated references to days spent on the trail without food because game was locally or temporarily scarce.

To ensure a supply of provisions for the fur-trade within the country, therefore, two lines of endeavor were followed:

- (1) the procuring of stocks of "country provisions" from the wildlife of the country, i.e.
 - (i) stocks of pemmican from buffalo in the prairie region, and
 - (ii) stocks of dried or frozen fish in the Athabasca and New Caledonia regions and caribou in the northern region; and
- (2) the securing of food products obtained from the soil through cultivation or from farm livestock when and where provisions from wildlife were inadequate, difficult to obtain, or diminishing from exploitation.

(1) PEMMICAN AS THE FOOD STAPLE OF THE FUR TRADE

As early as 1690 and again in 1691, Henry Kelsey was sent from "the Bay" to the interior. After journeying southward through what was known later as The Pas and the Swan River districts, he became the first white man to visit the prairies of western Canada. Thus, 41 years before LaVerendrye arrived at Rainy Lake, Kelsey spent a year with the Indians who took him to the prairies where the men hunted buffalo and their women made pemmican from dried buffalo meat.**

Later, as the Hudson's Bay Company and the St. Lawrence traders found themselves dependent on country provisions to operate from inland posts, pemmican became the accepted staple provision of the western fur trade, so that eventually the prairies, which supplied the buffalo, became the main source of country provisions in Rupert's Land while the more northerly wooded or forest region remained the main source of fur.

At first, pemmican was a commodity of barter whereby the native hunters could obtain trade goods, but for many decades, after the conflict between the traders of the Bay and the St. Lawrence was joined, it provided

* Glover, R. (Ed.) - "A Journey to the Northern Ocean"; Pioneer Books, MacMillan Co. of Canada Limited, Toronto; 1958.

** Campbell, M. W. - "The Saskatchewan"; Clarke Irwin and Co. Ltd., Toronto and Vancouver; 1965; Page 17.

the means of livelihood and determined the way of life followed by a relatively large number of mixed bloods or Metis who, to provide the pemmican required, not only developed the organized "buffalo hunt"* but continued to live by the "buffalo hunt"** until buffalo disappeared from the Manitoba prairies.

Though this approach to the problem of supplying provisions may have seemed, initially, to have been of consequence only to the fur trade, nevertheless, in the final analysis, the impact of this procedure on the history and destiny of Manitoba and on western Canada as a whole was tremendous in its consequences. The initial impact was on wildlife and the way of life of those engaged in its exploitation, but eventually the wholesale slaughter and callous waste of the organized "buffalo hunts" - with apparently no attempt to practice conservation of wildlife as a natural resource - resulted in progressive reduction in numbers of buffalo, and in their disappearance from the prairies of Rupert's Land, with corresponding reduction in food supply from this source.

The ultimate results of using pemmican as the primary staple food product of the fur trade, over a century of time, may be enumerated as:

- (a) the almost complete disappearance from the Canadian prairies - by the latter part of the 19th century - of an indigenous form of wildlife;
- (b) starvation and hardship for the plains Indians who had become dependent on buffalo for subsistence, and who died in large numbers from malnutrition and disease;
- (c) the dissolution of the "buffalo hunt" as the Metis hunter's way of life, and of the means on which they depended for a livelihood;
- (d) the re-presentation to the fur trade, in increasing urgency as time progressed, of the provision supply problem that the initial adoption of pemmican was intended to resolve; and
- (e) the ultimate recognition of the necessity of introducing and of developing subsistence agriculture on a large scale as a means of supplying provisions.

It is apparent therefore that it was not the introduction of agriculture that drove the buffalo from the Manitoba prairies, but the disappearance of buffalo herds from the native grasslands which caused a biological vacuum in the prairies and made the introduction of subsistence agriculture imperative.

(2) AGRICULTURAL PRODUCTS AS PROVISIONS FOR THE FUR TRADE

Despite an understandable antagonism on the part of the fur trade to the general introduction of agricultural settlement into Rupert's Land, the following examples may be submitted to show that the fur trade itself introduced soil cultivation to provide agricultural products - in some cases as a supplementary, and in other cases as a primary, source of provisions - for its own maintenance.

* Ross, A. - "The Red River Settlement"; Reprinted by Ross and Haines Inc., Minneapolis, Minn.; 1957; Pages 234-274.

** MacLeod, M.A. and Morton, W.L. - "Cuthbert Grant of Grantown"; McClelland and Stewart Ltd.; 1963; Pages 108-112.

(a) Agricultural Produce as Supplementary Provisions in the Initial Period, 1670-1733

Attempts to grow soil products as a supplementary source of provisions were made at an early stage in the development of the fur trade on the Bay. MacEwan,* referring to A.S. Morton's "History of the Canadian West", points out that the Hudson's Bay Company Committee, as early as 1674, ordered that a bushel each of wheat, rye, oats and barley, and also garden seeds be provided; and also that a letter sent to the Governor of the Company at "The Bay" in 1680 stated that swine were being sent out to be propagated at Moose Fort on Hayes Island. Reference also is made to a letter, dated 1681, stating that a he goat and two she goats, 1 sow with pig, have been sent in hopes that they will increase in the country and be of use and comfort in the business of provision.

In 1683 Henry Sergeant was appointed governor of the posts in the Bay, and Morton, A.S.** records that he was instructed to cultivate the land, and that seeds were being sent out for that purpose.

A few years later, in the struggle between the British and French for the possession of "The Bay" and the tributary interior, the forts on the shores of Hudson Bay were held alternately by the Hudson's Bay Company and the French for various periods of time. In 1694, Fort Nelson was captured by the French. It was recaptured by Hudson's Bay Company in 1696, but repossessed and held as Fort Bourbon by the French from 1697 until, by the Treaty of Utrecht, 1713, it was surrendered to the Hudson's Bay Company in 1714*** and continued as York Factory.

Nicholas Jeremie, in writing an account of Hudson's Bay during the French occupancy (1697-1713) is quoted by Morton, W.L.**** to have recorded that they (the French in occupancy at York Factory) lived well on game, whitefish, and bread and wine from France, and that he (Jeremie) had a garden which never failed to produce lettuce, cabbage, and small herbs that were used in making soup in the winter.

When James Knight, as Governor of the posts in the Bay, took over the surrender of Fort Bourbon (York Factory) from Nicholas Jeremie in 1714, he criticized one of the buildings and compared it to "our cow-house at the bottom of the Bay" (i.e. Fort Albany-James Bay).*****

In referring to Port Nelson (York Factory) 1714-31, Morton (A.S.) notes that the plantation was separated from the fort by two rows of high fences and that within the inner fence were plots of turnips, collard, lettuce, and the like.***** Furthermore, in the British parliamentary inquiry into the Hudson's Bay Company and its policies in 1749, evidence was submitted to the effect that barley and rye ripen at Moose Fort and wheat survives the winter there.*****

* MacEwan, Grant - "Between the Red and the Rockies"; University of Toronto Press; 1952; Pages 14-15.

** Morton, A.S. - "A History of the Canadian West to 1870-71"; Toronto; 1939; Page 82.

*** Morton, W.L. - "Manitoba - A History"; University of Toronto Press; 1967; Page 21.

**** Ibid - Page 19.

***** Morton, A.S. - "A History of the Canadian West to 1870-71"; Page 130.

***** Ibid - Page 149.

***** Ibid - Page 224.

It is obvious therefore that in the initial period of the fur trade regime and before the arrival at the Lake of the Woods of the trader-explorers from New France, the Hudson's Bay Company introduced farm livestock (cows, pigs, goats) as well as some degree of soil cultivation into the region of Hudson Bay and James Bay for subsistence provisions.

(b) The Provision Problem of the French Trader-Explorers
of New France, 1733-1760

The problem of provisions presented a different aspect in the case of the French explorers who extended the fur-trading posts of New France across Rupert's Land from Fort St. Charles on the Lake of the Woods to the post La Jonquiere* at the elbow of the Saskatchewan during the period from 1733 to 1760.

Corn and pork grease were the staple provisions of the fur traders on the canoe routes of the Great Lakes area,** so that when LaVerendrye reached the Lake of the Woods and built Fort St. Charles in 1733, he found himself so far from the base of supplies that he apparently spent much of the next five years in attempts to ensure a continuing source of provisions that would permit the advance of exploration to the westward.

MacEwan*** states that LaVerendrye sowed peas and corn on the southwest shore of the Lake of the Woods; and Morton (W.L.) states that corn was brought from Michilimackinac for food and seed and sown at Fort St. Charles; and that the Indians around Fort St. Charles were supplied with seed corn and encouraged to cultivate it and to harvest the corn for sale to the traders at the fort as well as the wild rice that was harvested from the local lakes.

Exploration by the French trader-explorers continued from Fort St. Charles both via the Roseau and the Winnipeg River to Lake Winnipeg. Near the mouth of the Winnipeg River Fort Maurepas was built in 1734-35, and Morton (W.L.) records that in the winter of 1736-37, LaVerendrye arrived at Fort Maurepas where he met Assiniboine Indians who were going from Fort Maurepas to the Mandan villages on the Missouri. He asked the Assiniboines to invite the Mandans to come to Maurepas with horses and to bring corn, beans and minerals to trade.****

From Fort Maurepas two lines of exploration were followed by the French trader-explorers, i.e.: (i) westward in 1738-39, via the Red and Assiniboine rivers to Portage la Prairie (Poplar Point) where the first Fort La Reine was constructed, and thence southwestward overland to the agricultural Mandan tribe on the Missouri; and (ii) northward and westward in the 1740's via Lake Winnipeg and up the Saskatchewan River.

* Campbell, M.W. - "The Saskatchewan"; Page 21.

** Morton, W.L. - "Manitoba - A History"; Pages 25-28.

*** MacEwan, Grant - "Between the Red and the Rockies"; Page 14.

**** Morton, W.L. - "Manitoba - A History"; Page 31.

(i) Westward and Southwestward

In connection with his visit to the Mandans, LaVerendrye wrote that their usual diet, like that of the voyageurs was Indian corn, and Morton (A.S.)* records that the Mandans met the Frenchmen with prepared food - cooked grain, flour worked into a paste with pumpkin - and tobacco to refresh the visitors. He also records that the Mandan fabricated stuff and linens.

MacEwan** notes that in 1741, following a visit to the Mandan Indians, Pierre LaVerendrye brought back two pioneer horses - the first seen in the eastern prairies.

(ii) Northward and Westward

Northward and westward from Fort Maurepas the New France trader-explorers located trading posts as they explored Lake Winnipeg and the Lower Saskatchewan. Fort Dauphin on the Waterhen River (sic) was established in 1741, and Fort Bourbon at Cedar Lake in 1742. Fort Paskoyac was added at The Pas on the Saskatchewan River in 1750 and explorations were continued up to the Forks. Other trader-explorers were sent from New France in 1751 to the Saskatchewan, and in 1753 Chevalier de la Corne built a Fort St. Louis just west of what is now Nipawin, and here, in 1754, he is credited with growing wheat and other crops. In this connection, agricultural implements*** and carriage wheels were discovered by Alexander Henry, the Younger, at the site of Fort a la Corne (Fort St. Louis) abandoned in 1756. Morton (W.L.) also refers to the fact that the French traders had farmed at Fort a la Corne on the Saskatchewan before 1760; and that they surely did so at La Reine (Portage la Prairie) and Dauphin also.****

These records indicate that the earliest trader-explorers who came from New France brought subsistence agriculture with them into Rupert's Land. However, all the trading posts established by the French in Rupert's Land were abandoned by 1760 because the traders had been called to the defence of New France,***** hence the subsistence agriculture practised by the French at their trading posts during the 1733-1760 period became a closed chapter.

(c) Agriculture During the Period of Conflict Between
Rival "Canadian" Fur-traders and the Hudson's
Bay Company, 1765-1821

Following the capitulation of Montreal in 1760, and the surrender of New France to Britain, the claims of the French Crown to land in Canada were extinguished by the Treaty of Paris in 1763. New France became the

* Morton, A.S. - "A History of the Canadian West to 1870-71"; Pages 192-193.

** MacEwan, Grant - "Hoofprints and Hitchingposts"; Modern Press, Saskatoon; 1964; Page 42.

*** MacGregor, J.G. - "Blankets and Beads"; Institute of Applied Arts Ltd., Edmonton; 1949; Page 248.

**** Morton, W.L. - "Manitoba - A History"; Page 42.

***** Ibid - Page 37.

Province of Quebec. Merchants and capital from Britain and the English or "Yankee" colonies to the south moved to Montreal, and a new era began as Scottish and English or "Yankee" colonies and French traders, by taking advantage of the skills and resources of old French voyageurs, embarked upon the revitalizing of the St. Lawrence fur trade.

Commencing in 1765, independent fur traders - Canadian, British, French and American colonials designated as pedlars by the Hudson's Bay Company and referred to collectively as "Canadian" - began to infiltrate into Rupert's Land via the waterways route from the east. By 1768 there were four trading posts on the Red and Assiniboine rivers.* These in the succeeding years were followed by a string of rival trading posts over and beyond the territory formerly covered by the French trader-explorers of 1738-1760.

To carry on successfully, the independent traders and their financial backers soon found it necessary to form a succession of loosely knit partnerships which led to the formation of the North West Company in 1787 (weighed heavily with Scottish names) and of the rival "New North West Company" known as the XY Company formed in 1798.** These two rival eastern companies merged in 1804 to form the powerful North West Company of Montreal which continued as the bitter rival of the Hudson's Bay Company until the conflict was terminated by the union of the North West Company with the Hudson's Bay Company in 1821.

With the re-entry of the "Canadian" fur traders from the St. Lawrence into Rupert's Land and the North West, subsequent to 1765, the traders again had to face the problem the French trader-explorers of the previous era had to face, i.e. the problem of an adequate supply of provisions. As in the time of LaVerendrye, the agricultural products of corn and pork grease from Canada and Michigan were available to navigate the eastern section of the waterways trade route, but early in this era particular attention was paid to the development of pemmican to provide the staple provision of the fur trade in the western section. It is of interest to note that both private traders as well as the fur companies were forced to give some attention to provisions obtained from soil cultivation, and also that interest in subsistence agriculture on the part of the fur trade increased with the passage of time.

It is recorded that while Samuel Hearne (H.B. Co.) was building the post at Cumberland House (1774-1775), five hungry Frenchmen of the Frobisher group called at the post. They had been twenty days without killing any game, and they told Hearne that Mr. Frobisher and his men were in great distress for want of food. Later, Hearne heard that Frobisher had eaten the seeds he had brought with him to plant a garden.***

That varying degrees of agriculture were subsequently practised at a number of the North West Company forts is indicated by Harmon, who was

* Ibid - Page 38.

** Lamb, W.K. (Ed.) - "Sixteen Years in the Indian Country - The Journal of Daniel William Harmon, 1800-1816"; Reprint by the MacMillan Co. of Canada, Ltd., 1957; footnote, Page 21.

*** Campbell, M.W. - "The Saskatchewan"; Pages 57-58.

in the service of that company from 1800 to 1819.* While stationed at Fort Alexandria in the Swan River Department he recorded that in April, 1801,** he rode horseback to where "our people" were making sugar; and later in August that ten tons of hay were made for the horses worked during the winter months, but that other horses had to subsist the year round by grazing on grass.***

While at Fort Alexandria on the Upper Assiniboine, Harmon recorded that in July, 1802, potato tops were eaten by grasshoppers; and in June of 1803 he refers to "our people" making a garden surrounded with palisades in the same manner as the forts; and in May, 1804, recorded that the seeds put into the ground were up and doing remarkably well.

In 1805 he journeyed from the Swan River Department to New Fort on the Kaministikwia River where there were about 1,500 laborers, and where potatoes, peas, and oats, were being grown. He also refers to the wild rice found in the waters which connect Rainy Lake with Lake Winnipeg, and stated that this wild rice was harvested by the natives, that the North West Company in ordinary seasons purchased from twelve to fifteen hundred bushels annually, and that wild rice was the principal food at the posts in the vicinity. However, in general reference to Indians east of the Rockies, Harmon states that the *Saulteaux* remaining around the Lake of the Woods "now plant corn and potatoes which grow well." When transferred to the Athabasca territory, he continued to record the planting of gardens, barley, potatoes and turnips around the Company's trading posts.

Further examples of fur-trader's interest in agriculture in Rupert's Land are recorded by Alexander Henry, the Younger, who, while stationed at the North West Company's post at Pembina on the Red River from 1800 to 1806, grew corn, barley and potatoes, and had outstanding success as a gardener and pioneer farmer as well as a fur trader. Furthermore, Henry records in his diary (March 29th, 1808) that he "brought a cock and two hens last summer from Fort William", and on May 8th, 1808, "out of 12 eggs my hen hatched 11 chickens."****

MacEwan***** in reviewing early attempts to introduce agriculture in the west, refers to wheat, barley, oats and potatoes grown at Carlton House before 1820; and to a farm established by Governor Williams when he was resident at Cumberland House (H.B. Co.) where he grew barley and brought in horses, cattle and pigs.

The fierce competition between the North West Company and the Hudson's Bay Company at the turn of the 18th to 19th century, and the inevitable high cost of operation, accentuated by the war in Europe, brought about a crisis. The Hudson's Bay Company had to suspend payment of dividends in 1809, its stock fell to a low level, and serious consideration had to be given to future policy.

* Lamb, W.K. (Ed.) - "Sixteen Years in the Indian Country"; Introduction - Page ix.

** Ibid - Page 46.

*** Ibid - Page 50.

**** Coues, Elliott (Ed.) - "Henry & Thompson Journals"; Ross & Haines Inc., Minneapolis, Minnesota; 1965; Vol. I, Pages 428-429.

***** MacEwan, G. - "Between the Red and the Rockies"; Pages 14-15.

Morton (A.S.)* records that a circular was prepared by the Hudson's Bay Company from a scheme of reorganization suggested by Andrew Colville (who in 1809 had joined the directorate known as the Committee). Their circular included the statement "that there must be cultivation at the posts - potatoes, Indian corn, grain - and the quantity of imported flour must be reduced." In pursuance of this policy, William Auld (Hudson's Bay Company's superintendent of the Northern Department - which included Red River -) on leave in London, was sent back to the Bay in the summer of 1810 with instructions to set about the establishment of a Company Colony at the Forks of the Red River.**

Private individuals by this time also were involved in the practice of subsistence agriculture. A straggling settlement of Canadians, having retired from service in the fur trade, were living with their Indian wives along or near the Red River and lived by hunting and subsistence cropping.*** In this connection Morton (W.L.)**** quotes evidence given by Jean Baptiste Roi to the effect that for twelve years prior to 1820, he had cultivated a piece of ground on the east bank of the Red opposite the mouth of the Assiniboine - and that he used to sell the produce to the gentlemen of the North West Company or of the Hudson's Bay Company. Further, it is recorded that a letter from Miles Macdonell to Lord Selkirk in 1813, one year after the first colonists arrived at Red River, reported that Mr. Henry bought 100 bushels of potatoes from free Canadians at the Forks.

That the cultivation carried on at some of the posts or forts was not confined entirely to small gardens is shown by observations on record in respect of Winnipeg House. This post is referred to in David Thompson's Narrative (footnote, Page xxvii)***** as "This house called also Fort Alexander and Bas de la Riviere is said by Roderick Mackenzie to have been established in 1792 by Toussaint Lesieur a few miles below and opposite the old French Fort Maurepas." Gabriel Franchere who passed this place in 1814 wrote that "this trading post had more the air of a well cultivated farm than a fur trader's factory; a neat and elegant mansion built on a slight eminence, and surrounded with barns, stables, storehouses, etc., and by fields of barley, oats, and potatoes."

Seven years later, Nicholas Garry was sent by the Committee of the Hudson's Bay to visit Rupert's Land in connection with the organization and operation of the fur-trading posts of the rival companies being merged at that time into a reorganized Hudson's Bay Company monopoly. In his diary (August, 1821) Garry refers to agriculture at Fort Alexander. "The post Bas de la Riviere (formerly N.W. Co. now H.B. Co.) is placed in a very beautiful situation where they grow potatoes, wheat and vegetables. This is a sort of resting place for the Athapascan canoes."*****

* Morton, A.S. - "A History of the Canadian West to 1870-71"; Page 531.

** Gray, J.M. - "Lord Selkirk of Red River"; MacMillan Co. of Canada, Ltd., Toronto; 1964; Page 61.

*** Ibid - Pages 56-57.

**** Morton, W. L. - "Manitoba - A History"; Page 508.

***** Tyrrell, J.R. (Ed.) - "David Thompson's Narrative"; Publication of the Champlain Society; 1916.

***** Garry, Nicholas - "Diary of Nicholas Garry"; Transactions of the Royal Society of Canada, Sec. II; 1900; Page 133.

On August 3rd, 1821, Garry records that "at 12 we entered the Red River . . . After two hours of paddling we came to a place where the Hudson's Bay Company keep their horses, about 60 in number, which are used to convey goods to the post of Qu'Appelle. The horses are small but appear well bred, they are of Spanish blood."*

On August 9th, 1821, Garry records that "Norway House is an establishment situated at the northeast end of the lake and is so-called from its having been built by Norwegians. Its situation is very fine; some timber and about four acres of land in cultivation which produces excellent wheat, potatoes, etc."**

In 1809 a crisis faced the Hudson's Bay Company which led the H.B. Co. Committee to choose between a more active drive for trade in fur on the one hand, and the development of a timber and whale industry, for the duration of the war at least, on the other.***

The choice made was to fight their rivals (the N.W. Co.) more vigorously and to prosecute a more active drive for fur. This choice led to the decision that a colony should be started to provide cheaper food for the fur trade, and as there was already a scattered settlement of retired fur trade servants at Red River, it was only natural that the Red River area should be chosen as the locale in which Superintendent Auld was instructed to establish a Company colony.****

It was at this crucial point that Lord Selkirk, who had interested himself in the emigration of dispossessed Scottish highlanders and Irish cotters, was able to co-ordinate his philanthropic dreams of a colony for the dispossessed with the decision of the Committee of the Hudson's Bay Company to establish a company colony in Rupert's Land.

In 1808 Lord Selkirk had begun to purchase Hudson's Bay Company stock together with Alexander Mackenzie, and in 1809-10 Selkirk's brother-in-law, Andrew Wedderburn Colvile, and his wife's cousin, John Halkett, also began to buy into the Company, and about that time Colvile joined the directorate known as the Committee of the Company.***** "Early in 1810 the Committee of the Hudson's Bay Company invited Lord Selkirk to submit a proposal under which he would undertake to form a settlement that would satisfy his aims while safeguarding theirs."*****

The proposal Selkirk submitted involved the grant of 116,000 square miles of territory in the Canadian North West designated as Assiniboia, which was conceded to him for the nominal sum of 10 shillings. Under this plan Selkirk undertook to supply the Company with 200 servants a year and to develop an agricultural colony; and in addition, Morton (A.S.) states***** "One-tenth of the area (granted to Lord Selkirk) was to be set aside for the settlement of persons . . . connected with the Company", and

* Ibid - Page 134.

** Ibid - Page 146.

*** Gray, J.M. - "Lord Selkirk of Red River"; Page 56.

**** Ibid - Page 61.

***** Ibid - Page 56.

***** Ibid - Page 62.

***** Morton, A.S. - "A History of the Canadian West to 1870-71"; Pages 535-540.

Selkirk and his heirs "were to settle a thousand families in the colony within 10 years, otherwise the grant was to become null and void."

The Committee recommended to the shareholders that the grant would be advantageous, despite opposition sponsored by three Nor-Westerners and three stockholders, and the grant was confirmed by the General Court and formally signed on June 12th, 1811.*

Although both the North West Company and the Hudson's Bay Company were faced with the need for an assured supply of provisions, the agricultural colony undertaken by Lord Selkirk as the result of his agreement with, and the approval of, the Committee of the Company (H.B. Co.) was viewed in a different light by the rival companies.

That the Northwesters were in favor of such agriculture as could be carried on adjacent to their trading posts, in order to secure provisions for fur trade subsistence, is evident from the references already noted; nevertheless, they were bitterly opposed to any enlargement of land use for agriculture beyond their own subsistence requirements. Their opposition was based on the fear that the extended use of land for agricultural settlements was a threat to the fur trade.

The Hudson's Bay Company Committee on the other hand was interested in the development of an extended agricultural colony in the Red River area, not only because an agricultural settlement would provide

- (a) cheaper provisions for the trading posts and fur-brigades,
- but also because of the added advantages to the Company of
- (b) providing recruits raised in the country for service in the fur trade;
 - (c) providing a community where retired servants of the Company and their dependents could settle or find sanctuary;
 - (d) confirming the Company's title to the soil of Rupert's Land which was in dispute; and
 - (e) acting as a retard or block across the route of the rival Company which extended from the fur markets on the St. Lawrence to the fur-producing territory of Athabasca.

Thus, regardless of any lukewarm attitude or passive opposition that may have been indicated on the part of individual servants of the Hudson's Bay Company, the Committee of the Company favored agricultural settlement on a larger scale as a means of securing cheaper provisions for the fur trade and also as a weapon in their fight against the Northwesters for control of the fur industry.

These motives, which prompted the initiation of an agricultural colony at Red River, accentuated the conflict between the Northwesters and the fur company of "the Bay" and resulted in mounting costs and destructive strife, detrimental alike to the fur companies involved and to the newly initiated Red River Colony, until the rival companies were ultimately forced to effect

* Gray, J.M. - "Lord Selkirk of Red River"; Page 64.

a merger in 1821, and thus to put an end to the ruinous conflict which had been waged for over half a century.

The last decade of this period of conflict, which had extended from 1765 to 1821 between the rival fur companies, overlapped and coincided closely with the first decade of a colony, designed to be agricultural, at Red River, during the time it was initiated and directed by Lord Selkirk, as a venture on his proprietary estate of Assiniboia until his death in 1820.

It is obvious therefore that the fur trade of Western Canada, to which the suggestion of agricultural settlement as a form of land use was anathema, became, in the final analysis, responsible for the introduction first of agricultural land use into Rupert's Land; and secondly, for introduction of agricultural colonization into the District of Assiniboia.

Evidence gleaned from various documents and historical works, as noted and presented in the foregoing pages, indicate that agriculture, in what is now Manitoba, began and passed through the introductory stage during the 200 years prior to the establishment of Manitoba as a province.

During this 200 year period, the culture of country provisions with which certain native tribes were not unfamiliar (i.e. corn, squash and beans - as well as tobacco - together with wild rice harvested from the eastern lakes, syrup and sugar manufactured from the sap of box-elder woods, and pemmican processed from the meat and fat of the buffalo mixed with berries and fruit of wildling shrubs) were enlarged by the introduction of European field crops, garden vegetables and domestic livestock.

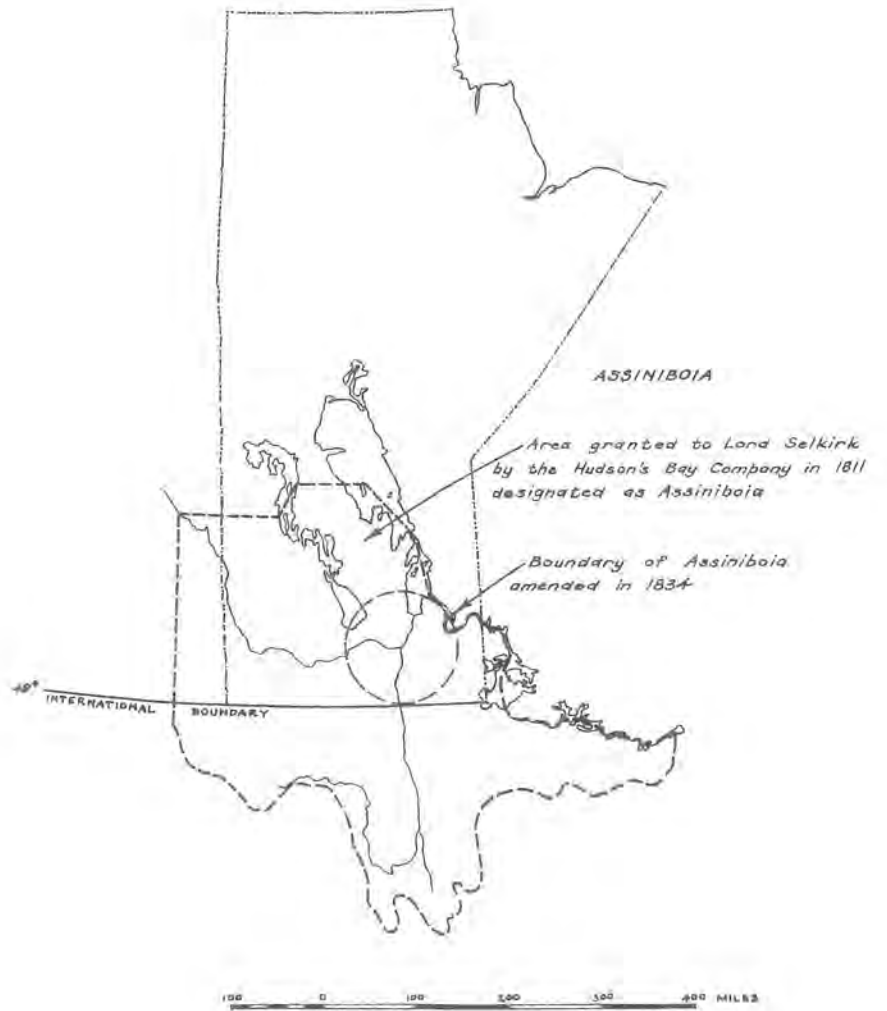
Barley, oats, wheat, turnips, potatoes, peas and garden vegetables were not only introduced but were distributed and grown around the widely scattered trading posts and on the holdings of freemen and retired servants of the fur trade companies, who thus became the first field husbandmen in Rupert's Land.

Also, at various times, swine, cattle and poultry were introduced to the trading posts and kept as domestic livestock which, together with horses for which the native tribes of the plains must be given credit, may be considered as introductory animal husbandry steps in the fur trade domain.

Consequently, when Miles Macdonell, leader of the first party of Selkirk colonists, stopped for breakfast on the banks of the Red River on August 30th, 1812, and Mr. Heney sent two men "with horses for me to ride to the Forks",* the first steps in the introduction of agriculture into Manitoba already had been accomplished. Its development, however - as was later the case during the regime of the District of Assiniboia - was restricted and retarded due to lack of demand over and above the subsistence requirements of a very limited consuming population.

* "Excerpts from Miles Macdonell's Journal - from Selkirk Papers, Provincial Archives"; The Selkirk Enterprise, December 11, 1968.

MAP II



EVOLUTION, DEVELOPMENT AND ACTIVITIES OF THE MINISTRY OF AGRICULTURE IN MANITOBA

PART I

HISTORICAL BACKGROUND

The inauguration of the initial Province of Manitoba, in 1870, and the appointment in 1871 of a "Department of Public Works and Agriculture" as one of the five ministries of the first Executive Council, were innovations coincident in time with fundamental and revolutionary changes in government, land ownership, land use, and agricultural development within the territory formerly designated as the District of Assiniboia in Rupert's Land.

For 200 years (1670-1870) prior to the formation of the initial Province, the use of land within the territory that now constitutes Manitoba was determined by the fur-trade requirements and the subsistence needs of the native tribes. During this period, the territory at large was essentially a fur-trade and wildlife domain, within which the prime concern of the fur-trade was the securing of wildlife furs and the obtaining of an adequate supply of provisions. Food requirements for those engaged in the trade, by and large, were derived from wildlife and game, from natural products of virgin soils and from the waters of lakes and streams; these were supplemented by a number of imported commodities, and augmented, in varying degree, by soil products grown on cultivated field plots or gardens (located at widely separated forts and trading posts) whereby subsistence types of Western European agriculture were first introduced into the fur-trade domain.

Although from time to time disputed, land ownership and government control in Rupert's Land, during this 200 year period, was claimed by Hudson's Bay Company by virtue of the charter secured from the British Crown in 1670; but ownership of that portion of Rupert's Land, comprising the 116,000 square miles designated as the District of Assiniboia, was claimed by Lord Selkirk, subsequent to 1811, by virtue of its being conceded or granted to him as an estate, for which, under joint agreement with the Hudson's Bay Company, he had to pay a nominal sum of ten shillings* and agree to settle 1,000 families on the grant within ten years.

The grant, despite opposition, was confirmed, and his Lordship found himself the ideal proprietor of a territory only 5,115 square miles less than the entire area of the United Kingdom of Great Britain and Ireland, which was delineated as follows:

"... beginning on the western shore of Lake Winnipie, otherwise Winnipeg, at a point in fifty-two degrees and thirty minutes north latitude and thence running due west to the Lake Winnepigoos, otherwise called Little Winnipeg, then in a southerly

* Morton, A.S. - "A History of the Canadian West to 1870-71"; Toronto, 1939; Page 535.

direction through the said Lake so as to strike its western shore in latitude fifty-two degrees, then due west to the place where the parallel of fifty-two degrees north latitude intersects the western branch of Red River, otherwise called Assiniboine River, then due south from that point of intersection to the Height of Land which separates the waters running into Hudson's Bay from those of the Missouri and Mississippi, then in an easterly direction along the said Height of Land to the source of the River Winnipie or Winnipeg (meaning by such last named River, the Principal Branch of the waters which unite in Lake Saginagas), then along the main stream of the waters and to the middle of the several lakes through which they flow to the mouth of the Winnipie River and thence in a northerly direction through the middle of Lake Winnipie to the place of beginning.*

During the last six decades of the 200 year fur-trade period, a subsistence type of agricultural colony was introduced which - after struggling, during the years 1812 to 1820, from the violence of the trade war between the North-West Company and the Hudson's Bay Company - became established as a mode of life on the river lots of the Red River Settlement. This agricultural colony therefore was in effect an inclusion in the fur trade domain, where it existed for six decades, without benefit of the services of a government department of agriculture.

The government of the Red River Settlement (i.e. the Selkirk colony) introduced into Assiniboia in 1812 was administered by a so-called Governor of Assiniboia who was under the direction of Lord Selkirk until the death of the latter in 1820. Subsequently, the governors of the agricultural colony were directly responsible to his executors until Assiniboia was purchased back from the Selkirk estate in 1835 by the Hudson's Bay Company for the sum of £ 84,000. Following the repossession of Assiniboia through purchase from the Selkirk estate by the Hudson's Bay Company in 1835, the initial District of Assiniboia that remained in British territory was under the jurisdiction of the current Governor of Rupert's Land, and the agricultural colony in the Red River Settlement was administered by a Governor of Assiniboia assisted by a council of his own choosing but confirmed in appointment by the Hudson's Bay Company in London.

From 1812 to 1834, therefore, the Selkirk agricultural colony was under a form of squirearchy, but from 1835 to 1869 both Rupert's Land and the Red River agricultural settlement in Assiniboia were under Company sovereignty. This ownership of so large an area of land as a proprietary estate - administered by agents of absentee landlords - limited land disposition, restricted agricultural expansion, and influenced the forms of administration in which the services of a government department of agriculture were as yet unknown.

Thus from 1834-35 to 1869, and prior to the formation of the Province of Manitoba in 1870, the District of Assiniboia was under a dual system of governors and subject to two forms of administration. Each of these forms of administration was headed by a successive series of administrators who concurrently and respectively were assigned to carry out the separate and

* Oliver, E.H. (Ed.) - "The Canadian North-West - Its Early Development and Legislative Records" C.A. No. 9, Ottawa, 1914; Page 155.

specific duties, in the one case, of administering the fur-trade and the various interests of the Hudson's Bay Company in Rupert's Land as a whole; and, in the other case, of exercising supervision and management of the area under agricultural development as the Red River Settlement. The chief administrator in each of the two coincident forms of administration - as well as the chief officer of the Hudson's Bay Company in London - was designated as a Governor.

(a) **Governor of the Company**

The overall control of the Hudson's Bay Company was exercised from London, England, and the direction of the Company was under a governor; a deputy governor; and a committee of five directors* chosen by the shareholders of the Company at annual meetings designated as General Courts.

(b) **Governors-in-Chief of Rupert's Land**

The supervision of the fur-trade and of the various interests of the Company in Rupert's Land were delegated by the London Committee to a special representative resident in the territory, who was designated as the Governor or Governor-in-Chief of Rupert's Land. It is on record that on May 13th, 1815, a resolution was passed at Hudson's Bay House, London, providing a Governor-in-Chief for the whole of the Company's territory in Hudson Bay.** This territory, at that time, was divided into two districts, i.e. Moose and Assiniboia, the governor in each district to have supreme power, except when the Governor-in-Chief was actually present.

(c) **Governors of Assiniboia**

Initially the administrator chosen by Lord Selkirk to supervise and direct the agricultural colony, which he introduced into Assiniboia in 1812, was also appointed Governor of Assiniboia (presumably on Selkirk's recommendation) by the London Committee in 1811. The first governor of Assiniboia thus appointed was, in effect, governor of Assiniboia, and of the agricultural colony in the Red River Settlement which he administered as an agent of Lord Selkirk's estate, but subsequent to 1815 the governors of Assiniboia were outranked by the governor-in-chief of Rupert's Land. In the government of the Red River Settlement the governor of Assiniboia was assisted by a council composed of the leading residents of the settlement who were not elected but appointed on recommendation of the governor.

* Hargrave, J. J. - "Red River"; 1871; Page 82.

** Seaman, H.S. - "Manitoba - Landmarks and Red Letter Days"; Winnipeg, Manitoba; Page 28.

The respective governors during the period 1812 to 1870 may be listed as follows:

1. DISTRICT OF ASSINIBOIA UNDER SELKIRK SQUIREARCHY - 1812 to 1834

- (a) 1812 to 1815 - Initiation of Lord Selkirk's Colony, in 1812, under Miles Macdonell, Governor of Assiniboia, until forced to surrender to North West Company in June, 1815.
- (b) 1815 to 1821 - Confused period of fur-trade conflict.

Governors-in-Chief of Rupert's Land	Governors of Selkirk Colony
1815 Robert Semple held commission of Governor-in-Chief of Rupert's Land and supervision of Assiniboia until killed in June, 1816, when settlement was temporarily dispersed	1815-1821 - Period of confusion caused by fur-trade conflict during which the Selkirk colony was, at times, disrupted and various agents served interrupted terms acting as governors. Colin Robertson undertook re-establishment of the colony in August, 1816, and Alexander MacDonell served as governor of the colony up to June, 1822.
1818 William Williams - Senior George Simpson - Junior	

- (c) 1821 to 1834 - Red River Settlement from amalgamation of N.W. Co. with the H.B. Co. to purchase of Assiniboia from Selkirk estate by H.B. Co.

Governors-in-Chief of Rupert's Land	Governors of Red River Settlement assisted by an appointed Council
George Simpson - 1826	Capt. A. Bulger - 1822-1823
	Robert Pelly - 1823-1825
Acting Governor 1821, later confirmed as Governor-in-Chief and knighted as Sir George Simpson in 1839.	Donald McKenzie - 1825-1833
	Alexander Christie - 1833 +

2. DISTRICT OF ASSINIBOIA UNDER HUDSON'S BAY COMPANY SOVEREIGNTY - 1835 to 1869

Governors-in-Chief of Rupert's Land	Governors of Assiniboia assisted by appointed Council
George Simpson - until his death in 1860	Alexander Christie - 1839
	Duncan Findlayson - 1839-1844
	Alexander Christie - 1844-1846
Grant Dallas - until 1864	Colonel Crofton - 1846-1847
	Major Griffiths - 1847-1848
William Mactavish - 1864 +	Major Coldwell - 1848-1855
	Frank Godshall Johnson - 1855-1858
William Mactavish -	Governor of Assiniboia - 1858+
	conjointly Governor-in-Chief of Rupert's Land - 1864 to formation of the Province of Manitoba.

(1) THE COUNCIL OF ASSINIBOIA

The Governors of the District of Assiniboia were assisted by a Council selected from the most prominent settlers whose appointment was confirmed (during Hudson's Bay Co. sovereignty) by the London Committee.

Initially, and during the Selkirk squirearchy, the Council was not so much a Council of Assiniboia as the Council of the Governor of Assiniboia; but from the time of Governors Bulger and Pelly (and more particularly under Hudson's Bay sovereignty) the Council began to assume administrative and legislative functions.*

In 1841, a new Assiniboia came into being. Earlier, the district had extended into U.S.A. On adjustment of the boundary line along the 49th parallel westward from the Lake of the Woods, Assiniboia was restricted to the portion remaining in British territory, and regulations were adopted whereby the area under the Governor and Council of Assiniboia was, in effect, a municipality extending for 50 miles in each direction from the junction of the Red and Assiniboine rivers. At this time the term "settlement" was limited to an area four miles in breadth from the nearest point of either river, and in length four miles from the highest and lowest permanent dwelling.**

Under this simple type of municipal administration there were no governmental departments or ministries, but committees of council members were appointed to deal with specific endeavors.

There was, for example, a Board of Public Works to deal with roads and bridges and, in respect of agriculture, the minutes of June 19th, 1845, of the Council of Assiniboia reveal it was resolved:

"8th. That the Bishop of Juliopolis, the Rev. John McCallum, Captain Cary, Dr. Bunn, and Mr. Pritchard, be a Committee of Economy, with power to encourage by premiums or otherwise the improvement of manufactures and such branches of agriculture as may bear on such improvement, either by producing materials or by saving time"; and

"11th. That the said Committee be empowered to draw from the actual revenue of the current year a sum not exceeding one hundred pounds, so as to command resources not exceeding two hundred pounds in all, the whole to be accounted for in detail at the first meeting of council after the close of May next."

Thus the Board of Public Works and the Committee of Economy, initiated in the Council of Assiniboia, may be considered as the former counterpart of the Department of Public Works and Agriculture which, in 1871, came into existence as one of the first of the executive ministries of the initial Provincial Government of Manitoba.

* Oliver, E.H. (Ed.) - "The Canadian North-West - Its Early Development and Legislative Records" C.A. No. 9, Ottawa, 1914; Pages 76 to 78.

** Ibid, Page 88.

(2) COMMUNITY GOVERNMENTS ASSUMED BY SPECIFIC GROUPS
CONCURRENT WITH COUNCIL OF ASSINIBOIA

Although the Governor and Council of the District of Assiniboia was the only legally recognized government appointed to administer the agricultural settlement established at Red River, during the time Rupert's Land was under the sovereignty of the Hudson's Bay Company, two additional but unrelated groups, of their necessity, assumed the right to establish distinctive concurrent organizations for the government or regulation of each respective group.

(a) The Metis Buffalo Hunt

The first of these community governments was a special type of intermittent but rigid semi-military - semi-democratic government which regulated the Metis Buffalo Hunt away from the settlement. The leader and captains of the Buffalo Hunt were elected for the duration of each hunt when they assembled to collectively hunt buffalo on the plains, and thereby secure the pemmican by means of which they obtained a livelihood and which, together with the products of the settlement farms and the fish taken from streams and lakes, provided subsistence both for the fur-trade in Rupert's Land and the colonists in the District of Assiniboia.

The authority of this itinerant form of government ceased with the end of each hunt, and the need for its reorganization ceased when the nomadic buffalo hunts were discontinued. In this connection, Campbell* refers to buffalo in herds of fifty thousand at a time, which were seen by the North-West Mounted Police as they journeyed westward in 1874, and adds that the last buffalo hunt took place ten years later (1884).

(b) The Settlement at Portage la Prairie

The settlement at Portage may be considered as initiated by Rev. W. Cockran in opposition to the H.B. Co. as early as 1851. The Rev. William Cockran (Archdeacon), who founded the parishes of St. Andrew's and St. Peter's along the Red River, continued his work along the Assiniboine and founded the mission churches of St. Anne's at Poplar Point, St. Margaret's at High Bluff, and St. Mary's at the Portage. In 1853, one year after the disastrous flood of 1852, Cockran led a number of settlers from St. Andrew's and St. Paul's to better drained land at the Portage where, along the Assiniboine, the settlers continued the way of life with which they had become familiar in the Red River Settlement.**

In this connection Garrioch records***that twelve families, all of whom had been members of Rev. Cockran's congregation at St. Andrew's or St. Paul's on the Red River, moved to Portage la Prairie in 1853. He further records that an agreement was made with the Indians at the Portage whereby

* Campbell, M.W. - "The Saskatchewan"; Clarke Irwin and Co. Ltd.; 1965; Page 184.

** Morton, W.L. - "Manitoba - A History"; University of Toronto Press; 1961; Page 88.

*** Garrioch, Rev. A.C. - "First Furrows"; Stovel Co. Ltd.; Winnipeg; 1923; Pages 79 and 92.

the settlers were to have all the bush land within the southward curve of the Assiniboine River, and as much of the adjoining prairie as they might need for cultivation, pasture and hay. For this each settler was to pay one bushel of wheat each fall to the Chief named Pa-kwah-ki-kun.

As the Portage settlement was beyond the radius of 50 miles from the Forks, it was beyond the area under the jurisdiction of the Council of the District of Assiniboia. Consequently, in an area without constitutional government, the missionary and his people had to form a simple government of their own, which in the early years appears to have been more or less of a parish council "over which Rev. Cockran presided."* However, in 1857, according to Garrioch,**

"It was deemed advisable that there should be organized some sort of local government to deal with 'disputed boundaries of lots' or other causes, and a council was formed much on the same lines of the neighboring one of Assiniboia. The Council of Portage was composed of at least six councillors, a president, a secretary or clerk, a magistrate or judge, and two constables. . . . It was evidently regarded by Archdeacon Cochrane as an organization that was not uncalled for, and which, under proper direction, was fitted to be of benefit to the community, and while he abstained from taking part in the proceedings, he attended some of its meetings, and when he did so, always opened with prayer and then retired."

A slightly different version of the formation of the Council of Portage la Prairie is given by Hill,***, who notes that

"The Portage settlement in moral and ecclesiastical matters was largely controlled by Archdeacon Cochrane. The civil administration consisted of regulations made and enforced by councillors elected every year by the settlers. . . . The personnel of the Council in 1864 was as follows: Associate judges - Frederick Bird, John McLean, Farquhar McLean, John Garrioch, Thomas Anderson, Peter Henderson, Charles Anderson and the late Hon. John Norquay; the constables were William Hudson, Henry Anderson, and John D. McKay. For High Bluff district, there were Charles Anderson and Thomas Anderson. The oath was as follows: 'I hereby swear that I will do my duty as a justice of the peace of Portage la Prairie according to my ability. So help me God'."

In 1862 the first settlers from Ontario arrived in Portage la Prairie. John McLean, with his wife, mother and six children arrived in the spring, and Kenneth McBean with his wife and seven children arrived in the fall.****

These families appear to have been the forerunners of old country-men and their families, who first settled in Ontario, but who, like Kenneth MacKenzie, came to the Portage around 1868; and of Ontario farmers who came west and settled on the western portion of the Portage Plains.

Thus it was that the presence of 120 families in the area between 98¼° and 99° longitude and south of Lake Manitoba caused the Canadian Government, in 1870, to fix the western boundary of the initial Province of

* Morton, W.L. - "Manitoba - A History"; Page 90.

** Garrioch, Rev. A.C. - "First Furrows"; Page 129.

*** Hill, R.B. - "Manitoba: History of its Early Settlement"; Page 160.

**** Garrioch, Rev. A.C. - "First Furrows"; Page 124.

Manitoba coincident with 99° longitude instead of the western boundary of the District of Assiniboia initially proposed.*

However, the eastern and western boundaries of Manitoba, defined in 1870 as the 96th and 99th degrees of west longitude, did not correspond with the Dominion Lands System of surveys, and consequently in 1877 the boundaries were re-described** according to the Dominion Lands System in order to facilitate the correct registration of land titles in Manitoba. This caused the eastern and western boundaries of Manitoba to be moved westward about 5 miles at that time.

(3) TRANSFER OF RUPERT'S LAND TO CANADA

Fundamental and revolutionary changes in government, land administration and land-use, however, occurred with the passing of the British North America Act of 1867 (Vict. 30-31, C.3, UK). The B.N.A. Act provided for the formation of the Dominion of Canada and, by Section 146 - on address from the Houses of the Parliament of Canada - for the admission of Rupert's Land and the North-Western Territory into the Union.

The British North America Act of 1867 was followed by an Act of the British Government in 1868 (Vict. 32-33, C.15) enabling Her Majesty to accept a surrender upon terms, of the Lands, and Privileges and Rights of the Governor and Company of Adventurers of England trading into Hudson's Bay; and for admitting same into the Dominion of Canada. Negotiations under authority of the Rupert's Land Act of 1868 (Vict. 31-32, C.105, UK) resulted in a Deed of Surrender whereby Canada paid to the Hudson's Bay Company the sum of £300,000 (\$1,400,000) and the Company surrendered all the lands, territories, rights and privileges, etc., granted or purported to be granted to the Governor and Company within Rupert's Land; except for the right to carry on trade and commerce; and to retain the posts or stations of the Company, together with a block of land adjoining each post or station; and the right to claim (within 50 years) one-twentieth of the land in any township or district in the area bounded on the south by the United States boundary, on the west by the Rocky Mountains, on the north by the north branch of the Saskatchewan River, and on the east by Lake Winnipeg and the Lake of the Woods and the waters connecting them.*** Thus by the Deed of Surrender, signed by Hudson's Bay Company on November 19th, 1869, the ownership, control and government of Rupert's Land (and consequently the District of Assiniboia with the Red River Settlement included as part of Rupert's Land) were assumed by the Government of Canada.

To provide for the government of Rupert's Land in the interval between the signing of the Deed of Surrender and the passage of "The Manitoba Act", the Government of Canada passed "An Act for the Temporary Government of Rupert's Land and the North-Western Territory when United with Canada."**** (Assented to June 22nd, 1869)

* Morton, W.L. - "Birth of a Province"; Man. Record Soc. Publication (1965); Page 63.

** Statutes of Canada, Vict. 40, Chapter 6.

*** P.C. No. 1503A, July 5th, 1869.

**** Vict. 32-33, C.3 (SC), 1869.

Under authority of the British North America Act, the Government of Canada then proceeded to pass The Manitoba Act (Vict. 33, C.3, Canada) which was confirmed by an Imperial Act (Vict. 34-35, C.28), and under these legislative acts the Province of Manitoba was duly inaugurated and admitted into Confederation in 1870. The initial Province of Manitoba* thus created was a somewhat diminutive ("postage stamp") area confined within that portion of Rupert's Land lying between 96° and 99° west longitude, and between 49° and 50° 30' north latitude, whereas the vast remaining area of Rupert's Land and the Canadian North-west was inaugurated and admitted into Confederation as the North-West Territories by Imperial Order-in-Council to be effective July 15th, 1870.

Though the Manitoba Act of 1870 provided for a Provincial Legislative Council (which was abolished in 1876) and for a Provincial Legislative Assembly, the Government of Manitoba thus established was denied control of and jurisdiction over the natural resources of the Province and of the source of income from these resources. Apparently the original concept of the Government of Canada at Ottawa was that the newly formed Province of Manitoba was to be administered as a territorial appendage of Eastern Canada because the natural resources were retained under the jurisdiction of the Dominion Government. In respect of land, Section 30 of The Manitoba Act provided that

"All ungranted and waste land in the Province shall be vested in the Crown and administered by the Government of Canada for the purposes of the Dominion."**

Having thus acquired the legal right to administer Crown lands in Western Canada, the Government of Canada proceeded through treaties*** negotiated with the native tribes, to eliminate the title or claim of Indian tribes to the lands of their ancestors - except in the restricted areas retained as Indian Reserves - . Also under The Manitoba Act, action was taken (though somewhat tardily) to confirm individual claims to lands granted in freehold by Hudson's Bay Company, or claimed under squatter's right according to the "custom of the country". Under the Act also, 1,400,000 acres of land were reserved for disposition under Half-Breed Scrip, for division among the children of the Half-Breed heads of families residing in the Province at the time of transfer to Canada.

The enormous area of ungranted land in Manitoba and the North-West Territories was then made subject to disposition by the Government of Canada through various schemes such as homestead regulations, pre-emptions, military bounty and discharged soldier grants, grants to railway companies, special grants, etc. This easy acquisition of "free land",

* The Province of Manitoba was enlarged in 1881 by Vict. 44, C. 14(SC) and Vict. 44, C.1 (SM); and again in 1912 to its present area by 2 Geo. 5, C.32 (SC) and 2 Geo. 5, C.6 (SM).

** The natural resources of Manitoba were administered by the Dominion Government for 60 years or from 1870 to 1930. In 1930 the unalienated portions of the natural resources of Manitoba were transferred by the Dominion Government to the Province in response to mounting provincial pressure.

*** A. Morris - "Treaties of Canada with the Indians of Manitoba and the North-West Territories"; Belfords; Toronto, Ontario, 1880.

under the homestead and pre-emption regulations that governed disposition of Crown lands by the Dominion Government - and under the easy terms offered by railway companies for the purchase of land alienated through railway grants, or by the Hudson's Bay Company under the Deed of Surrender - resulted in a flood of immigration and in the agricultural settlement and alienation of lands (good, bad and indifferent) that took place in the prairie and aspen-grove regions of the West during the last third of the 19th century and the first third of the 20th century.

During this period the Government of Manitoba had no jurisdiction or right of administration over Crown lands within the Province, except for certain swamp lands which were reclaimed by drainage operations of the Provincial Government and transferred to Manitoba in 1883 under agreement ratified by Order-in-Council of the Dominion Government.

The rapid expansion of settlement and of agricultural development that took place during the sixty years of Federal jurisdiction of Manitoba lands, 1870 to 1930, is in striking contrast to the slow settlement and limited development of river lot agriculture, that were characteristic of the sixty years of pioneer subsistence farming prior to 1870, when the District of Assiniboia was at first under the proprietary government of the Selkirk estate, and later under the sovereignty of the Hudson's Bay Company.

Thus Manitoba as a province came into existence at an historic turning point (1870) when the practice of subsistence farming on the river lots of the Red River Settlement had at last indicated some of the cropping possibilities and agricultural potentialities of the country, and when the easy acquisition of land for agricultural use in Manitoba was made possible by the "give-away" policies of land disposition adopted by the Dominion Government.

3. GOVERNMENT ADMINISTRATION OF AGRICULTURE IN RUPERT'S LAND PRIOR TO 1870

Administrative regulation of, responsibility for, and service to agriculture in various forms were foreshadowed in Rupert's Land long before Manitoba became a province, or the Provincial Department of Agriculture (which was subsequently established) undertook responsibility for, and direction of, agriculture within the Province.

The different forms of agricultural administration exercised in various periods varied with territorial ownership, and with the administrative authorities currently responsible for government of the areas where agriculture was introduced or agricultural settlement was in the process of development.

(1) UNDER THE FUR-TRADE REGIME

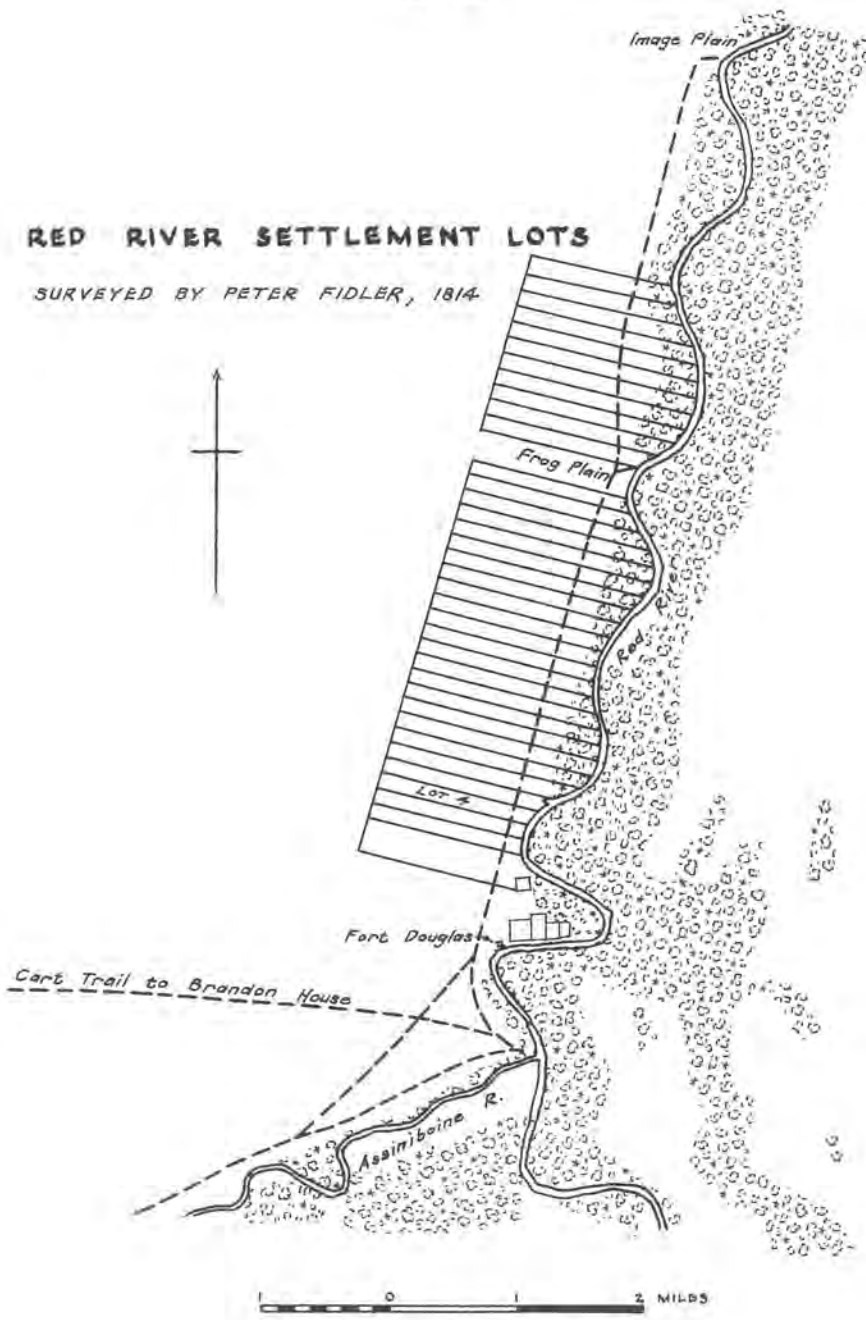
Credit must be given to the Governor and Committee of Hudson's Bay Company in London for

- (a) introducing European agriculture into Rupert's Land by virtue of issuing seeds and livestock to company officers at trading posts "on the Bay";

MAP III

RED RIVER SETTLEMENT LOTS

SURVEYED BY PETER FIDLER, 1814



- (b) for instructions and recommendations given from time to time for the production of auxiliary subsistence for the maintenance of fur-trade personnel; and
- (c) for supplying agricultural laborers and stockmen to work under company officers in the implementation of agricultural programs undertaken by the company.

The direction of agriculture in Rupert's Land therefore (such as existed under the fur-trade regime) was a prerogative exercised by the directorate of the Hudson's Bay Company, and by officers of the fur-trade companies who exercised initiative in enlarging agricultural production in connection with certain trading posts and supply centres.

(2) UNDER THE SELKIRK SQUIREARCHY

Following the acquisition of Assiniboia in 1811 (i.e. 116,000 square miles in the territory of Rupert's Land) as a proprietary estate by Lord Selkirk, the agricultural colony, which he attempted to establish on that estate, subsequent to 1812, was supervised by colony governors who, as estate agents, were instructed in great detail by correspondence from the proprietary Laird* (and subsequently after his death by the executors of the estate)** in respect of procedures that should be followed in the establishment and administration of the agricultural settlement at Red River.

By way of example it may be noted that Miles Macdonell, the first estate agent, was given copious instructions including such items as where the agricultural colony should be located; where seed potatoes, seed grain, Indian corn, and horses could be obtained; and how men on wages should be employed to erect buildings, to clear and till land, and to inclose land under tillage, etc.

Also besides providing livestock sent with the colonists, from Scotland, Lord Selkirk completed initial negotiations for the purchase of livestock in the United States, which after three heroic attempts on the part of the contractor (Michael Dousman),*** resulted in the addition of 194 head of cattle to the livestock of the Red River Settlement in the years 1821 to 1823.

(3) UNDER COMPANY SOVEREIGNTY

As the result of re-acquisition of Assiniboia by Hudson's Bay Company through purchase of the Selkirk domain in 1835, the agricultural colonists in the Red River Settlement ceased to be tenants under the direction of the Selkirk squirearchy. Under Company sovereignty the agricultural colonists of the primitive settlement acquired more freedom, exercised more initiative,

* Oliver, E. H. (Ed.) - "The Canadian North-West - Its Early Development and Legislative Records"; Canadian Archives; Pages 168-174.

** Ibid. Pages 207-217.

*** MacEwan, G. - "Blazing the Old Cattle Trail"; Modern Press; Saskatoon; 1962; Pages 14-19.

and became more and more independent. Moreover, residents of the settlement, appointed by the London Committee to represent the settlers and to serve as members of the Council of Assiniboia, acquired more and more influence in legislative and regulatory activities.

In 1835, agriculture in the Red River Settlement was a primitive enterprise, and as the total population of the settlement was less than 4,000 persons, and the total cultivated area was only 3,405 acres, the duties of the Council, at first, were comparatively simple.

In 1839, the territory constituting that part of the Selkirk domain remaining in British North America was designated as "Assiniboia" by the General Court of the H.B.C. in London; but in 1841, the territory formerly designated as "Assiniboia" was reduced to coincide more closely with the agriculturally settled portion, and the "Municipal District of Assiniboia" (administered by the Governor and Council of Assiniboia) was limited to an area extending fifty miles in every direction from the junction of the Red and Assiniboine rivers.

Beyond the area thus constituted under the jurisdiction of the Council of Assiniboia there was no legally constituted government except such as was exercised by the Hudson's Bay Company through the Governor-in-Chief and Council of the Northern Department of Rupert's Land for regulation of the fur-trade. (See community governments assumed by specific groups, Pages 30 and 31.)

In the administration of the Red River Settlement during the Selkirk squirearchy, the Governor and Council formulated simple rules in respect of agriculture. Similar regulations were adopted and expanded in the early years of the District of Assiniboia which, in turn, were superseded by more detailed judicial regulations in the last decade of the Hudson's Bay Company regime. The extent of these rules and regulations is indicated in minutes selected as typical record of the proceedings of Council* held in Fort Garry on (a) May 4th, 1832; (b) April 30th, 1835; and (c) June 5th, 1841; and (d) by laws of Assiniboia passed by the Council of Assiniboia on April 11th, 1862.

(a) Minutes of May 4th, 1832

The resolutions of May 4th, 1832, prohibited:

- (i) the setting out of fires between March 1st and December 1st, at more than 50 yards from a settler's house or the setting of fire by anyone in the woods or the plain within 10 miles of the river bank;
- (ii) the running at large of pigs on land other than that of their owner;
- (iii) the running at large of stallions in any part of the settlement; and
- (iv) the felonious practice of taking horses from their grazing without the owner's consent, and riding or driving them in harness.

* Oliver, E. H. (Ed.) - "The Canadian North-West - Its Development and Legislative Records"; Canadian Archives, No. 9.

Regulations also were made requiring all occupants of land to give three days labor towards the improvement of roads and bridges, at any time when called upon before the 1st of September, unless they paid three shillings to the Governor for that object before the 1st of July.

It also was resolved at the May 4th meeting in 1832 that "Public fairs shall hereafter be held annually at Frog Plain, on the 1st Monday after the 20th of September, and on the 1st Monday after the 20th of May ensuing".

(b) Minutes of April 30th, 1835

The proceedings of a Council held at Fort Garry on April 30th, 1835, record the passing of resolutions:

- (i) prohibiting all persons from setting out fires beyond their enclosed ground under cultivation, unless the assistance of ten neighbors be obtained to extinguish the fire;
- (ii) giving all persons the liberty to seize and to hold any pigs trespassing on their enclosed lands until the owners pay a fine of five shillings, or in eight days (after giving public notice at the Church door) to sell the pigs thus seized;
- (iii) authorizing all constables to seize and use any stallion, of two years old and upward, found straying in any part of the settlement, and in 14 days (after giving notice at the Church door) if not redeemed by a "pound fee" of 20 shillings, to sell the impounded stallion at public auction; and
- (iv) modifying the regulation in respect of horse-taking, by the imposition of a fine of 20 shillings and more, according to injury and distance, to be paid to the horse-owner; and the offender, in case of not paying the fine, to be imprisoned for not less than 14 days.

(c) Minutes of June 5th, 1841

At the meeting of the Council of Assiniboia held at Fort Garry, June 5th, 1841, it was established that the regulations passed shall apply to the area extending fifty miles in all directions from the "forks" of the Red and Assiniboine rivers, but in breadth not more than four miles from the nearest part of either river. These regulations required:

- (i) that haystacks situated 100 yards from an owner's house and outhouses must be protected by a plowed belt, four yards wide, thirty yards from the stack;
- (ii) that the setting of fires to consume standing or growing fuel be prohibited between May 1st and November 1st, under penalty of ten pounds;
- (iii) that the owner of pigs, over five weeks old, found trespassing on enclosed land, be responsible for damages to the injured party; and if the pigs be ringed and yoked, the owner pay a fine of one shilling extra; if yoked and not ringed or ringed and not yoked to pay three shillings extra; and if neither ringed or yoked, the pigs

may be seized and kept at a maintenance charge of three pence per day. If not redeemed in 10 days the pigs could be held forfeit;

- (iv) that the owner of cattle found trespassing on another's enclosed ground be made liable for damages and to a maintenance charge of six pence per day for each animal under seizure;
- (v) that the owner of a stallion, rising two years old straying from its owner's property, be made liable to a fine of 20 shillings, and such animal, if seized, could be held at a maintenance charge of six pence per day or turned over to a constable for keep at the same rate for maintenance;
- (vi) that taking another's horse from the open plain, to ride or drive, made the offender liable to a fine of 20 shillings and the forfeiture of all harness, whips, spurs and vehicles used with such horse so taken. The taking of a horse from its owner's land was deemed to be a theft;
- (vii) that the cutting of hay within the four mile limit be forfeited if a settler cuts beyond the limit of his own lots and the annexed privilege.

Regulations also were enacted in respect of:

- (viii) the appointment of a Board of Public Works;
- (ix) highways to be two chains in width;
- (x) prohibiting any person from leaving timber, stones or unyoked vehicles on highways;
- (xi) requiring all holes made in the ice of either river, or any creek, to be marked by a pole, six feet of which must be exposed;
- (xii) fixing a custom duty of four percent on the invoiced price of all imports;
- (xiii) prohibiting the giving of any intoxicating substance to any Indian;
- (xiv) prohibiting the distilling or making of native spirits;
- (xv) the appointment and duties of police and magistrates, and the time, place and conduct of quarterly courts; and
- (xvi) providing imprisoned persons with one pound of pemmican, with water, every morning at public expense, and prohibiting prisoners from receiving any other kind of food for luxury except by order of a medical practitioner.

(d) The Laws of the District of Assiniboia

All local regulations that were on record on March 13th, 1862, were repealed and replaced by Laws of Assiniboia passed by the Governor and Council of the District of Assiniboia on April 11th, 1862. These laws related to:

- (i) the setting out of fires and protection of haystacks between May 31st and December 1st;

- (ii) the straying and trespass of stallions (unless under magistrate's license permitting such animal to run at large for the season) and of rams, between June 30th and November 1st, and of pigs, between March 31st and November 1st; (it is of interest to note at this time, that if pigs were found trespassing in an enclosed field - without a yoke 1½ feet wide and 1½ feet in length - the owner was made answerable for all damage and for a fine of three shillings; and if the owner of the pigs was warned to take the pigs away and he neglected to do so within six hours, the pigs could be shot);
- (iii) the increase of the fine for horse-taking which was raised from one pound to two pounds;
- (iv) the setting of a permanent date for commencing the cutting of hay (i.e. July 25th), and prohibiting the cutting of hay beyond the two mile limit before August 1st;
- (v) the erection of fishing weirs or barriers in any part of the Red or Assiniboine rivers which was made unlawful;
- (vi) the establishing of two chains as the width of highways;
- (vii) the marking of holes dug in river ice;
- (viii) the appointment of superintendents of public works in each of four sections of the settlement (later amended to ten superintendents and ten sections);
- (ix) the tariff or rates of charge for crossing Birston's ferry - carts, 3d; teams, 5d; light horses and cattle, 1d per head; and foot passengers, ½d each - ; and
- (x) regulations in respect of liquor laws and the intoxication of Indians.

(e) Additional Endeavors of the Council of Assiniboia

In addition to recording regulations established in connection with the government of Red River Settlement, the minutes of the Council of Assiniboia record a range of miscellaneous endeavors undertaken by the Council in aid of agriculture.*

For example, a Board of Works was established as a standing committee to deal with the construction and maintenance of roads and bridges, and a standing Committee of Economy was established in 1845 to be a committee of betterment for the improvement of agriculture and manufactures, and of settlers' conditions. Temporary committees also were appointed, as need arose, in connection with specific problems.

Examples of specific agricultural endeavors in which the Council of Assiniboia from time to time became involved include:

- (i) the distribution of strychnine to poison wolves;
- (ii) the importation of 100 bushels of Black Sea seed wheat (1847);

* Oliver, E.H. (Ed.) - "The Canadian North-West - Its Early Development and Legislative Records".

- (iii) grants of money to the Committee of Economy for various endeavors, and for the establishment of a public granary (1848);
- (iv) grants-in-aid to the Red River Agricultural Association (1852);
- (v) grants for the relief of sufferers from the flood of 1852 and for the purchase of seed corn;
- (vi) conservation and prevention of exploitation of woods along the river (1857);
- (vii) arrangements with officers of Hudson's Bay Company for seed wheat in poor crop years (i.e. 700 bus. in 1853, 800 bus. in 1862, and 800 bus. in 1865) to be repaid in kind when the recipient settlers reaped a favorable harvest; and
- (viii) appropriation of money from the public fund for the purchase of seed wheat, flour, and for fish-hooks, twine, and ammunition, to be distributed through the Red River Co-operative Relief Committee to deserving cases suffering as the result of crop failure in 1868.

(f) Agricultural Demonstrations and Experimental Projects in the Red River Settlement

Because experimental farms are now carried on as government projects, reference should be made at this point to three separate attempts to establish a so-called "experimental farm" in the Red River Settlement. These experimental farms, so recorded,* were obviously apart from the colony farm, colony gardens and the commons associated with the earlier settlement in the vicinity of Point Douglas. They were not initiated by the Council of Assiniboia as government projects, but appear to have been successive efforts, undertaken by the current landlord or territorial landowner, to establish proprietary establishments more in common with "manor farms" or the demesne of a baronial estate; and to be more of experiments in farming than experimental farms in the modern usage of the term.

(i) The Selkirk Estate Farm, 1817

The first of these estate farms was designed initially by Lord Selkirk, who with the concern of "an improving" and philanthropic "Lowland Laird", in absentia, planned the establishment of a farm and dairy as an estate project on which agricultural experiments would be conducted that would supply information and render service to the tenants on the estate. As a result, Hay Field Farm, located three miles west of Fort Douglas,** was started with an experienced Scottish farmer, William Laidlaw, as manager. Alexander Ross records that barns, yards, parks, and houses were provided, and a mansion befitting a peer was built which was accidentally burnt at the moment of completion.

* A. Ross; J.J. Hargrave; J.M. Gray; and others.

** Boon, T.C.B. - "The Anglican Church from the Bay to the Rockies"; Ryerson Press; Toronto; 1962; Page 7.

Ross adds also that "yet all the time there was not an ox to plough, nor a cow to milk in the settlement." However, Nicholas Garry, Deputy Governor of Hudson's Bay Company, on an inspection visit to Red River in August, 1821, in connection with reorganization of the fur-trade in Rupert's Land, recorded in his diary that he rode to Hay Field Farm, and that "about 70 acres are under cultivation, but grasshoppers had made here dreadful devastation, whole beds of potatoes eaten without vestige remaining, fine fields of wheat destroyed and the whole having a desolate appearance." Thus the fact that Laidlaw had about 70 acres under cultivation in August, 1821, indicates that draft animals were in use, and that some of the statements made by Ross in respect of Hay Field Farm may be either misleading or open to question.

Although historians have stressed the failure of this project, it would appear more reasonable to conclude that Lord Selkirk's plan for an experimental farm in the Red River colony was never brought to completion; and that, in the final analysis, the failure of this project was due to an unfortunate combination of circumstances. For example, Lord Selkirk left the colony in the fall, after making plans for the establishment of the model farm, and was so enfeebled by ill-health that in 1820 he came to an untimely death at the time the scheme should have had the inspired genius and sustaining direction of its originator. This left the onus of responsibility for carrying out the project on the executors of the estate, who were not only absentee administrators, but who (as indicated by instructions sent to Alex MacDonell as agent for Selkirk's executors)* were obviously more concerned with financial returns from the estate than with the experimental activities envisioned by Lord Selkirk in his initial design.

From the standpoint of financial returns, this first attempt to establish a model estate farm ended in failure; and until official records are forthcoming to indicate that controlled experimental projects (if any) were properly carried out, it may be concluded that the scheme for a model estate farm, on which demonstrations and experiments could be carried out, as conceived by Lord Selkirk, failed through absentee landlordism and lack of inspiration and direction, and was soon abandoned.

(ii) The H.B. Co's. Agricultural Establishment No. 1 (1830)

The second of these so-called "experimental farms", operated as landowner estate projects, was instigated by Governor Simpson and financed by the Hudson's Bay Company ten years after the death of Lord Selkirk and nine years after the amalgamation of the H.B.C. and the N.W. Co. The main object of this undertaking is indicated in a minute passed at a meeting of the Northern District Council held at York Factory (with Governor Simpson as chairman) on July 3rd, 1830, which records

"That Chief Factor McMillan be directed to establish an experimental farm at or near Red River for the purpose of rearing sheep and the preparation of tallow or wool and of hemp and flax for the English market and that the necessary means be afforded for that object."

* Canadian Archives.
Selkirk Papers XXI, XXII, pp.7153 Seq.

Furthermore, at the next annual meeting of the Northern District Council held at York Factory, on June 29th, 1831, it was resolved

"That Chief Factor McMillan be directed to prosecute the object for which the experimental farm was established last season and that the necessary means be afforded for the purpose."

This Company farm was located three miles west of the mouth of the Assiniboine River.* Chief Factor McMillan was put in charge, with Robert Campbell as sub-manager, who "set up his tent on May 1st, 1832, and soon had up to 40 men building, ploughing, and haying."**

In referring to this effort of the Hudson's Bay Company, the historian Ross records that "a princely dwelling, then barns, corn-yards, parks and enclosures were formed"; that "cows of the best breed were purchased"; that "a stallion was imported from England"; that "breeding mares (were) got from the United States"; and "implements of husbandry collected in profusion." Although admitting the high quality of the livestock and equipment provided by the Company, Ross took pains to emphasize that the management of the farm was under a gentleman of the fur-trade; that the farm servants were mostly half-breeds of the country; and that practical farm experience was lacking.

Nevertheless, and despite the statement that "after six years of trial the whole was sold off with a loss to the Company of £3,500 sterling", this venture by Governor Simpson and the Hudson's Bay Company must be given credit for contributing to livestock improvement and especially for the improvement of the horse population in the Red River Settlement and in the larger domain of Rupert's Land, through the introduction of the stallion "Fireaway".***

Horses were in use by the fur-trade by the end of the 18th and the beginning of the 19th centuries, and were gradually acquired by the residents of Red River colony as the settlement became better established. These horses or Indian ponies, however, were reported to be small and unprepossessing. It is natural therefore that as the Selkirk colony began to make progress, interest developed in the breeding of horses of better size and appearance.

Governor Simpson was himself impressed with the need for improved horses for use by the settlers, for use in the annual buffalo hunt, and for use by the fur-brigades and by Hudson's Bay Company personnel. MacEwan notes that Governor Simpson wrote to the London office suggesting that some plan should be adopted to increase the stock and to improve the breed of horses as they were becoming very scarce and, being of small growth, were not as suitable as they should be. In 1831 the Company officials advised Simpson that a stallion of proper breed was being sent by way of Hudson's Bay and that the Company farm at Red River would be the best place to undertake the raising of horses for Company service.

* MacEwan, G. - "Fifty Mighty Men"; Modern Press, Saskatoon; 1963.

** MacEwan, G. - "Between the Red and the Rockies"; University of Toronto Press; 1952; Page 21.

*** MacEwan, G. - "Hoofprints and Hitchingposts"; Modern Press; Saskatoon; 1964; Chapter 8.

It is recorded that this horse, Fireaway, was looked upon as one of the wonders of the world by the natives. Campbell described this stallion as a splendid bright bay, sixteen hands high, very solidly built, and of faultless shape, and that his equal for improving native stock has never been imported into this country.

Campbell, who grew up on a Perthshire sheep farm was sent in November, 1832, as one of a party of ten, to purchase sheep in the U.S.A. When the sheep which survived the journey were delivered to the Company farm in September, 1833, Campbell was put in charge of the flock which subsequently (according to MacEwan) "did well and multiplied."*

In addition to the contribution made by this farm to the improvement of livestock and horses, it should be credited also with the demonstration that flax and hemp could be grown in the soils of the Red River Settlement. Failure to harvest and develop fibre products from these crops, either because of lack of knowledge or of craftsmanship, should not detract from the fact that as a crop adaptation demonstration this project was a success. Failure consisted in not following up successful crop production with successful processing of the fibre produced.

Although it is apparent that contributions to the development of agriculture in the colony were made through the establishment and operation of this estate farm especially in improving the quality of horses in the territory, the unhappy combination of lavish investment and excessive expenditure in operation under a fur-trade official, directed by absentee landowners far removed by time and space from the scene of operation, instead of under a qualified husbandman, resulted inevitably in the discontinuation of this first of the Company's (so-called) experimental farms.

In this connection it is of interest to note, according to Ross,** that Governor Simpson was never reconciled to the failure of this favorite scheme. Governor Simpson's disappointment, however, would seem to be less connected with failure of the Company's farm, under the management of a fur-trade official, to provide information of benefit to the pioneer settlers, as it was with failure to obtain processed commodities (i.e. tallow, wool and fibre) that would contribute to his favorite scheme of enlarging the commercial business of the Hudson's Bay Company.

(iii) The H.B. Co's. Agricultural Establishment No. 2 (1836)

The third of the so-called "experimental farms", conducted as a landowner's estate in Assiniboia, was initiated and directed by the Hudson's Bay Company Committee in London through the fur-trade administration in Rupert's Land. Records of a meeting of the Council of the Northern

*MacEwan, G. - "Blazing the Old Cattle Trail"; Page 24.

** Ross, A. - "The Red River Settlement"; Reprinted by Ross and Haines Inc.; Minneapolis; 1957; Page 135.

Department of Rupert's Land, held at Norway House, June 21st, 1836, included the following minute:*

"Resolved 45. That agreeably to the second Paragraph of the Governor and Committee's Despatch of 9th March last, the necessary measures be taken to form an Agricultural Establishment on a large scale for the purpose of raising sheep and for the growth of Flax and Hemp (with a view of an export trade) under the management of Mr. Carey, and that Chief Factor Christie concert measures with Chief Trader Hargrave for the conveyance of the Gentleman and the people who may accompany him to the Settlement, and of providing iron works and implements of agriculture, etc. etc., for the object noticed in that Despatch."

In referring to this venture, MacEwan states**

"Captain George Marcus Carey, a Londoner, was engaged to manage the third and most ambitious experimental farm sponsored by the Company in 1838. The site was north of the point where the Assiniboine enters the Red and near the Old Fort Garry. Twenty acres of crop land were prepared in the first year and the sheep flock grew to three hundred head under a well-qualified shepherd, brought from Scotland."

In addition to sending out a qualified shepherd, the London Committee sent out thirteen families in 1836, some were Lincolnshire farmers, including the master farmer Oliver Gowler,*** to work on the Company's farm.

Although experienced farm laborers were sent out to work under Captain Carey as farm manager,**** the Governor-in-Chief and Council of the Northern Department (i.e. the governing body of the fur-trade in Rupert's Land) apparently exercised supervision or assumed authority and management over the farm manager and the farm staff. This is indicated in the minutes of meetings of the Council of the Northern Department which record that,

at the 1837 meeting, George Carey and 15 men;
at the 1839 meeting, George Carey and 11 men; and
at the 1840 meeting, George Carey and 6 men;

(as employees of the Company under jurisdiction of the Council) were assigned by respective resolutions of the Council to work on the so-called Experimental Farm.

This second attempt on the part of the Hudson's Bay Company to establish an agricultural establishment, more elaborately equipped and with more experienced farm laborers than in the case of the first attempt, points to the fact that the successful production of sheep and fibre crops must have been demonstrated as potentially possible even though the first venture had ended in financial failure.

To further stimulate the cultivation of flax and hemp, (and thereby obtain fibre, supplementary to furs, for export trade), the Hudson's Bay

* Oliver, E.H. (Ed.) - "The Canadian North-West - Its Early Development and Legislative Records"; Page 731.

** MacEwan, G. - "Between the Red and the Rockies"; Page 21.

*** Morton, W.L. - "Manitoba - A History"; Page 65.

**** Robert Tait describes Carey as "a fiery little Irish sea captain." Manitoba Free Press, May 10th, 1930.

Company offered premiums to the settlers for their production which, according to the Hind report* did stimulate the cultivation of these crops for a time, but when the premiums were withdrawn the cultivation soon ceased.

This second effort to establish an agricultural establishment on the part of the fur-trade administration (i.e. a governing body more interested in profits than in the acquisition of agricultural knowledge), like the first effort was discontinued. In view of the circumstances it would have been strange if the second effort of the Company had not ended in financial failure.

The lavish expenditure for buildings and equipment resulted in over-capitalization; the distance of the London Committee from the scene of operations resulted in arm-chair directives from absentee directors; and the supervision of the project and its manager under the local fur-trade administration, instead of under an independent qualified husbandman inspired with the spirit of research, could hardly be expected to result either in the successful operation of the farm as a commercial enterprise, or justify the prosecution of the project as an experimental farm.

Although various historical works of more recent date refer to these so-called experimental farms and to their inefficient management, the contributions made to agriculture in the Red River Settlement by the practical farm laborers brought in to work on the Company's second agricultural establishment is generally overlooked or ignored. This is probably due to the fact that such historians appear to have based their descriptions and conclusions, largely if not entirely, on the deprecatory - and what are obviously somewhat distorted - accounts of these ventures given by Ross in his history of the Red River Settlement. In referring to the quality of the hands employed on the Company's second farm establishment, Ross** states that "they were awkward, ignorant, and stubborn. . . . they could neither work or eat without the beer pot at their lips", and "they moved slowly at the sound of the bell."

These statements are hardly in accord with the observations made by Hargrave*** on a journey from Fort Garry to Portage in 1861, which record that

"Not far from the parsonage at Headingly stood the farm house of another local celebrity, named Oliver Gowler. This was an English laborer who came to the settlement in the Company's service in the year 1837, in the capacity of a farm servant. His experience in England had been considerable, and his intelligence and perseverance enabled him, on his retirement from the service some ten years subsequently, to turn it to good account. He obtained possession of a piece of land at Headingly, and soon brought it into a high state of cultivation. His commodious farmhouse, with its well-arranged, substantial outhouses, gained him the reputation of being one of the most successful farmers ever resident in the colony."

* Hind, H. Y. - "Papers Relative to the Exploration of the Country Between Lake Superior and the Red River Settlement"; June, 1859; Page 115.

** Ross, A. - "The Red River Settlement"; Page 215.

*** Hargrave, J. J. - "Red River"; Page 203.

(iv) Additional Contribution to Horse-Breeding by H.B. Co.

The success which followed the horse-breeding project introduced on the Company's first agricultural establishment in 1832, led the Hudson's Bay Company officials to repeat this venture in 1848.

A stallion, designated as Melbourne, was procured and sent by the Committee from England to the Red River by way of Hudson's Bay. A bull and two Ayrshire cows were sent out at the same time. A groom, Thomas Howsom Axe, was in charge of the stock under a three-year contract; and the fact that he brought his charges by sea to York Factory, thence by boat to Red River without a mishap, testified to his efficiency. MacEwan* states that the horse, Melbourne, gave a good account of himself, and that most of his colts were bright bays and generally of good quality. After a few years at Red River, the stallion was sent to Fort Pelly and used exclusively at that post which became the Company's chief horse-breeding establishment.

(g) Agricultural Development in Red River Settlement
under the Council of Assiniboia

The extent of agricultural development in the Red River Settlement under the Council of Assiniboia is indicated in Table 1. This tabulation was compiled from census data, as filed in the Manitoba Archives, for the years 1831, 1832, 1833, 1838, 1840, 1843, 1846, and 1849; from records quoted by Oliver, E.H.** for the years 1834 and 1835; and as recorded by Hind, H.Y.*** for the year 1856. Population figures from the Canada census for 1871 are included for comparison.

The available agricultural census data for the districts which made up the Red River Settlement in the years 1831, 1832, 1833, 1838, 1840, 1843, 1846, and 1849 are shown in Table 2.

In connection with the cultivated acreage in Grantown (St. Francois Xavier) given in Table 2, it is of interest to note that a later publication**** refers to farming being carried on by the Hudson Bay Company, on an extensive scale, at White Horse Post near Pigeon Lake; where, in 1871, 9,870 bushels of grain were grown on 290 acres, and 500 head of cattle were maintained.

* MacEwan, G. - "Hoofprints and Hitchingposts"; Pages 49-50.

** Oliver, E.H. (Ed.) - "The Canadian North-West - Its Early Development and Legislative Records".

*** Hind, H.Y. - "Papers Relative to the Exploration of the Country Between Lake Superior and the Red River Settlement".

**** Hamilton, J.C. - "The Prairie Province"; Belford Bros., Toronto; 1876; Page 49.

TABLE 1. POPULATION AND AGRICULTURAL DATA
 RED RIVER SETTLEMENT
 DISTRICT OF ASSINIBOIA

Year	Population		Livestock				No. of Plows	Cultivated Ac.	
	Total No.	No. of Families	No. of Horses	No. of Cattle	No. of Sheep	No. of Swine		Total	Per Person
1831	2,417	460	410	2,953	-	2,362	187	2,152	.89
1832	2,751	502	477	3,638	-	2,483	212	2,631	.96
1833	2,982	559	492	3,791	-	2,033	238	3,237	1.08
1834	3,360	-	630	5,003	-	2,053	275	3,230	.96
1835	3,679	-	766	4,868	-	1,995	311	3,405	.92
1838	3,972	720	1,133	5,340	457	1,698	382	3,862	.97
1840	4,688	806	1,292	5,915	1,897	2,149	408	4,041	.86
1843	5,143	870	1,570	6,201	3,569	1,976	429	5,003	.97
1846	4,827	947	2,360	6,218	4,223	3,800	464	5,380	1.11
1849	5,391	1,052	2,085	6,014	3,096	1,565	492	6,392	1.18
1856	6,523	1,082	2,799	9,253	2,429	4,674	585	8,371	1.28
1871	12,288 25,228	in Red River Settlement in Province of Manitoba (including Red River Settlement)							

* Data for Lower Settlement (Red River) can be obtained by subtracting figures in Table 2 from the respective corresponding figures given in Table 1.

TABLE 2. POPULATION AND AGRICULTURAL DATA
GRANTOWN AND INDIAN SETTLEMENTS
DISTRICT OF ASSINIBOIA

Year	Population		Livestock				No. of Plows	Cultivated Ac.	
	Total No.	No. of Families	No. of Horses	No. of Cattle	No. of Sheep	No. of Swine		Total	Per Person
<u>Grantown</u>									
1832	294	57	98	251	-	190	18	298	1.01
1833	421	61	89	349	-	243	19	590	1.40
1838	527	89	221	495	-	123	31	841	1.59
1840	692	120	284	522	9	142	31	432	.62
1843	841	146	336	595	159	141	36	555	.66
1846	899	168	529	538	118	243	35	368	.41
1849	914	169	521	569	129	125	36	526	.57
<u>Saulteau Village</u>									
1840	98	25	32	66	-	8	2	2	.02
1843	187	33	69	113	24	6	4	52	.28
1846	95	27	103	53	5	5	2	11½	.12
1849	77	18	61	36	-	-	2	8½	.11
<u>Indian Settlement</u>									
1838	289	71	5	125	-	8	6	5½	.02
<u>Swampy Village</u>									
1840	319	72	9	209	-	57	10	86½	.27
1843	434	102	23	387	68	73	19	200	.46
1846	368	101	44	324	35	62	26	181	.49
1849	460	118	51	292	25	7	29	230	.50

PART II

THE FORMATION OF THE GOVERNMENT OF MANITOBA AND OF THE MINISTRY OF AGRICULTURE AS A DEPARTMENT OF PROVINCIAL GOVERNMENT

When, under The Manitoba Act (Vict. 33, C.3 SC) and the confirming Imperial Act (Vict. 33-34, C.28), the Province of Manitoba was created and admitted into Confederation, the first Lieutenant-Governor was confronted with the unique task of forming and inaugurating a Government of Manitoba under difficult circumstances incident to a population, small in numbers, of mixed racial origin, ranging from individuals educated in British and Canadian universities to those with little or no formal education, as well as those who were primitive native associates.

These people - who had just gone through some months of chaos and excitement incident to the transfer of sovereignty over Assiniboia from Hudson's Bay Company to the Dominion of Canada, and the inauguration and dissolution of the Metis-sponsored Provisional Government of 1869-70 - occupied

- (a) the 20 river-lot parishes that had been established along the Red and Assiniboine rivers;
- (b) the outlying settlements at St. Laurent and along the Seine River; and
- (c) the widely scattered trading posts outside Red River Settlement.

The territory occupied was essentially rural. Towns or urban areas were non-existent; and Winnipeg, in 1870, was merely an embryo village of 215 inhabitants and of about 30 buildings which included eight stores, two saloons, two hotels, a mill, and a church (Holy Trinity). These structures, of recent origin, had sprung up outside the walls of the Hudson's Bay Company's "Fort Garry" at "The Forks".*

Moreover, although the Red River Settlement was made up of rural parishes, the area under arable agricultural use was far from extensive. The census data taken at various times while the territory was administered under the Council of Assiniboia indicate that, prior to 1870, the cultivated acreage averaged little more than one acre per head of population, and it was not until ten years after the inauguration of Manitoba as a province that the census of 1881 showed the cultivated acreage to have reached the level of 250,000 acres, or 4 to 5 acres per inhabitant.

Under these limitations and circumstances, the steps taken to establish a Government of Manitoba and an initial Ministry of Agriculture are of interest and may be outlined as follows.

* McLagan, J.C. - Chap. XXVII, included in "Manitoba and the Great North-West" by J. Macoun, Page 489.

The Hon. Adams G. Archibald was appointed as the first Lieutenant-Governor of the new Province of Manitoba on May 10th, 1870. After being sworn in at Ottawa on July 23rd, he arrived at Fort Garry on September 2nd and assumed his duties on September 3rd, 1870. In his first report to the Secretary of State, Ottawa, (September 10th, 1870), the Lieutenant-Governor referred, among other items, to an address of welcome, received on September 6th from the Council of Assiniboia, as an "address of the Government that had passed away, to a government that was coming in."

As a first step in the formation of a Government, the Lieutenant-Governor (on September 16th, 1870) commissioned the first two administrative officers, i.e., A. Boyd (Merchant) as Provincial Secretary and Acting Premier; and M.A. Girard (Lawyer) as Provincial Treasurer.

The Lieutenant-Governor then divided the settled area of Manitoba into five sections, and appointed one "Englishman" and one "Frenchman" as joint enumerators* for each section so that voters lists could be prepared preliminary to holding the first provincial election. According to Morton,** the results of this census (1870) indicated that the population of the Red River Settlement consisted of:

	Numbers	Percent	
Indians	558	4.7	
Metis - French-speaking	5,757	48.1)	82.2%
English-speaking Half-Breeds	4,083	34.1)	
Whites	<u>1,565</u>	<u>13.1</u>	
Total	<u>11,963</u>	<u>100%</u>	

The total figures thus obtained obviously refer to the population in the Red River parishes only, as the Dominion census of 1871 records the population of Manitoba as 25,228, of which 12,288 are listed as resident in the Red River Settlement.

Twenty-four electoral divisions were then outlined and the first provincial election was held on December 27th, 1870. The first session of the First Legislature was opened with due ceremony on March 15th, 1871. The electoral divisions and the respective elected personnel which thus formed the first Legislative Assembly are listed as follows:

* Public Archives of Manitoba, Archibald Letter Book, September 20th, 1871.

** W.L. Morton, "Manitoba - A History"; Page 145; based on Canada Sessional Papers, V. 20; 1871; Page 91.

Electoral District	Member of Legislative Assembly
No. 1. Lake Manitoba	Angus McKay
No. 2. Portage la Prairie	Fred Bird
No. 3. High Bluff	John Norquay
No. 4. Poplar Point	D. Spence
No. 5. Baie St. Paul	J. Dubuc
No. 6. St. Francois Xavier West	J. Royal
No. 7. St. Francois Xavier East	Pascal Breland
No. 8. Headingly	Jas. Cunningham
No. 9. St. Charles	H.J. Clarke
No. 10. St. James	Edwin Bourke
No. 11. St. Boniface West	Louis Schmidt
No. 12. St. Boniface East	Hon. M.A. Girard
No. 13. St. Vital	A. Beauchemin
No. 14. St. Norbert North	Jos. Lemay
No. 15. St. Norbert South	Pierre Delorme
No. 16. Ste. Agathe	Geo. Klyne
No. 17. Ste. Anne, Point de Chene	J.H. McTavish
No. 18. Winnipeg and St. John	Donald A. Smith
No. 19. Kildonan	John Sutherland
No. 20. St. Pauls	Dr. C.J. Bird
No. 21. St. Andrews South	Edward Hay
No. 22. St. Andrews North	Hon. Alfred Boyd
No. 23. St. Clements	Thomas Bunn
No. 24. St. Peters	Thomas Howard

It is worthy of note that although the members thus elected to the Legislative Assembly represented the various factions within the settlement, they were not, at this time, organized into the political parties which later became aligned into separate camps and see-sawed back and forth as government and opposition. The first Legislative Assembly therefore was more akin to a somewhat ambitious municipal council rather than to the provincial governments of later periods.

In addition to the elected Legislative Assembly, a Legislative Council of seven members was appointed by the Lieutenant-Governor (under Sections 9 and 10 of The Manitoba Act), to serve as an Upper House and as advisors to the Lieutenant-Governor. The first Legislative Council which was constituted by letters patent on March 10th, 1871, consisted of:*

* F.A. Milligan - Historical and Scientific Society of Manitoba, Series III, No. 5, 1950.

J. McKay	-	President of Council (Scots R.C. Half-Breed)
F.X. Dauphinais	-	Catholic Metis (former member of council of Assiniboia and of the Metis Provisional Government)
S. Hamelin	-	Metis opposed to Riel and the Loyal Party
J.H. O'Donnell	-	Irish Catholic
C. Inkster)	
F. Ogletree)	Protestant and English-speaking old settlers
D. Gunn)	

According to The Manitoba Act, appointments to the Legislative Council (made in the Queen's name by the Lieutenant-Governor) were to be for life, but in this connection it may be noted that the Legislative Council functioned as a body only until 1876, when it was abolished by Act of the Provincial Legislature (Vict. 39, C.28).

After the election of members to the Legislative Assembly, the Lieutenant-Governor completed his first Cabinet or Executive Council with the appointment, on January 13th, 1871, of Hon. H.J. Clarke as Attorney-General; Hon. Thomas Howard as Minister of Public Works and Agriculture; and Hon. James McKay as Executive Councillor without portfolio. Ten days later, two of the portfolios were exchanged; thus, Hon. Thomas Howard became Provincial Secretary, and Hon. Alfred Boyd became Minister of Public Works and Agriculture, a position which he resigned later in the year, and on December 14th (1871), Hon. Marc Amable Girard became Premier and Hon. John Norquay was appointed Minister of Public Works and Agriculture. It thus appears that the initial appointments to the Executive Council were more or less of tentative tenure, and that reassignments or exchanges of portfolios and personnel were made as need arose or circumstances required.

The relatively small initial Cabinet or Executive Council thus created by the Lieutenant-Governor was obviously conditioned by, and designed to meet the needs of the Red River Settlement under, the pioneer conditions which prevailed at that time.

Thus the minimal offices of Premier, Provincial Secretary and Provincial Treasurer were first established to form the nucleus of an administration. It was then necessary that provision be made for a judiciary to deal with justice, property relationships, and the maintenance of law and order, hence, a department administered by a Minister designated as the Attorney-General was added. Provision also was made for a Minister without Portfolio to be an ancillary member of the Executive Council.

Because education for the time being was under the auspices of the Church, the Provincial Government, in its initial stages, was content to discharge its responsibility by means of financial grants-in-aid to the church schools.

However, under the former regime, the Council of Assiniboia had found it necessary to appoint and maintain a Committee or Board of Public Works to be responsible for roads, bridges, ferries and other works of a public nature; and, as early as 1845, had found it desirable to appoint and continue a Committee of Economy to encourage "the improvement of manufactures

and such branches of agriculture as may bear on such improvements." Consequently, the needs responsible for the initiation of such services under committees of the Council of Assiniboia, were the needs responsible for continuance and maintenance of such service in the same territory now to be administered under the Government of Manitoba.

It is quite understandable therefore that a department should be established and a Minister of Public Works and Agriculture should be added to the initial Executive Council to carry on certain government activities and services already initiated in the Red River Settlement under the former regime. This joint ministry continued from 1871 to 1874 under the following Ministers:

Hon. Thomas Howard	-	Appointed January 13th, 1871
Hon. Alfred Boyd	-	Appointed January 23rd, 1871
Hon. John Norquay	-	Appointed December 14th, 1871
Hon. Edward H.G.G. Hay	-	Appointed July 8th, 1874

The dissolution of the joint Ministry of Public Works and Agriculture, however, is recorded by an announcement in the Manitoba Gazette dated Government House, December 3rd, 1874.

"His Honour the Lieutenant-Governor has been pleased to make the following appointments:

The Honourable Joseph Royal, of St. Boniface, in the County of Selkirk and Province of Manitoba, to be Provincial Secretary and Minister of Public Works, vice the Honourable M.A. Girard and E.H.G.G. Hay, resigned.

The Honourable Colin Inkster, of Kildonan, in the County of Selkirk and Province of Manitoba, to be a member of the Executive Council and Minister of Agriculture."

The Ministry of Agriculture, however, was given more definite status two years later by "An Act respecting the Bureau of Agriculture and Statistics" which was assented to February 4th, 1876, (Vict. 39, Chapter XI) which enacted

Sec. I All that part of the administration of this Province which relates to agriculture, immigration and statistics shall be under the control of the Bureau of Agriculture and Statistics.

Sec. II That said Bureau shall be administered and managed by the Minister of Agriculture and Statistics.

Thus the appointment of a Minister of Agriculture in 1874; and the passing of a legislative Act authorizing a Bureau of Agriculture and Statistics in 1876, to control "all that part of the administration which relates to agriculture, immigration and statistics", was a somewhat humble and modest beginning for the Ministry of Agriculture, which in succeeding years played such an important role in the development of Manitoba.

The Ministers, who by appointment held the portfolio of Agriculture from inauguration of the Province of Manitoba, are listed in chronological sequence in Table 3.*

In the earlier years of the Provincial Government, Cabinet portfolios were kept at a minimum. The three portfolios of Premier, Provincial Secretary and Provincial Treasurer were established as the bare essentials of a Provincial Executive Council. These three portfolios, together with the two additional portfolios created later in 1871 (i.e. Justice under an Attorney-General, and the joint ministry of Public Works and Agriculture), indicate the administrative functions for which the initial Council was responsible.

It was soon evident, however, that other administrative functions and activities - such as education, etc. - had to be assumed by the Provincial Government; but, due in large part to the limited finances available, the number of portfolios were kept at a minimum, and the Government adopted the practice of adding new administrative functions to one or more of the existing executive departments until such time as the activities involved necessitated the establishment of new portfolios, and the enlargement of Cabinet.

The Act establishing the Bureau of Agriculture and Statistics made the Department of Agriculture responsible for keeping statistical records. For a number of decades the annual reports of the Department included not only agricultural but vital statistics also, as well as activities in respect of health. In 1883 the Department of Agriculture and Statistics was given authority to appoint a Provincial Health Superintendent.

In 1893, a Provincial Board of Health was appointed under the Ministry of Agriculture and Immigration and, until 1916, the annual reports of that Department continued to include data in respect of vital statistics, provincial grants to hospitals, and financial statements submitted by health institutions which received provincial grants-in-aid.

Subsequent to 1916 the Department of Agriculture and Immigration ceased to be involved departmentally with the Board of Health. From 1917 to 1927 the annual report of the Board of Health and the records of vital statistics were submitted through the Provincial Municipal Commissioner until, in 1928, provincial health activities were administered under a Department of Health and Public Welfare.

At various times the incumbent Minister of Agriculture also has served as Provincial Lands Commissioner, as Provincial Railway Commissioner, and as Manitoba Power Commissioner. The activities and responsibilities in connection with these respective commissions, however, were ministerial rather than departmental assignments. Thus the respective office of Commissioner in the case of Lands, Railway, and Power Commissions were variously assigned to Ministers holding various portfolios, and the Minister

* Information supplied courtesy of J. Reeves, Assistant Clerk of the Legislative Assembly.

TABLE 3. MINISTERS OF AGRICULTURE AND THE LIEUTENANT-GOVERNORS AND PREMIERS UNDER WHICH THEY SERVED FROM DATE OF INAUGURATION OF THE PROVINCE OF MANITOBA, JULY 15, 1870

Year	Lieutenant-Governors	Premiers	Ministers of Agriculture	Deputy Ministers	Assistant Deputy Ministers
1870	Hon. Adams George Archibald (Appointed May 10) (Sworn in at Ottawa July 23) (Assumed duties Sept. 3)	Hon. Alfred Boyd (September 16)			
1871	Hon. Adams George Archibald	Hon. Marc Amable Girard (December 14)	PUBLIC WORKS AND AGRICULTURE Hon. Thomas Howard (Jan. 13) Hon. Alfred Boyd (Jan. 23) Hon. John Norquay (Dec. 14)	Victor Beaupre * (Public Works)	
1872-73	Hon. A.P.C. Morris (December 2, 1872)	Hon. H.J.M. Clarke (March 14, 1872)	Hon. John Norquay		
1874	Hon. A.P.C. Morris	Hon. M.A. Girard (July 8)	Hon. Edward H.G.G. Hay (July 8)		
1875	Hon. A.P.C. Morris	Hon. R.A. Davis (Dec. 3) Hon. R.A. Davis	Hon. Colin Inkster ** (Dec. 3) Hon. Charles Nolin *** (Mar. 5) Hon. James McKay (Dec. 16)		
1876-77	Hon. Joseph E. Cauchon (November 7, 1876)	Hon. R.A. Davis	AGRICULTURE & STATISTICS Hon. James McKay		
1878	Hon. Joseph E. Cauchon	Hon. John Norquay (October 16)	Hon. James McKay		
1879	Hon. Joseph E. Cauchon	Hon. John Norquay	Hon. P. Delorme (Jan. 14) Hon. John Taylor (June 4)		
1880	Hon. Joseph E. Cauchon	Hon. John Norquay	Hon. Maxime Goulet (Jan. 7)		
1881	Hon. Joseph E. Cauchon	Hon. John Norquay	Hon. M.A. Girard (Nov. 16)		
1882	Hon. James C. Aikins (September 22)	Hon. John Norquay	Hon. M.A. Girard	W.R. Nursey (Acting)	

* Begg, A. and Nursey, W.R. - "Ten Years in Winnipeg, 1870-1879".

** Manitoba Gazette, December 5, 1874.

*** Manitoba Gazette, March 6, 1875.

(Continued)

TABLE 3 (Continued)

Year	Lieutenant-Governors	Premiers	Ministers of Agriculture	Deputy Ministers	Assistant Deputy Ministers
1883-85	Hon. James C. Aikins	Hon. John Norquay	AGRICULTURE, STATISTICS & HEALTH Hon. A.A.C. LaRiviere (September 6, 1883)	Acton Burrows	
1886	Hon. James C. Aikins	Hon. John Norquay	Hon. D.H. Harrison (Aug. 27)	Acton Burrows	
1887	Hon. James C. Aikins	Hon. D.H. Harrison (December 26)	Hon. D.H. Harrison	Acton Burrows	
1888	Hon. Sir John C. Schultz (July 1)	Hon. Thomas Greenway (January 19)	Hon. Thomas Greenway (January 19)	(Office of Deputy) (Minister in each) (Department abolished) (July 1, 1888) (Minister assisted) (by Chief Clerk)	
1889-94	Hon. Sir John C. Schultz	Hon. Thomas Greenway	AGRICULTURE & IMMIGRATION Hon. Thomas Greenway		
1895-99	Hon. James C. Patterson (September 2, 1895)	Hon. Thomas Greenway	Hon. Thomas Greenway		
1900	Hon. Sir Daniel H. McMillan (October 15)	Hon. H.J. MacDonald (January 10)	Hon. J.A. Davidson (January 10)		
		Hon. R.P. Roblin (Oct. 29)	Hon. R.P. Roblin (Dec. 22)		
1901-04	Hon. Sir Daniel H. McMillan	Hon. R.P. Roblin	Hon. R.P. Roblin	(Office re-established) 1904	
1905	Hon. Sir Daniel H. McMillan	Hon. R.P. Roblin	Hon. R.P. Roblin	W. J. Black	
1906-10	Hon. Sir Daniel H. McMillan	Hon. R.P. Roblin	Hon. R.P. Roblin	J. J. Golden	
1911	Hon. Sir Douglas C. Cameron (July 22)	Hon. R.P. Roblin	Hon. George Lawrence (October 11)	J. J. Golden	
1912-14	Hon. Sir Douglas C. Cameron	Hon. R.P. Roblin	Hon. George Lawrence	S.A. Bedford	
1915	Hon. Sir Douglas C. Cameron	Hon. T.C. Norris (May 12)	Hon. Valentine Winkler (May 15)	A.J. McMillan	H.J. Moorhouse (Resigned Jan. 31, 1916)
1916	Hon. Sir James A.M. Aikins (August 5)	Hon. T.C. Norris	Hon. Valentine Winkler	J.H. Evans (Acting)	
1917-19	Hon. Sir James A.M. Aikins	Hon. T.C. Norris	Hon. Valentine Winkler	J.H. Evans	
1920-21	Hon. Sir James A.M. Aikins	Hon. T.C. Norris	Hon. George J.H. Malcolm (September 30, 1920)	J.H. Evans	

(Continued)

TABLE 3 (Continued)

Year	Lieutenant-Governors	Premiers	Ministers of Agriculture	Deputy Ministers	Assistant Deputy Ministers
1922	Hon. Sir James A.M. Aikins	Hon. John Bracken (August 8)	Hon. J. Williams (June 6) Hon. Neil Cameron (Aug. 8)	J.H. Evans	
1923-24	Hon. Sir James A.M. Aikins	Hon. John Bracken	Hon. John Bracken (Dec. 3, 1923)	J.H. Evans	
1925	Hon. Sir James A.M. Aikins	Hon. John Bracken	Hon. A. Prefontaine (Jan. 12)	J.H. Evans	
1926-28	Hon. Theodore A. Burrows (October 25, 1926)	Hon. John Bracken	Hon. A. Prefontaine	J.H. Evans	
1929-31	Hon. James Duncan McGregor (January 25, 1929)	Hon. John Bracken	Hon. A. Prefontaine	J.H. Evans	
1932-33	Hon. James Duncan McGregor	Hon. John Bracken	Hon. D.G. McKenzie (May 27, 1932)	J.H. Evans	
1934	Hon. W.J. Tupper, K.C. (December 1)	Hon. John Bracken	Hon. D.G. McKenzie	J.H. Evans	
1935	Hon. W.J. Tupper, K.C.	Hon. John Bracken	Hon. D.G. McKenzie	J.H. Evans	
1936	Hon. W.J. Tupper, K.C.	Hon. John Bracken	Hon. John Bracken (Apr. 28) Hon. Douglas L. Campbell (September 21)	J.H. Evans	
1937-39	Hon. W.J. Tupper, K.C.	Hon. John Bracken	Hon. Douglas L. Campbell	J.H. Evans	
1940-42	Hon. R.E. McWilliams, K.C. (November 1, 1940)	Hon. John Bracken	Hon. Douglas L. Campbell	J.H. Evans	
1943-47	Hon. R.E. McWilliams, K.C.	Hon. Stuart S. Garson (January 14, 1943)	Hon. Douglas L. Campbell	J.H. Evans	
1948-49	Hon. R.E. McWilliams, K.C.	Hon. Douglas L. Campbell (November 13, 1948)	Hon. F.C. Bell (December 14, 1948)	J.H. Evans	
1950-51	Hon. R.E. McWilliams, K.C.	Hon. Douglas L. Campbell	Hon. F.C. Bell	J.R. Bell	
1952	Hon. R.E. McWilliams, K.C.	Hon. Douglas L. Campbell	Hon. R.D. Robertson (Nov. 7)	J.R. Bell	
1953-55	Hon. John S. McDiarmid (August 1, 1953)	Hon. Douglas L. Campbell	Hon. R.D. Robertson	J.R. Bell	
1956	Hon. John S. McDiarmid	Hon. Douglas L. Campbell	Hon. Charles Shuttleworth (July 6)	J.R. Bell	

(Continued)

TABLE 3 (Continued)

Year	Lieutenant-Governors	Premiers	Ministers of Agriculture	Deputy Ministers	Assistant Deputy Ministers
1957	Hon. John S. McDiarmid	Hon. Douglas L. Campbell	Hon. Charles Shuttleworth	J.R. Bell	
1958	Hon. John S. McDiarmid	Hon. Duff Roblin (June 30)	Hon. Errick F. Willis (June 30)	J.R. Bell	
1959	Hon. Errick F. Willis, Q.C. (January 15)	Hon. Duff Roblin	Hon. George Hutton (August 7)	J.R. Bell	
			AGRICULTURE AND CONSERVATION		
1960	Hon. Errick F. Willis, Q.C.	Hon. Duff Roblin	Hon. George Hutton	J.R. Bell	
1961	Hon. Errick F. Willis, Q.C.	Hon. Duff Roblin	Hon. George Hutton	J.R. Bell	L.B. Kristjanson
1962	Hon. Errick F. Willis, Q.C.	Hon. Duff Roblin	Hon. George Hutton	J.R. Bell	W.E. Jarvis
1963-64	Hon. Errick F. Willis, Q.C.	Hon. Duff Roblin	Hon. George Hutton	W.E. Jarvis	L.B. Kristjanson
1965	Hon. Richard S. Bowles, Q.C. (September 1)	Hon. Duff Roblin	Hon. George Hutton	W.E. Jarvis	R. A. Wallace
1966	Hon. Richard S. Bowles, Q.C.	Hon. Duff Roblin	Hon. Harry J. Enns (July 22)	W.E. Jarvis	R. A. Wallace
			AGRICULTURE		
1967	Hon. Richard S. Bowles, Q.C.	Hon. Walter Weir (November 27)	Hon. Harry J. Enns	R. A. Wallace	J.M. Cormack
1968	Hon. Richard S. Bowles, Q.C.	Hon. Walter Weir	Hon. J. Douglas Watt (September 24)	R. A. Wallace	J.M. Cormack
1969	Hon. Richard S. Bowles, Q.C.	Hon. Edward R. Schreyer (July 15)	Hon. Samuel Uskiw (July 15)	J. M. Cormack	H. H. Austman

holding such appointment would serve as Commissioner as an additional duty rather than as a responsibility in connection with the department of which he held the portfolio.

The periods during which the respective Ministers of Agriculture and of other portfolios served as commissioners in addition to administering their respective departments are shown:

in Table 4	-	as Provincial Lands Commissioners
in Table 5	-	as Provincial Railway Commissioners
in Table 6	-	as Manitoba Power Commissioners

Similarly, the Cabinet Ministers currently holding the portfolios of Provincial Secretary, Provincial Treasurer, or Premier, also were responsible initially for various government activities and functions until the respective ministerial duties involved increased to the point where the Executive Council had to be enlarged. The dates and personnel first appointed to the respective portfolios as they were progressively established, up to the year 1959, are recorded* as:

Municipal Affairs	-	July 7th, 1887, Hon. A. Murray
Education	-	March 14th, 1908, Hon. G.R. Coldwell
Public Utilities	-	March 4th, 1908, Hon. J.H. Howden
Health	-	Nov. 12th, 1924, Hon. C. Cannon
Mines & Natural Resources	-	April 19th, 1928, Hon. J. Bracken
Labour	-	May 27th, 1932, Hon. W.R. Clubb
Industry and Commerce	-	Nov. 4th, 1940, Hon. J.S. McDiarmid

* Records of Assistant Clerk of the Legislative Assembly.

TABLE 4. PROVINCIAL LANDS COMMISSIONERS
(Subsequent to June 30, 1887)

	Conjointly with Minister of Agriculture	Conjointly with Ministers of Various Other Departments
June 30, 1887 to Dec. 24, 1887		Hon. A.A.C. LaRiviere (Provincial Treasurer)
Dec. 27, 1887 to Jan. 19, 1888	Hon. D.H. Harrison	
Jan. 20, 1888 to May 15, 1891		Hon. J. Martin (Attorney-General)
May 15, 1891 to Oct. 7, 1896		Hon. C. Sifton (Attorney-General)
Oct. 7, 1896 to Jan. 6, 1900		Hon. D. H. McMillan (Provincial Treasurer)
Jan. 10, 1900 to Dec. 22, 1900	Hon. J.A. Davidson	
Dec. 22, 1900 to Nov. 14, 1903		Hon. J.A. Davidson (Provincial Treasurer)
Jan. 18, 1905 to Oct. 11, 1911	Hon. R.P. Roblin	
Oct. 11, 1911 to May 12, 1915		Hon. R.P. Roblin (Premier)
May 12, 1915 to Aug. 8, 1922		Hon. T.C. Norris (Premier)
Aug. 10, 1922 to Dec. 3, 1923		Hon. J. Bracken (Premier and Education)
Dec. 3, 1923 to Jan. 12, 1925		Hon. A. Prefontaine (Provincial Secretary)
Jan. 12, 1925 to Apr. 21, 1927	Hon. A. Prefontaine	
Apr. 21, 1927 to Sept. 9, 1927		Hon. C. Cannon (Provincial Secretary and Health)
Sept. 9, 1927 to Nov. 24, 1928	Hon. A. Prefontaine	
Nov. 24, 1928 to May 27, 1932		Hon. D.G. McKenzie (Mines & Natural Resources)
May 27, 1932 to June 30, 1953		Hon. J.S. McDiarmid (Mines & Natural Resources)

Department of Mines and Natural Resources initiated April, 1928, and a Lands Branch was established, in 1930, under the Department of Mines and Natural Resources to administer Provincial Crown Lands transferred from Federal to Provincial jurisdiction.

TABLE 5. PROVINCIAL RAILWAY COMMISSIONERS
(Subsequent to September 10, 1886)

	Conjointly with Minister of Agriculture	Conjointly with Ministers of Various Other Departments
Sept. 10, 1886 to Dec. 24, 1887		Hon. J. Norquay (Premier)
Dec. 26, 1887 to Jan. 19, 1888		Hon. D.H. Wilson (Public Works)
Jan. 20, 1888 to May 15, 1891		Hon. J. Martin (Attorney-General)
May 15, 1891 to Jan. 6, 1900	Hon. T. Greenway	
Jan. 10, 1900 to Oct. 29, 1900		Hon. H.J. MacDonald (Premier & Attorney-General)
Oct. 29, 1900 to Dec. 22, 1900		Hon. R.P. Roblin (Premier)
Dec. 22, 1900 to Mar. 16, 1907	Hon. R.P. Roblin	
Mar. 16, 1907 to Mar. 30, 1908		Hon. J.H. Howden
Mar. 30, 1908 to Oct. 11, 1911	Hon. R.P. Roblin	
Oct. 11, 1911 to May 12, 1915		Hon. R.P. Roblin (Premier)
May 12, 1915 to Aug. 8, 1922		Hon. T.C. Norris (Premier)
Aug. 10, 1922 to Dec. 3, 1923		Hon. J. Bracken (Premier and Education)
Dec. 3, 1923 to Jan. 12, 1925		Hon. A. Prefontaine (Provincial Secretary)
Jan. 12, 1925 to May 27, 1932	Hon. A. Prefontaine	
May 27, 1932 to May 10, 1935		Hon. D.L. McLeod (Municipal Affairs and Provincial Secretary)
May 10, 1935 to April 28, 1936		Hon. J. Bracken (Premier & Provincial Secretary)
Apr. 28, 1936 to Sept. 21, 1936	Hon. J. Bracken	
Sept. 21, 1936 to Nov. 4, 1940		Hon. J. Bracken (Premier)
Nov. 4, 1940 to June 30, 1953		Hon. J.S. McDiarmid (Mines & Natural Resources and Industry & Commerce)
Jan. 18, 1954 to July 6, 1956		Hon. R.D. Turner (Provincial Treasurer and Industry & Commerce)
July 6, 1956 to June 30, 1958		Hon. F.L. Jobin (Industry & Commerce)

TABLE 6. MANITOBA POWER COMMISSIONERS

(Subsequent to May 27, 1933)

	Conjointly with Minister of Agriculture	Conjointly with Ministers of Various Other Departments
May 27, 1933 to Apr. 28, 1936	Hon. D.G. McKenzie	
April 28, 1936 to June 3, 1936		Hon. D. G. McKenzie
June 3, 1936 to Sept. 21, 1936	Hon. J. Bracken	
Sept. 21, 1936 to Nov. 4, 1940		Hon. J. Bracken (Premier & Provincial Secretary)
Nov. 4, 1940 to Feb. 5, 1944		Hon. S.S. Garson (Provincial Treasurer)
Feb. 5, 1944 to Dec. 14, 1948	Hon. D.L. Campbell	
Dec. 14, 1948 to Sept. 4, 1953		Hon. W. Morton (Public Utilities)
Sept. 4, 1953 to July 6, 1956		Hon. C. L. Shuttleworth (Public Utilities)
July 6, 1956 to June 30, 1958	Hon. C.L. Shuttleworth	
June 30, 1958 to Oct. 31, 1961		Hon. J.B. Carroll (Public Utilities)
Oct. 31, 1961 to June 12, 1963		Hon. S. R. Lyon (Attorney-General and Public Utilities)
June 12, 1963		Hon. M. B. Steinkopf (Provincial Secretary and Public Utilities)

PART III

HISTORICAL DEVELOPMENT OF THE MINISTRY OF AGRICULTURE

The historic development of the Ministry of Agriculture, as a department of the Government of Manitoba in the years subsequent to its inauguration, may be divided into several, more or less, distinctive periods.

1. The Initial Period - 1871 to 1882
2. The Second Period - 1883 to 1889 - Department of Agriculture, Statistics and Health
3. The Third Period - 1890 to 1959 - Department of Agriculture and Immigration
 - A. The Pre M.A.C. Sub-Period - 1890 to 1905
 - B. The M.A.C. Sub-Period - 1906 to 1924
 - C. The Post M.A.C. Sub-Period - 1925 to 1959
4. The Fourth Period - 1960 to 1969 - Department of Agriculture and Conservation until 1967 - subsequently changed to Department of Agriculture.

1. THE INITIAL PERIOD - 1871 to 1882

(1) FORMATIVE STAGES

The years from 1870 to 1882 may be considered as an initial or formative period, during which the activities and duties of the Ministry of Agriculture were shaped to, and by, the peculiar local conditions and changing circumstances incident to the establishment of a department of Provincial Government, with limited resources, in an expanding frontier settlement.

These initiative and formative years of the Ministry of Agriculture can be divided into three stages, i.e.:

- (a) a sub-period of four years (1871 to 1874) when a joint portfolio of Public Works and Agriculture was inaugurated to function as a department of Provincial Government;
- (b) a sub-period of two years (1875 to 1876) following the appointment, on December 3rd, 1874, of a Minister of Agriculture (Hon. Colin Inkster) and of a separate Minister of Public Works (Hon. Joseph Royal); and
- (c) a sub-period of six years (1877 to 1882) from the appointment, in 1876, of a Bureau of Agriculture and Statistics under the Minister of Agriculture, to the reorganization, in 1883, of the Bureau and Ministry of Agriculture and Statistics, when the reorganized Ministry became designated as the Department of Agriculture, Statistics and Health.

(a) First Sub-Period

The activities in respect of agriculture during this sub-period when it was under the administration of the Department of Public Works and Agriculture (1871 to 1874) can be grouped into three categories, i.e. regulatory; promotional; and agricultural assistance.

Regulatory Action - Regulatory action was taken at the first session of the First Legislature (1871) through the enactment of certain statutes* dealing respectively with:

- (i) the prevention of certain animals running at large;
- (ii) the procedures required in the case of stray animals and the appointment of a pound-keeper;
- (iii) the prohibition of taking and using horses from pastures without the owner's consent;
- (iv) prohibiting the disposal of manure by dumping it on river banks;
- (v) provision for the imposition of a tax on dogs;
- (vi) responsibility for destruction of Canada thistle or other noxious weeds; and
- (vii) an act to abolish slaughter-houses in Winnipeg.

An additional regulatory statute was enacted at the second session** of the First Legislature (1872) dealing with:

- (viii) the prevention of prairie fires;

and, at the third session*** of the First Legislature (1873), certain statutes were amended or enacted making it

- (ix) unlawful for bulls to run at large between March 1st and December 1st, and for pigs to run at large at any time;
- (x) unlawful to drive horses or mules on roads and highways in the winter time unless at least two bells were attached;

and a further bill was passed

- (xi) for the protection of sheep, which provided that dogs worrying sheep may be killed, and the owner of the dog made subject to summons before a judge and to the penalty of a fine.

These enactments (except the statute relating to slaughter-houses) were obviously adopted by the newly formed Provincial Government as regulatory measures to ensure continuance under the new regime of certain regulations designed and enforced, formerly, by the Council of Assiniboia, in order to facilitate the harmonious cohabitation of settlers living in a pioneer settlement under a subsistence form of land occupancy.

* Vict. 34, Chapters 23, 30, 22, 28, 21, 24, 36 (SM).

** Vict. 35, Chapter 20 (SM).

*** Vict. 36, Chapters 30, 25, 28 (SM).

Agricultural Promotion - Agricultural promotion during this sub-period took the form of (i) grants to agricultural and arboricultural societies; and (ii) the encouraging of tree-planting on highways, etc.

(i) Fairs had been held long before the Province of Manitoba was formed or even dreamed. At a meeting of the Council of Assiniboia held at Fort Garry on May 4th, 1832, with Governor Simpson presiding,* it was moved "that public fairs shall hereafter be held on Frog Plain, on the 1st Monday after the 20th of September and on the 1st Monday after the 20th of May ensuing."

Begg and Nurse record** that "The Manitoba Provincial Agricultural Association held their first meeting on 1st August, 1871, when the following officers were elected: G.B. Spencer, President; Hon. Jas. McKay, 1st Vice-President; W.B. Hall, 2nd Vice-President; J.S. Lynch, M.D., Secretary; and John Taylor, Headingley, Treasurer - Patron, His Honour Lieut.-Gov. Archibald" - and it is further recorded that*** "The first Provincial Agricultural Exhibition of the Province, which was opened on the 4th October (1871), was almost a failure on account of the Fenian diversion, although there were about 500 entries, and many of the articles exhibited fully equal to those of any other part of the Dominion."

Thus agricultural fairs were initiated in the Red River Settlement as early as 1832, and a Provincial Agricultural Society was formed in 1871 by public-spirited residents before the first provincial act was passed by the Legislative Assembly to encourage the formation of agricultural societies.

Apparently the first official move by the Legislative Assembly in respect of agricultural societies was made at its second session (January 16th to February 21st, 1872) when it passed "An Act for the Establishment of Agricultural and Arboricultural Societies in Manitoba", which provided for a society to be called "The Provincial Agricultural and Industrial Society of Manitoba" and for the formation of county agricultural societies in each county.

The objects of these societies as outlined in this Act (Vict. 35, Chapter 15, SM) were:

"to encourage agriculture: the importing or procuring in any other manner from wherever they can be procured, all new and improved kinds of grains, seeds and animals; to award prizes for the introduction and breeding of all sorts of animals of better kind; for the production of grain and of all sorts of vegetables; for excellence in agricultural products or work; and generally to do everything that can contribute towards the progress and advancement of agriculture in the Province; and the funds of the said societies, raised by subscription of the members or by public grants, cannot be used for other purposes."

At the next session an amendment to this Act was passed authorizing the Lieutenant-Governor to grant to societies, out of public funds, an amount equal to twice the amount of the subscriptions paid by members.

* Oliver, E.H. (Ed.) - "The Canadian North-West - Its Early Development and Legislative Records".

** Begg, A. and Nurse, W.R. - "Ten Years in Winnipeg, 1870-1879"; Page 39.

*** Ibid, Page 44.

(ii) At the third session of the First Legislature (1873)* a statute was passed entitled "An Act to Encourage the Planting of Trees upon Highways and Elsewhere in this Province", which gave property rights in such trees to the owners of the soil adjacent to such highways. The Act further provided that no tree or shrub should be planted that would obstruct a highway; that a municipal council may remove planted trees and shrubs, but not until one month's notice be given to the owner of the adjoining property and he be compensated for his trouble in planting and protecting same; that a penalty may be incurred for injury to trees and shrubs caused by tying an animal to same; and that municipal councils may expend money for the planting of trees.

Agricultural Assistance - Direct agricultural assistance appears to have been initiated when (as shown by Public Accounts for 1873) M.A. Girard and P. Breland were paid \$200.00 and \$203.75 respectively for supplying seed wheat (12th May, 1871) to French settlers.

Except for the enactment of statutes, the activities on behalf of agriculture during the years 1871 to 1874 were very modest efforts. The Public Accounts for the years 1871 to 1874 record that, exclusive of the salary paid to the Minister, the expenditure charged to "Immigration and Agriculture" amounted to an average of less than \$2,500 per year. Of the items designated as charged to agriculture from January, 1871 to June, 1874, it would appear that 58.1 percent was paid out to agricultural societies; 37.6 percent for "sundries" (not itemized); and 4.3 percent for seed wheat.

By way of comparison it may be of interest to note that the expenditures made by the Department of Public Works and Agriculture for "Road Service" (i.e. roads, bridges, ferries - to improve transportation -) for the same sub-period totalled \$45,955, or an average of \$11,489 per year. These figures indicate that expenditures by the Department of Public Works and Agriculture were in the ratio of 5 to 1 for public works activities in comparison with activities designated as agricultural.

(b) Second Sub-Period

The second sub-period, though of short duration, was highly significant because it was a time of dissolution of a charter portfolio and the inauguration of agricultural administration under an agricultural ministry. It consisted of a two-year interval, dating from the time a Minister of Agriculture was appointed on December 3rd, 1874, until a Bureau of Agriculture and Statistics was established under a Minister of Agriculture and Statistics by statute in 1876 (Vict. 39, Chapter XI SM). This statute enacted that:

Sec. III It shall be the duty of the said Minister to institute inquiries and collect useful facts and statistics relating to the agricultural, mechanical and manufacturing interest of the

* Vict. 36, Chapter 27 (SM).

Province, and to adopt measures for circulating and disseminating the same in such manner and form as he finds best adapted to promote the progress of the Province and to encourage immigration from other countries.

Sec.IV The Minister of Agriculture and Statistics shall be ex-officio member of all societies of agriculture at any time established in the Province.

Similar action was followed in the appointment of a Minister of Public Works on December 3rd, 1874, and the establishment of a Department of Public Works by statute in 1876 (Vict. 39, Chapter IX SM). These were parallel procedures whereby the various administrative duties and responsibilities, first assigned or acquired by the charter portfolio of Public Works and Agriculture, were partitioned and reassigned to the two new portfolios thus established.

In view of subsequent historic events, it is of interest to note that the Legislative Act of 1876, which established the Department of Public Works, vested that Department with control of all lands, streams, water courses, and property, as well as all dams, hydraulic works, piers, roads, bridges, drains and drainage works, public buildings, and all public works constructed at the expense of the Province.

Regulatory Action - In respect of agricultural administration during the transitional sub-period, 1875-1876, the only new regulatory action taken appears to have been the passage of:

- (i) "An Act respecting Boundary Lines and Line Fences" (Vict. 38, C.24 SM);
- (ii) "An Act to amend the Act for the Protection of the Wooded Lands of the Province", which prohibited setting fire to standing or fallen timber (Vict. 38, C.26 SM);
- (iii) "An Act to Prevent Breachy Animals Running at Large", which included a definition of a lawful fence (Vict. 39, C.19 SM);
- (iv) "An Act for the Protection of Game" (Vict. 39, C.24 SM); and
- (v) "An amendment to an Act to Incorporate the City of Winnipeg", which included regulations in respect of butcher shops; of marketing produce, meat and vegetables in the streets; of animals for sale or market in the open air; and of the sale of fodder and lumber.

Agricultural Promotion - Agricultural promotion during this transitional sub-period was apparently restricted to the support of agricultural societies.

Agricultural Assistance - Agricultural assistance appears to have been limited to supplying seed grain in 1875.

The Public Accounts for 1875 and 1876 indicate that during this transitional sub-period, the expenditures for "Immigration and Agriculture" averaged close to \$4,000 per year and that from July 1st, 1874 to December 31st, 1876, 48.2 percent of the departmental expenditures were paid out to agricultural societies, 51.4 percent for seed grain, and .4 percent for miscellaneous items.

By way of comparison, the Department of Public Works is credited with spending, during the same sub-period, approximately nine times as much for "Road Service" as was expended on activities carried out under Immigration and Agriculture.

It is also significant that, during the initial or formative years of the Provincial Government (1871 to 1882), the respective Legislatures not only voted more funds for transportation (road service, etc.) than for agricultural development, but that the Ministry of Agriculture - during this period at least - was less esteemed than was the Ministry of Public Works. This is reflected in the salaries paid out of the civil administration account to the respective Ministers. From 1871 to 1874 the Minister who held the portfolio of Public Works and Agriculture was paid a salary of \$2,000 per annum; but following the establishment of Public Works and Agriculture as separate portfolios, in December, 1874, the salaries of the respective Ministers show the following contrasts.

	Minister of Public Works	Minister of Agriculture
1875 to 1880	\$2,000 per annum	\$ 500 per annum
1881	2,500 per annum	1,000 per annum
1882	3,000 per annum	2,000 per annum

However, subsequent to this, the salaries of the respective Ministers were at parity.

	Public Works	Agriculture, Statistics and Health
1883	\$3,000 per annum	\$1,500 (part year only)
1884	3,000 per annum	3,000 per annum

(c) Third Sub-Period

The third sub-period extended from 1877 to 1882, or from the operation of the agricultural portfolio under an Act respecting the Bureau of Agriculture and Statistics (administered and managed by the Minister of Agriculture and Statistics - Vict. 39, Chapter XI, SM) to the reorganization of the ministry as a Department of Agriculture and Statistics in 1882 (Vict. 45, Chapter 14, SM).

Regulatory Action - During this sub-period a number of additional regulatory measures were enacted in respect of agriculture and land occupancy, which may be enumerated as:

- (i) An Act relating to the performance of statute labor in districts outside municipal boundaries. (Vict. 40, chapter 8, SM).

- (ii) An Act requiring owners of threshing and horse-power machines to guard against accidents. (Vict. 40, Chapter 37, SM).
- (iii) An Act authorizing Justices of the Peace to order the destruction of dogs that are mischievous in regard to travellers or to ridden and harnessed horses and oxen, or to chasing sheep. (Vict. 40, Chapter 36, SM).
- (iv) An Act in regard to marks and brands of cattle to be registered with county registrars. (Vict. 40, Chapter 40, SM).
- (v) An Act in respect of prairie fires, which dealt with the protection of hay stacks by fire guards; the compulsory attendance of at least three men on fires in woods or prairie; the duty of overseers; and fighting of fires to count as compensation for statute labor (Vict. 41, Chapter 28, SM). This act repealed sections 2, 3 and 4 of the 1862 regulation of the District of Assiniboia entitled "Fires".
- (vi) An Act to protect native (domestic) cattle from disease by regulatory action when droves of cattle are brought from the United States. (Vict. 41, Chapter 29, SM).
- (vii) An Act to prevent drovers and traders from permitting other stock to follow driven herds or to remain with driven herds longer than one night and one day. (Vict. 41, Chapter 30, SM).
- (viii) An Act to encourage destruction of wolves, which provided for a bounty of \$1.00 (if large) and 50¢ (if small). (Vict. 41, Chapter 34, SM).
- (ix) An Act repealing a former enactment, and giving in detail revised regulations for hunting and trapping game birds and animals, and for protection of wildfowl eggs, but making provision, through the Attorney-General, for procuring specimens for scientific purposes. (Vict. 42-43, Chapter 10, SM).
- (x) An Act respecting animals running at large, which contained a preamble indicating that "the practice of catching animals at large and using them without the owner's consent is pernicious and a subject of most general complaint." (Vict. 42-43, Chapter 29, SM).
- (xi) An Act respecting infectious and contagious diseases of domestic animals, which provided for the appointment, by the Lieutenant-Governor-in-Council, of a veterinary surgeon to examine and report upon the state and condition of domestic animals. (Vict. 42-43, Chapter 30, SM).
- (xii) An Act respecting Veterinary Surgeons, which authorized the formation of a Veterinary Association. (Vict. 44, Chapter 18, SM).
- (xiii) An Act to prevent the spreading of Wild Mustard or Canada Thistles, which enacted that these two weeds must be cut in fields, on highways, and on railway rights-of-way. It also prohibited the sale of unclean grass seed.

A further enactment was passed which authorized municipalities to pass by-laws in respect of:

roads, bridges, ferries and statute labor; cruelty to animals; regulation of slaughter-houses; prevention or removal of abuses prejudicial to agriculture and industry; granting aid to agricultural and industrial societies; drainage works; regulation of fences, dykes and ditches; prevention of forest fires; providing pounds and regulating animals running at large; taking census of residents; and tax on dogs. (Vict. 44, Chapter 3, SM).

Agricultural Promotion - Agricultural promotional activities during this third sub-period continued in the form of aid to agricultural societies, and in an enactment providing for the appointment of police for the protection of fairs and exhibitions. In addition, a statutory amendment for the betterment of the Provincial Agricultural and Industrial Society of Manitoba was passed, in 1881, re-defining the objects of the society and instituting a Council to consist of five members from the City of Winnipeg and three members from each of the electoral counties of the Province. The Minister of Agriculture for the Province was included as a member, ex-officio, of this Council. This Council of Agriculture, however, was short-lived, as the Provincial Agricultural and Industrial Society was dissolved in the following year (1882) by an enactment which provided for its replacement by a Board of Agriculture with a Council of six members. (See Page 86).

Legislative action also was taken to encourage the planting of trees along "the Great Highways and Road Allowances within the Province." (Vict. 45, Chapter 4, SM).

Agricultural Assistance - Direct agricultural assistance does not appear to have been much of a factor in agricultural operations during the 1877-1882 sub-period. However, the Public Accounts of this period, which list the expenditures of the Ministry of Agriculture under the heading of "Immigration and Agriculture", indicate that the attention of the Ministry at this time was being directed to advertising the agricultural possibilities of the Province through the printing and distribution of pamphlets and through exhibits of Manitoba produce sent to points in Eastern Canada (Toronto, Montreal and St. Johns, N.B.). These activities were undertaken to attract immigrants with the object of enlarging land settlement and increasing agricultural production in the newly formed prairie province.

The extent of these various activities, as shown in the Public Accounts for the years 1877 to 1882, indicate that for this sub-period the Ministry of Agriculture spent an average of approximately \$2,886 per year in aid of agricultural societies, and \$900 per year for immigration, printing and immigration pamphlets, and exhibits.

(2) FINANCIAL SUPPORT PROVIDED BY THE LEGISLATURE

The emphasis placed on the various activities of the Ministry of Agriculture during the initial or formative years, 1871 to 1882, as a whole, can be shown in summary form by stating that the expenditure by the Ministry of Agriculture for the ten years 1873 to 1882 (expenditures for

1871 and 1872 are not itemized, consequently they are not included in this summation) totalled approximately \$37,530 or an average of \$3,753 per year, of which 71.2 percent was paid to agricultural societies; 12.5 percent was expended for seed grain; 8.2 percent for exhibits to stimulate immigration; 5 percent for printing and pamphlets; plus 1.3 percent for immigration; 1.8 percent for miscellaneous items; and, in 1882, a trace of a percent only for vital statistics.

It may be noted at this point that the Provincial Government was not highly departmentalized in its formative years. In some respects it appeared to function more as a municipal than as a provincial administration. The salaries of the Ministers, for example, were charged to Civil Administration and certain items (such as annual grants to hospitals and charities; emergency expenditures in connection with small-pox epidemics, etc.) which later came under departmental administration, were dealt with as a general charge and did not appear in the expenditures or estimates of the Ministry of Agriculture during this period. Moreover, annual reports outlining, for public information, the activities of the Ministry of Agriculture, were not undertaken as a departmental endeavor in the early years of this formative period.

The difficulties incident to the organization, development, and administration that faced the Provincial Government of Manitoba in its early formative years were aggravated by the limited provision made, under The Manitoba Act, for provincial revenue. Under Section 30 of The Manitoba Act (Vict. 33, C.3 SC) all ungranted lands in the Province were to be administered by the Government of Canada "for the purposes of the Dominion"; and under Section 27, "the custom duties now by law chargeable in Rupert's Land" were to be continued without increase for a period of three years from the passing of this Act; and "the proceeds of such duties were to form part of the Consolidated Revenue Fund of Canada."

The only provisions for revenue to the Province made under this Act, as set forth in Section 24, provided that

"the Province shall be entitled to be paid and to receive from the Government of Canada by half yearly payments in advance, interest at the rate of five per centum per annum on the sum of four hundred and seventy-two thousand and ninety dollars";

and in Subsection (2) of Section 24,

"the sum of thirty thousand dollars shall be paid yearly by Canada to the Province for the support of its Government and Legislature"; and

"an annual grant in aid of the said Province shall be made equal to eighty cents per head of the population estimated at seventeen thousand souls, and such grant of eighty cents per head shall be augmented in proportion to the increase in population, as may be shewn by the census that shall be taken thereof in the year 1881 and by each subsequent decennial census."

Under the limited finances thus obtained from the Government of Canada and from the restricted sources of revenue otherwise available to the Government of Manitoba, provincial expenditures obviously had to be drastically restricted.

The provincial expenditures for the year 1870, as shown in the Public Accounts of Manitoba, during the period when the Lieutenant-Governor faced the task of organizing a provincial government, are presented here for reference in Table 7; and the government expenditures for all departments under the Provincial Legislature by years, for the initial period 1871 to 1882, are presented in Table 8.

The item designated as Immigration and Agriculture in Table 8 is itemized in Table 9, as shown in the Public Accounts, to show the meagre support given to the Ministry by annual vote of the Legislature, and to indicate the activities of the Ministry of Agriculture during the initial period (1871 to 1882).

TABLE 7. PAYMENTS MADE IN CONNECTION WITH THE GOVERNMENT OF MANITOBA UP TO DECEMBER 31, 1870 AS RECORDED IN THE PUBLIC ACCOUNTS OF MANITOBA

	£	s	d
Police Force	568	6	2½
Printing	22	7	4
Real Estate	279	19	6
Coroner's Account	4	4	0
Road Service	68	13	3
Administration of Justice	127	17	9
Board of Health	155	12	0
Office Expenses	73	5	5
Salaries	432	7	8
Census	259	4	0
Office Furniture	57	7	3
Incidental	4	1	0
Public Works	12	10	0
Library	531	13	9
Elections	96	0	0
Total	£ 2,693	9	1¼
Liabilities	£ 1,296	9	11

From the above tabulation it would appear that the Government of Manitoba made no specific provision for service or direction of agriculture prior to the appointment of a Ministry of Public Works and Agriculture in 1871.

(3) IMMIGRATION ACTIVITIES - 1871 to 1882

From the earliest years, immigration was linked with agriculture as an activity of Provincial Government, but it is obvious, from the data presented in Table 9, that the small annual supply voted by the Legislature for "Immigration and Agriculture" did not permit the Ministry of Agriculture to

TABLE 8. GOVERNMENT EXPENDITURES AS RECORDED IN PUBLIC ACCOUNTS

	For Year Ending Dec.31, 1871	For Year Ending Dec.31, 1872	For Year Ending Dec.31, 1873	For ½ Year Ending June 30, 1874 (6 Mths.)	For Year Ending June 30, 1875
Legislative Expenses	\$13,695.17	\$ 13,783.99	\$ 14,735.89	\$ 7,259.00	\$15,686.67
Civil Government	12,349.29	23,570.06	17,790.06	10,455.35	15,293.65
Government Buildings	15,490.67	5,771.54	29,094.99)	10,817.12	6,935.90
			7,004.92)		
Administration of Justice	5,429.14	9,545.17	23,056.21	10,802.52	12,673.75
Road Service	19,613.10	11,854.10	8,920.84	5,566.92	6,609.71
Police Force	14,218.78	11,586.93	5,876.21	1,350.21	—
Education	6,000.00	7,000.00	9,078.54	—	7,000.00
Immigration and					
Agriculture	1,074.86	2,313.45	1,226.87	4,725.00	5,254.00
Printing	2,189.28	9,117.11	11,028.68	2,077.10	5,099.93
Miscellaneous	4,955.73	9,513.79	10,844.52	7,657.07	7,082.67
Charities	—	—	1,000.00	—	1,500.00
Provincial Gaol	—	—	—	456.76	3,241.40
Government House	—	—	—	—	—
Refund of Fines	—	—	—	—	—
Lunatic Asylum	—	—	—	—	—
Enumerators and					
Elections	—	—	—	—	—
Consolidating Statutes	—	—	—	—	—
Abstract Books for					
Registrars	—	—	—	—	—
Grant to Historical					
Society	—	—	—	—	—
Delegation to Ottawa	—	—	—	—	—
Aid to Municipalities	—	—	—	—	—
Drainage	—	—	—	—	—
Grant to University	—	—	—	—	—
Grant to Riflemen	—	—	—	—	—
New Government					
House and Gaol	—	—	—	—	—
Board of Agriculture	—	—	—	—	—
Official Gazette	—	—	—	—	—
Governor General's					
Visit	—	—	—	—	—
Health Inspector	—	—	—	—	—
Marriage Fees	—	—	—	—	—
Manitoba Exhibits	—	—	—	—	—
Private Bills	—	—	—	—	—
Safes for Registrars	—	—	—	—	—
Smallpox Account	—	—	—	—	—
Totals	\$95,016.02	\$104,056.14	\$139,657.73	\$61,167.05	\$86,377.68
Smallpox (Included in Miscellaneous)					

OF THE PROVINCE OF MANITOBA DURING THE PERIOD 1871 to 1882

For Period July 1, 1875 to Dec. 31, 1876 (18 Mths.)	For Year Ending Dec. 31, 1877	For Year Ending Dec. 31, 1878	For Year Ending Dec. 31, 1879	For Year Ending Dec. 31, 1880	For Year Ending Dec. 31, 1881	For Year Ending Dec. 31, 1882
\$ 14,917.47	\$11,912.25	\$ 11,242.28	\$ 15,673.20	\$ 15,846.24	\$ 26,231.80	\$ 23,876.56
22,683.78	16,682.00	15,867.33	16,330.42	17,690.33	22,236.69	29,869.45
22,829.24	3,131.94	3,651.73	6,789.56	5,568.53	4,084.39	14,672.00)
						524.83)
19,116.58	16,513.25	18,317.99	17,052.74	14,785.20	16,912.10	28,266.56
12,844.59	5,858.06	11,720.73	25,401.64	18,850.67	17,834.51	8,620.96
-	-	-	-	-	-	-
10,500.00	8,000.00	10,000.00	18,000.00	18,000.00	21,000.00	33,645.62
3,023.70	1,000.00	1,297.00	6,868.15	3,717.95	3,497.41	6,920.49
19,003.77	10,000.00	9,000.00	8,182.25	4,420.67	4,757.17	-
11,424.32	7,831.08	15,184.09	8,018.52	8,472.85	20,579.13	16,230.47
3,500.00	1,000.00	2,500.00	3,000.00	3,000.00	3,000.00	4,000.00
5,406.16	3,703.14	4,248.58	4,905.78	4,492.45	4,543.30	5,123.13
-	5,642.04	4,896.64	4,792.77	4,969.13	4,229.13	3,731.41
-	-	-	-	-	-	186.40
-	-	-	1,972.67	1,898.39	1,807.41	2,493.94
-	-	-	6,165.61	-	-	1,763.03
-	-	-	1,738.25	5,119.95	4,070.90	-
-	-	-	1,358.75	938.75	960.50	380.25
-	-	-	200.00	200.00	-	400.00
-	-	-	1,948.98	-	-	-
-	-	-	-	17,448.73	-	2,400.00
-	-	-	-	35,359.58	63,238.90	38,742.17
-	-	-	-	250.00	-	500.00
-	-	-	-	300.00	-	250.00
-	-	-	-	-	12,364.50	93,403.03
-	-	-	-	-	-	757.29
-	-	-	-	-	-	1,935.23
-	-	-	-	-	-	85.20
-	-	-	-	-	-	400.00
-	-	-	-	-	-	460.00
-	-	-	-	-	-	265.82
-	-	-	-	-	-	338.55
-	-	-	-	-	-	2,975.60
-	-	-	2,160.49	-	-	2,374.15
\$145,249.61	\$91,273.76	\$107,926.37	\$150,559.78	\$181,329.42	\$231,347.84	\$325,592.14
	1,683.73	5,390.38				

TABLE 9. SUPPLY VOTED BY THE LEGISLATURE FOR "IMMIGRATION AND EXPENDITURES FOR THE SAME PERIOD AS

Re Immigration and Agriculture	Department of Public Works and Agriculture				
	Legislative Session				
	1st of 1st Mar.15 to May 3, 1871	2nd of 1st Jan.16 to Feb. 21, 1872	3rd of 1st Feb.5 to Mar. 8, 1873	4th of 1st Nov.4,1873 to July 22, 1874	4th of 1st Nov.4,1873 to July 22, 1874
	Supply Voted for Year Ending				
	Dec. 31, 1871	Dec. 31, 1872	Dec. 31, 1873	June 30, 1874 (6 Mths.)	June 30, 1875
Supply Voted for expenses connected with Immigra- tion and Agriculture	\$2,000.00	\$2,000.00	\$1,500.00	\$4,725.00	\$1,200.00
<u>Expenditures as recorded in Public Accounts</u>					
Sundry Accounts (not itemized)	1,074.86	2,313.45	—	—	—
Agricultural Societies	—	—	701.00	4,725.00	1,000.00
Aid for Seed Grain (French Settlers)	—	—	403.75	—	3,604.00
Sundries and Miscellaneous	—	—	122.12	—	—
Aid for Seed Grain Purchase (Rockwood, Ste.Anne, St.Boniface)	—	—	—	—	650.00
Provincial Agricultural Society	—	—	—	—	—
Provincial Board of Agriculture	—	—	—	—	—
Immigration and Immigration Pamphlets	—	—	—	—	—
Pamphlets and Printing	—	—	—	—	—
Exhibits and Exhibitions	—	—	—	—	—
Grants to Municipalities	—	—	—	—	—
Vital Statistics	—	—	—	—	—
Totals	\$1,074.86	\$2,313.45	\$1,226.87	\$4,725.00	\$5,254.00

AGRICULTURE" DURING THE INITIAL PERIOD, 1871 to 1882, AND
 RECORDED IN THE PUBLIC ACCOUNTS OF MANITOBA

Ministry of Agriculture		Minister and Bureau of Agriculture and Statistics						
Legislative Session		Legislative Session						
1st of 2nd Mar. 31 to May 14, 1875	2nd of 2nd Jan. 18 to Feb. 4, 1876	3rd of 2nd Jan. 30 to Feb. 28, 1877	4th of 2nd Jan. 10 to Feb. 2, 1878	1st of 3rd Feb. 1 to June 25, 1879	1st of 4th Jan. 22 to Feb. 14, 1880	2nd of 4th Dec. 1 to Dec. 23, 1880	3rd of 4th May 12 to May 25, 1881	4th of 4th Apr. 27 to May 30, 1882
Supply Voted for Year Ending		Supply Voted for Year Ending						
June 30, 1876	June 30, 1877	Jan. 1 to Dec. 31, 1877	Dec. 31, 1878	Dec. 31, 1879	Dec. 31, 1880		Dec. 31, 1881	Dec. 31, 1882
\$2,000.00	\$2,000.00	\$2,000.00	\$3,500.00	\$4,000.00	\$5,000.00		\$6,000.00	\$13,200.00
July 1, 1875 to Dec. 31, 1876 (18 Months)	Jan. 1, 1877 to Dec. 31, 1877 (12 Months)							
-	-	-	-	-	-	-	-	-
1,749.00	500.00	987.00	1,760.00	900.00		1,000.00	3,200.00	
-	-	-	-	-	-	-	-	-
32.70	-	-	142.75	-	-	-	527.49	
-	-	-	-	-	-	-	-	-
1,242.00	500.00	-	2,000.00	2,000.00		2,000.00	-	
-	-	-	-	-	-	-	2,000.00	
-	-	310.00	177.50	-	-	-	-	
-	-	-	524.50	317.95	-	127.41	882.00	
-	-	-	2,263.40	500.00	-	-	300.00	
-	-	-	-	-	-	370.00	-	
-	-	-	-	-	-	-	11.00	
\$3,023.70	\$1,000.00	\$1,297.00	\$6,868.15	\$3,717.95		\$3,497.41	\$6,920.49	

play a very active role in connection with immigration during the initial period (1871 to 1882). The Dominion Government played a much more active role in connection with immigration into Manitoba than did the Provincial Government during this period.

Immigration of individuals into the Red River Settlement had begun on a limited scale in the last decade of the Council of Assiniboia (i.e. 1860 to 1869). These first immigrants were chiefly "Canadians" or newcomers from Eastern Canada, and a number of "Americans" more or less involved in the Fort Garry-St. Paul Trade.

During the twelve years which followed the establishment of the Province, not only did individuals and small groups of neighbors continue to come to Manitoba on their own initiative - and in increasing numbers as they became affected by the "Manitoba land fever" - but large scale immigration of racial groups was initiated under agreement with, and encouraged by, the Dominion Government. Colonization societies and business interests also became involved.

On August 13th, 1873, a Dominion Order-in-Council was issued providing for the immigration of Mennonites from Russia and for their settlement in reserved areas. On July 31st, 1874, sixty-five Mennonite families arrived in Winnipeg. These were the vanguard of approximately 6,000 Mennonites who came to Manitoba between the years 1874 and 1879, and settled on townships reserved for them by the Dominion Government in what became designated, respectively, as the East Reserve in the Steinbach district, and the West Reserve in the Altona-Winkler district.

Land settlement by racial groups was continued as a policy of the Dominion Government, and under this policy nearly 3,000 immigrants of Icelandic origin settled on townships reserved for them along the west shore of Lake Winnipeg between the years 1875 and 1878.

Group settlement also was sponsored by the French element in the Red River Settlement. A French Colonization Aid Society was organized in St. Boniface, and another in Montreal, with the object of encouraging immigration from Quebec and of bringing back to Canada people who had left Quebec to work in the factories of Massachusetts. Reserves were obtained along the Red River in what became the Letellier district and, in 1875, the first settlers arrived from Massachusetts. Other repatriates, together with immigrants from Quebec, joined with the Metis to develop the new parishes of St. Pierre-Jolys and St. Malo on the Rat River while others joined the established river lot settlements at Ste. Anne-des-Chenes and Ile-des-Chenes.*

Provincial Government action in respect of immigration, however, appears to have followed the passage, in 1876, of the statute establishing the Bureau of Agriculture and Statistics (Vict. 39, Chap. XI SM), Section III of which made it the duty - in addition to others - of the Minister of Agriculture and Statistics

* Morton, W.L. - "Manitoba - A History"; Page 160.

"to adopt measures for circulating and disseminating the same (i.e. useful facts and statistics) in such manner and form as he finds best adapted to promote the progress of the Province and to encourage immigration from other countries."

Action was taken in co-operation with the business men of Winnipeg in the following year, Begg and Nursey* record that:

"A meeting of the merchants of Winnipeg took place in Hon. John Norquay's office (Public Works), on Saturday, February 10th (1877) to examine a practical handbook and guide to Manitoba, for immigrants, and the work was endorsed by the committee formed for like purpose of examining its value as a channel for information regarding the province. The committee was composed of Messrs. Lyon, Donaldson, Eden, Peebles, Radiger, Banning and Burrows. An edition of this book, to the extent of 10,000, was afterwards published and circulated and did much to attract attention to the country."

Some idea of the extent to which activities in connection with immigration were subsequently carried on by the Provincial Ministry of Agriculture between 1878 and 1882 may be obtained from the statement of expenditures for immigration, immigration pamphlets, and exhibits, reproduced from the Public Accounts of Manitoba in Table 9.

(4) AGRICULTURAL DEVELOPMENT DURING THE INITIAL PERIOD, 1871 TO 1882

The chaos and excitement incident to the Provisional Government of 1869-70, and the unstable conditions that prevailed in 1870-71 when the government of the Red River Settlement - formerly administered by the Council of Assiniboia - was in process of assumption by the newly formed Government of Manitoba, resulted in the lack of adequate census data in respect of agriculture at the beginning of the initial period, 1870-1882.

Nevertheless, although agricultural development from 1871 to 1882 cannot be expressed statistically, the information available indicates that definite agricultural progress was made during the initial twelve-year period under the Government of Manitoba over the more or less static condition of agriculture under the Council of Assiniboia which it superseded.

The first report of the Provincial Ministry of Agriculture was not issued until, in February, 1881, Hon. Maxime Goulet submitted to His Honour Joseph Cauchon, Lieutenant-Governor of Manitoba, a departmental report for the year 1880, which commences by stating:

"I have the honor to present the first report of the Department of Agriculture. In many respects it is not as complete as might be desired, but steps are now being taken under my instructions to collect yearly statistics on all matters relating to agriculture in the province."

This first report of the Minister of Agriculture which was printed for general distribution is an enlightening document in respect of the knowledge

* Begg, A. and Nursey, W.R. - "Ten Years in Winnipeg, 1870-1879"; Page 156.

of agriculture that was being acquired. It not only records the current and proposed activities of the Ministry during the latter part of the initial period (1871-1882 period), it also reports the yields (but unfortunately not the acreage) of various crops grown by a number of farmer correspondents in 1877, 1878, 1879 and 1880, as well as conclusions reached by the various correspondents both in respect of the agricultural possibilities in their respective locations, and of farm practice recommendations based on their observations and experiences.

The average yields of crops thus presented and the number of farmers reporting same may be summarized as follows:

No. of Farmers Reporting	Crop	Average Yields in Bushels Per Acre			
		1877	1878	1879	1880
125	Wheat	26.75	26.33	26.75	29.33
116	Oats	59.75	59.75	58.00	57.75
102	Barley	40.75	36.00	37.67	41.00
21	Peas	32.00	34.00	32.25	38.50
1	Rye	30.00	30.00	40.00	40.00
(at Emerson)					
93	Potatoes	304.00	398.00	302.00	318.00

Dates of seeding and harvesting were also included. Information in respect of farmer experiences, submitted in response to questionnaires, contained in the Minister's report of 1880-1881, show that a large number of crop adaptation trials were being carried out successfully by farm operators with such field crops as:

corn, timothy, white Dutch and alsike clover,
flax, hemp, buckwheat, turnips, carrots and
mangels;

and with such garden crops as

beets, beans, onions, cabbage, tomatoes,
melons, cucumbers, citrons, strawberries,
currants, gooseberries, raspberries, and
rhubarb from seed.

Comments also were included in respect of the healthfulness of Manitoba climate; the ability of cattle to thrive despite the winter climate; the methods of breaking prairie sod; the importance of breaking and backsetting, and of tramping (packing) new breaking with cattle until grain sown on breaking is emerging in the following season; the uncertainty of growing winter wheat except on sites protected by forest groves or "bluffs"; and the ease of obtaining wood and water.

This initial report of the Ministry of Agriculture also records, that superior stock for breeding is being imported; that there will be a home demand for a greater quantity of beef, and a general demand for cattle by incoming settlers; that a rapidly growing inflow of population will afford a ready market for cereals and roots; that government drainage had not only

reclaimed a large area of land, but it had also appreciably improved the condition of highways, thus making easy access between settlements; that strenuous efforts were being made successfully to induce co-operation of all districts with the Provincial Agricultural Society; and that the vegetables in the two carloads of exhibits sent to Eastern Canada were donated to charitable institutions at St. John, N.B., whereas the samples of grasses, soil, stone, pottery, etc., were forwarded to the Department of Agriculture, Ottawa, for transportation to England.

A particular item of interest is the advice given in the report in respect of thoroughly cleaning grain before marketing in order to maintain a high standing. Farmers were advised

- (i) that grain should be carefully gathered and garnered;
- (ii) that it should be thoroughly cleaned; and
- (iii) that caution should be used in seeing that the seed is not of mixed character.

The departmental report summarized above should be recognized as an important historic document. It was obviously the source of so much of the data and of the statements regarding agriculture which appear in historic works written by other authors about the time the initial departmental report was published.*

Prior to the formation of the Province of Manitoba, the limited extent of agricultural development is indicated by the fact that in the District of Assiniboia the acres of cultivated land ranged from less than one to around one and a quarter acres per person. Unfortunately, the crop acreage in Manitoba during the period 1871 to 1882 is not given in the first report of the Provincial Ministry of Agriculture (1880). Nevertheless, the extent to which agriculture had developed towards the close of the initial period, 1871 to 1882, is indicated by data in the Census of Canada, 1941. This volume contains census figures by 10 year periods commencing with the year 1881.

The data thus available in respect of agriculture in Manitoba for the year 1881 are as follows:

Population

Rural	52,015 persons
Urban	<u>10,245 persons</u>
Total Population	<u>62,260</u>

Agricultural Data

Improved Farmland

Area under field crops	230,264 Acres
Area under garden crops, etc.	2,955 Acres
Area under other use (breaking, etc.)	<u>17,197 Acres</u>
Total Cultivated	250,416 Acres

*Macoun, J. - "Manitoba and the Great North-West"; World Publishing Co., Guelph, Ontario; 1882.

Unimproved Farmland

Not broken	<u>2,133,921 Acres</u>
Total land in farms	<u>2,384,337 Acres</u>
Average acres cultivated per farm	27.7
Cultivated acres per person in 1881	4.0

Livestock

	<u>Number</u>
Horses	16,739
Cows (Milk)	20,355
Other Cattle	39,926
Sheep	6,073
Swine	17,358

Agriculture Practised in Initial Period - Additional light is thrown on various phases of husbandry practised towards the close of this initial 12 year period, with the blessing of the Minister of Agriculture, by noting the various classes outlined in the prize list of the Provincial Agricultural and Industrial Exhibition held on September 30th, 1880. These classes included:

- Horses: Thoroughbreds, Roadsters, Carriage horses over 15½ hands, Agricultural horses, Heavy draft horses, and Native ponies.
 - Cattle: Durhams (Shorthorns), Ayrshires, and Grade cattle.
 - Sheep: Cotswold.
 - Swine: Berkshire.
 - Poultry: Plymouth Rocks, Partridge Cochins, Black Polands, Golden Pencilled Polands, Black Spanish, Leghorns, Rouen ducks, and Pigeons.
 - Dogs: (Received or recommended for prizes) - Collie, Pointer, Red Irish Setter, Setter, Retriever, Watch Dog, Fox Terrier, English Greyhound and Deer Hound.
 - Grain: Bushel of
 - Spring wheat (named), Red Fife, Golden Drop, Milwaukee Club, and White Fife.
 - Oats - Black, White and Norway.
 - Six-rowed Barley.
 - Peas.
- Twelve ears of Corn - yellow.
 200 lbs. Spring Wheat Flour.
 Best collection of grains named - wheat, oats, barley, peas - half bushel of each.

	Small field seeds - Flax, Hemp, etc. Best half bushel Flax Seed Best 5 lbs. Swede Turnip Seed Best 5 lbs. Long Red Mangolds (Mangel-wurzel) Best 5 lbs. Yellow Globe Mangolds Best 5 lbs. Hops (native) Best 6 stalks Sorghum Sugar-cane
Field Roots, etc.:	Potatoes, Turnips, Mangolds, White Sugarbeets, Carrots, Squash, Pumpkins Kohi Rabi, Collection of field roots.
Garden Vegetables:	27 kinds.
Dairy Products:	Firkin of butter - not less than 56 lbs. Crock of butter - not less than 25 lbs. Best table butter - not less than 10 lbs. Best table butter - not less than 5 lbs. Best Stilton cheese.
Manufactures:	Iron harrows, set of horseshoes, bobsleighs, whiffle-trees, and neck-yokes.
Domestic Manufactures:	Flannel - 10 yards (checked or striped or cotton and wool) Twilled Flannel; Woollen Yarn, Home-made Blankets; Stockings; Socks; Mitts; Plain, Cross-banded and double twisted yarn; Rag rug; Honey; Home-made Bread; Fancy Cakes; and Home-made Soap.
Fruits and Preserves:	Best 12 winter apples, summer apples, crabapples, Best 3 bunches grapes; Collection of dried fruits; Collection of fruits; Preserves; Pickles; Jellies; and Catsup.
Plants and Flowers:	Flowers in pots; Collection of cut flowers; Hand Bouquet.
Fine Arts:	Paintings; Water Colors; Crayon Drawing; Sepia Drawing; Pen and Ink Drawing; Photographs; and Book-binding.
Leather Work:	Boot and shoemaker work; Carriage Harness; Man's Saddle; Side Saddle; Sheepskin Mats; Moccasins; Leather Mitts; Buffalo Robe; Manufactured Furs; Collection of home-tanned Furs.
Ladies Work:	Baskets; Dresses; Shawls; Crotchet Work; Embroidery; Netting; Knitting; Feather Work; Shirts; Needlework; Lace Work; Paper Work; Quilts; Tatting; Wax Flowers, etc.

It is of interest to note that a collection of the products from this show was made and forwarded to Ottawa for transmission to England; and that a collection of cereals was made, to be distributed to the various corn exchanges of Canada.

Additional classes that may be noted in the prize lists of certain electoral district or local fairs that reported to, and received grants from, the Ministry of Agriculture include:

Yoke of working oxen; Ox in cart; Ox-yoke and bows; Turkeys; Geese; Specimens of farm fence; Leicester Ram; Red Chaff Wheat; White Wheat; Tobacco; Native Hops; Maple Sugar; Potash; Candles; Dressed Elk Skin; Collection of Native Leaves.

The above catalogue of exhibits at agricultural fairs which received grants from the Ministry of Agriculture in 1880, indicates not only the type of livestock and field crops produced, but also indicates the farm and cottage industries that were in vogue at that time; and, in addition lead to the conclusion that, even under the primitive or subsistence conditions of this pioneer period, the population were not unfamiliar with, or unappreciative of, the cultural value of various forms of fine art.

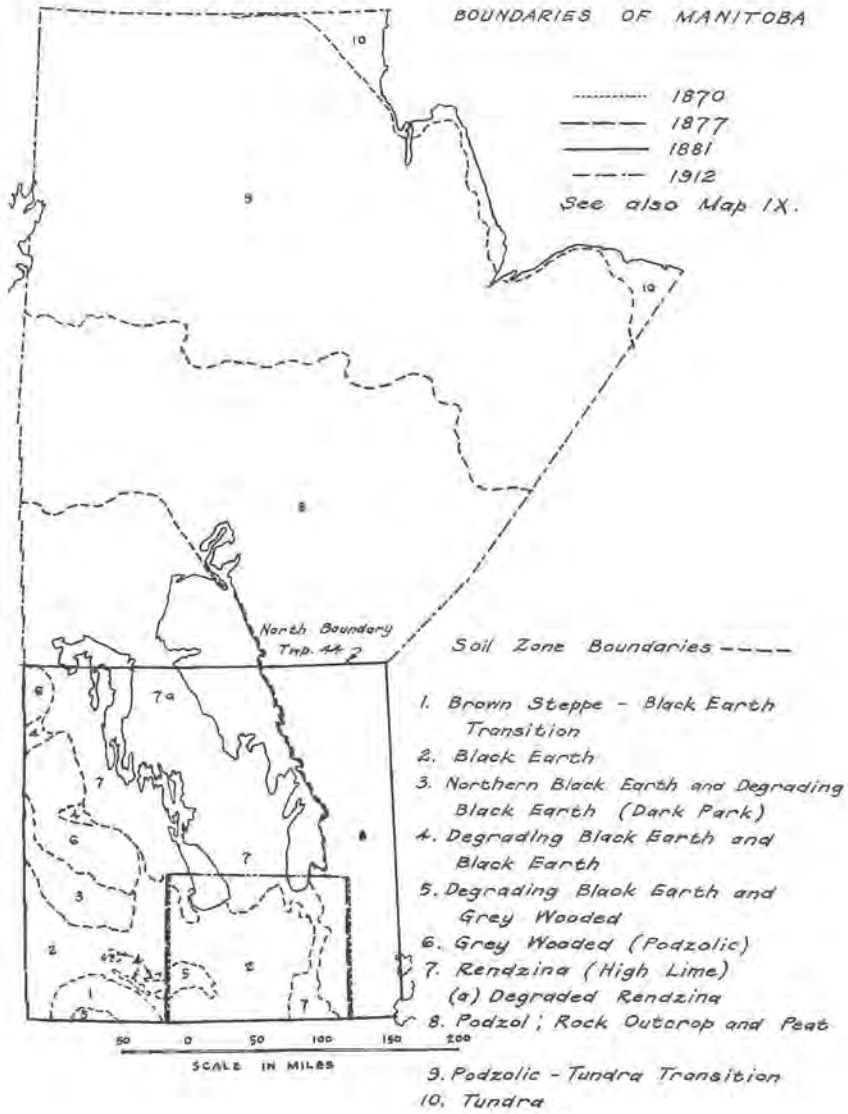
The year 1881 is also an important year in the historic development of the Provincial Ministry of Agriculture because, in that year, the Province of Manitoba was extended by Dominion Act on July 1st, 1881, from the area confined within 96° and 99° west longitude and between 49° and 50° 30' north latitude, to an area bounded on the west by the centre line of the road allowance between Ranges 29 and 30W, on the north by the centre line of the road allowance along the twelfth base line (that is between Townships 44 and 45), and on the east by the easterly limit of the District of Keewatin -- that is, the western boundary of the Province of Ontario.

The boundaries of the initial Manitoba were first designated by latitude and longitude, but as the boundary lines defined on that basis did not correspond to the lines of the Dominion Land Survey, a minor adjustment was made in 1877 whereby the eastern and western boundaries were adjusted to land survey lines by moving them approximately five miles westward. This accounts for the apparent contradiction in the initial area of the Province, given in various references as 13,928 and 14,340 square miles (or approximately 8,913,920 and 9,177,600 acres).

However, in 1881 the western boundary of Ontario was in dispute, and this controversy was not settled until 1889. Nevertheless, by the extension of the boundaries of Manitoba by Dominion Act in 1881, and for the next 31 years, the territory for which the Provincial Ministry of Agriculture became responsible for the administration and development of agriculture increased from approximately nine million acres in 1870 to 1881 to an area of approximately 47.1 million acres (or 73,732 square miles) in 1881 to 1912.*

* The present acreage of Manitoba, due to a further extension in 1912, is 160.6 million, of which 135.5 million acres are land and 25.1 million acres are water.

MAP IV



2. THE SECOND PERIOD - DEPARTMENT OF AGRICULTURE, STATISTICS AND HEALTH - 1883 to 1889

This second period, extending from 1883 to 1889, was an era of expansion during which the Ministry of Agriculture was greatly enlarged and its responsibilities, duties, and activities strengthened under its new designation of Agriculture, Statistics and Health.

This period may be considered also as a time in which the Ministry progressed from the modesty of an embryonic commission within a pioneer administration struggling to become established, to the dignity of a major department within an organized provincial government.

(1) LEGISLATIVE ACTS RELATING TO THE REORGANIZATION OF THE MINISTRY OF AGRICULTURE

Immediately prior to this era (i.e. in 1881) the Minister of Agriculture had been appointed Registrar-General of the Province under "An Act respecting the registration of Births, Marriages and Deaths" (Vict. 44, Chap. 8, SM); and in 1882 the Department had been established by "An Act for the Reorganization of the Department of Agriculture and Statistics" (Vict. 45, Chap. 14, SM).

Under the latter Act the Bureau of Agriculture and the Provincial Agricultural and Industrial Society, as such, ceased to exist, and were replaced by a Board of Agriculture. This Board consisted of one representative from each electoral division, with an Executive Council of six members elected by the Board, and a secretary-treasurer, appointed by the Board with the approval of the Lieutenant-Governor-in-Council, to serve as an officer in the Ministry of Agriculture.

However, in 1883, at the beginning of this second period, the Department was again reorganized under a detailed Act of the Legislative Assembly (Vict. 46, Chap. 19, SM). This Act, consisting of ten parts and 151 sections, became the charter of the newly formed Department of Agriculture, Statistics and Health.

I. Under Part I (Departmental Organization), provision was made for the appointment of various officers including, in addition to the Minister and Deputy Minister, a Superintendent of Health, and inspectors of municipal offices, agricultural societies and joint stock companies. Provision also was made for the Minister and Deputy Minister of the Department to hold ex-officio positions on the Board of Agriculture; the Board of Directors of Agricultural Societies; and the Board of Directors or Management (later deleted) of Public Hospitals.

Furthermore, departmental duties were outlined as:

- to institute inquiries and collect facts relating to agricultural, manufacturing or other interests in the Province;
- to adopt measures for circulating and disseminating the same;
- to encourage immigration from other countries;
- to see to the observance and execution of the provisions in specified chapters of the Consolidated Statutes, and of all other Acts relating to Agriculture, Statistics and Health; and

to report to the Legislative Assembly, yearly, on the work of the Department.

II. Under Part II (Board and Council of Agriculture), the duties, composition and powers of the Board of Agriculture were defined and provision made for a Veterinary School (later amended to College) and for the registration of Veterinary Surgeons.

III. Under Part III (Electoral Division Agricultural Societies), provision was made for the continuation of organized agricultural societies and for the authorization and organization of new societies.

IV. Under Part IV (Exhibitions), provision was made for the punishment of fraud by exhibitors; for legalizing municipal grants; for the appointment of constables; for penalties in cases of obstruction; and for prohibition of performances and sales.

V. Under Part V (Vital Statistics), regulations were outlined in respect of Clerks' districts and duties; districts without municipal organization; the keeping of registers by clergy; the registration of births and marriages, and the registration of deaths by householders and medical practitioners; the keeping of registers by cemetery caretakers, and of burials by clergy, etc.

VI. Under Part VI (Protection of Game), regulations were outlined in respect of the protection of game by closed seasons; the appointment and duties of game guardians, the prohibition of hunting in enclosed grounds, and of dogs running at large; the protection of insectivorous birds; and permits to naturalists in regard to collecting specimens.

VII. Under Part VII (Diseases of Animals), regulations were outlined in respect of the appointment of veterinarians; disposal of dead animals; procedures in case of disease affected premises; quarantine; disinfection of vessels, cars, etc. used in livestock transit; etc.

VIII. Under Part VIII (Noxious Weeds), regulations were outlined in respect of the duties of owners and occupiers in regard to weeds on land; the duties of path-masters in regard to weeds on highways and railway lands; penalties for vending noxious weed seeds; and the appointment of weed inspectors.

IX. Under Part IX (Public Health), provisions were made for the appointment of a Provincial Health Superintendent (whose duties were outlined); for the regulation of vessels and railways; for the appointment of health officers by County Councils; for isolation of infected persons and for the inspection and cleansing of dwellings; for the establishment of contagious disease hospitals, the compulsory notification of certain diseases, and quarantine regulations for nurses and others; for the appointment of City and Town Council vaccinators; for vaccination of children before three months old; for government grants; and for anatomical examinations, etc.

X. Under Part X (Miscellaneous Provisions), provisions were made in respect of penalties and prosecutions under the Act.

Amendments to the Agriculture, Statistics and Health Act — In 1884 an amending Act was passed (Vict. 47, Chap. 10, SM) which gave the Minister of Agriculture more responsibility for administration than formerly; that is,

certain responsibilities formerly assigned to the Lieutenant-Governor-in-Council, the Provincial Secretary, and the Provincial Treasurer under The Agriculture, Statistics and Health Act of 1883, were, by the amending Act of 1884, assigned to the Minister.

An interesting item also was included as Section 46(b) in the amending Act. Under this section the Lieutenant-Governor-in-Council was authorized to appoint, by proclamation, in each year, a public holiday to be observed throughout the Province, a day to be known as Arbor Day,* for the planting of forest and other trees. Furthermore, the amending Act made it clear that it was the duty of the Department, from time to time, to issue such reports, publications, circulars, etc., as the Minister may deem advisable.

A further amending Act was passed in 1886 which provided that "any person selling or otherwise disposing of, except by burning, any cleanings or other refuse containing noxious weeds from any elevator or mill, shall be liable to a penalty of not less than twenty-five dollars or more than one hundred dollars." Authority was also given for inspectors to enter any store, shop, or warehouse occupied by a person who sells grain, and obtain, and take away samples for examination and verification.

Additional amendments to The Agriculture, Statistics and Health Act were made in 1887 (Vict. 50, Chap. 14, SM) requiring feed and sale stables to be cleansed annually by washing and whitewashing (Section 1); and providing under Section 2 that "Registers and copies of records kept by clergy of churches of various denominations in the Province and in the territory now coming into the Province prior to the passage of the statute Vict. 36, Chap. 13 (SM) up to Vict. 44, Chap. 8 (SM), at present or may hereafter be deposited among the records of the Department of Agriculture, Statistics and Health, duly sworn to as correct, are authentic and are to remain in custody of the Department"; and further, under Section 6, that at noon on the 3rd of July, 1887, "the Board of Agriculture and the Council thereof shall cease to exist and that, from and after that time, all the property real and personal of whatever nature of the board shall be vested in the Minister of Agriculture."

(2) OTHER ACTS OF AGRICULTURAL INTEREST

In 1885 an Act of historic significance was passed cited as The Manitoba Dairy Act (Vict. 48, Chap. 12, SM). Section 2 of this act provided that the Lieutenant-Governor-in-Council, on recommendation of the Minister of Agriculture, Statistics and Health, may grant a charter of incorporation under The Manitoba Joint Stock Companies Incorporation Act for the manufacture of butter and cheese; and penalties were established under Section 3 for selling adulterated or diluted milk. This was followed in 1886 by an Act to incorporate The Manitoba Dairy Association, to be composed of persons paying an annual subscription of not less than one dollar; and requiring a specified form of declaration to be shown in a minute

* Proclaimed for first time, May 12th, 1886.

book, and a duplicate copy of same to be filed with the Minister before the Association is eligible for a Provincial grant.

Other Acts of agricultural interest passed during this second period include:

An Act respecting Grist-mills and Millers which required millers to grind grist in turn, to attend the mill and keep accurate measures and scales, to be accountable for grain and bags left with them, and providing penalties for excessive toll or imperfect grinding (Vict. 46-47, Chap. 35, SM);

An Act to consolidate the Acts relating to the Department of Public Works (1885) which included eleven sections relating to "Drainage of Lands";

An Act to authorize the appointment of Fire Guardians and for the better prevention of prairie fires (Vict. 50, Chap. 35, SM) which authorized, among other items, that municipal councils may pass laws for the prevention of prairie and bush fires and provide appliances, and that persons 16 to 60 years could be called out and required to obey directions of fire guardians;

An Act to provide for the payment by rural municipalities of losses occasioned by hail within such municipalities, and to raise and operate a Hail Insurance Fund on petition of one-third of the resident taxpayers and the assent of 40 percent of the voters (Vict. 51, Chap. 34, SM), the levy however was limited to five mills on the dollar and payment to one-third the appraised loss; and

An Act, cited as The Manitoba Provincial Lands Act, 1887 (Vict. 50, Chap. 21, SM) to be administered by a member of the Executive Council to be known as "Provincial Lands Commissioner."

This Provincial Lands Act, of 46 sections, was passed to regulate the sale and licensing of occupation and assignment of town lots, grazing lands and hay lands. Section 18 of this Act provided for the granting of leases on provincial lands for grazing purposes at such rent and for such term of years in each case "as may be deemed expedient" and with provision for notice of cancellation at the end of two years from the service of such notice by the Commissioner; and Section 19 of this Act provided for the leasing of unoccupied hay land in areas not exceeding forty acres for such term and rent as the Commissioner deems expedient.

This second period in the history of the Ministry of Agriculture, during which it achieved full stature as a Provincial Department, came to an end with a change in name under an Act of 1888 (Vict. 51, Chap. 20, SM) which enacted that "the name of the Department of Agriculture, Statistics and Health is hereby changed to the Department of Agriculture and Immigration" and "the member of the Executive Council who presides over the Department shall be known and described as the Minister of Agriculture and Immigration."

At the same session of the Legislature an Act to amend certain Acts was passed (Vict. 51, Chap. 29, SM) which contained a significant item (Section 22) enacting that "On and after the first day of July, 1888, the office of Deputy Minister* in each of the Departments, as at present provided for, shall be abolished, and all power given by statute to such Deputy Ministers shall be exercised by the respective Ministers of each Department."

* This position was replaced by that of Chief Clerk, which existed and continued until 1904. The position of Deputy Minister of Agriculture was again established in 1905.

(3) **LEGISLATIVE SUPPORT OF THE REORGANIZED
DEPARTMENT AND ITS ACTIVITIES**

The support provided by the Provincial Legislature for the maintenance of the Department of Agriculture, Statistics and Health (which it had established by the Act of 1883) is indicated in Table 10. This table shows (a) the supply voted at the respective sessions of the Fifth and Sixth Legislatures during the seven years, 1883 to 1889, as recorded in and authorized by Statutes of Manitoba for the maintenance of the Ministry of Agriculture, and (b) the total supply voted for the maintenance of all departments (exclusive of capital account and statutory commitments) for the same period.

The total supply voted for the seven years 1883 to 1889 in the case of the Department of Agriculture, Statistics and Health, amounted to \$359,733.61 or an average of around \$51,390 per year. This amount was 13.7 times the average amount expended per year by the Ministry during the previous 10-year period 1873 to 1882.

Unfortunately, although yearly, and one-half yearly, totals of the estimates for the Ministry of Agriculture can be shown in Table 10, the amounts allocated for the component items can be tabulated for only five of the seven sessions involved.

In an attempt to obtain a generalized picture of the Department's activities from the incomplete data in respect of supply voted, the various component items listed in the estimates for the five sessions may be grouped into comparable common terms, as listed in Table 10, totalled separately, and the respective summations expressed as a percentage of the total estimates.

On this basis,

38.4 percent of the total estimates was allocated to activities under **Agriculture and Immigration**, or the sum of:

- 20.9 percent for agricultural societies activities;
- 7.6 percent for animal disease;
- 2.0 percent for noxious weed control;
- .9 percent for a dairy institute;
- .6 percent for protection of game; and
- 6.4 percent for immigration and exhibits.

4.9 percent was allocated for **Statistics**, or the sum of:

- 3.1 percent for Vital Statistics; and
- 1.8 percent for Agricultural Statistics and Publications, part of which should be credited to Immigration.

35.5 percent was allocated to activities under **Health**, i.e.:

- Grants to hospitals, charities, and the combatting of small-pox; and

21.2 percent was allocated to office expenses, overall administration and salaries, including that of the Minister and his Deputy.

TABLE 10. SUPPLY VOTED BY LEGISLATURE FOR DEPARTMENT OF AGRICULTURE, STATISTICS AND HEALTH, 1883 to 1889, AND SUPPLY VOTED FOR ALL DEPARTMENTS FOR THE SAME PERIOD

	Legislative Session						
	1st of 5th May 17 to July 7, 1883	2nd of 5th Mar. 13 to June 3, 1884	3rd of 5th Mar. 19 to May 2, 1885	3rd of 5th Mar. 19 to May 2, 1885	4th of 5th Mar. 4 to May 28, 1886	1st of 6th Apr. 14 to June 10, 1887	2nd of 6th
	Supply Voted for Year Ending						
	Dec. 31, 1883	Dec. 31, 1884	June 30, 1885 (6 Mths.)	June 30, 1886	June 30, 1887	June 30, 1888	June 30, 1889
Salaries	\$ 7,300	\$ 9,700	\$ 4,450	\$ 8,900	\$ 9,000	\$ 6,500	\$ 5,600
Expenses	—	1,500	1,725	3,350	12,100	—	950
<u>Agriculture</u>							
Agricultural Societies Grants, etc.	—	10,500	1,350	13,600	19,867	—	11,250
Animal Diseases	—	5,000	2,000	5,000	5,000	—	3,500
Noxious Weeds	—	1,000	250	2,000	2,250	—	—
Dairy Instruction	—	—	—	2,500 (Unex- pended)	2,500 (Re- voted)	—	—
Protection of Game	—	300	200	400	400	—	300
Immigration (including Exhibits)	—	1,000	700	2,000	2,500	—	11,000
<u>Statistics</u>							
Agricultural Statistics and Publications	—	1,000	700	1,400	1,400	—	500
Vital Statistics	—	2,200	750	1,550	1,400	—	2,649
<u>Health</u>							
Grants to Hospitals and Charities, etc., and combatting smallpox	—	12,190	12,417	21,222	14,779	—	35,353
Supply Voted for Department of Agriculture, Statistics and Health	\$ 16,400	\$ 44,390	\$ 24,542	\$ 61,922	\$ 71,196	\$ 70,181	\$ 71,102
Supply Voted for Departments	507,899	518,669	271,561	461,165	503,566	1,605,956	1,869,053

Unfortunately, during this historic period the pressure of circumstances, and a somewhat apparent laxity in control of finances, resulted in expenditures - as shown in the Public Accounts, in some cases, - either beyond or less than the estimates submitted by the Department and passed by the Legislature.

(4) IMMIGRATION ACTIVITIES ENLARGED

Towards the end of the 1883-1889 period, and with increased support in the annual supply voted by the Legislature for this purpose, activities in connection with immigration were undertaken by the Provincial Ministry of Agriculture as a departmental activity.

In October, 1887, A.J. McMillan was sent to Great Britain, under joint arrangement by the Manitoba Government, the Dominion Government, and the principal railway companies, where he continued, until March, 1888, to address meetings in country villages of England and Scotland, and to answer queries and correspondence in connection with immigration.

On his return to Manitoba in April, 1888, A.J. McMillan was appointed "Emigration Commissioner" to represent Manitoba in Ontario. After assisting in the preparation of a pamphlet ("Facts about Manitoba") for distribution in Eastern Canada, McMillan opened an office in Toronto in May, and a temporary office in London (Ontario), with Captain Wastie in charge. The activities undertaken by the Emigration Commissioner through the Ontario offices included:

- addresses and personal contacts at meetings of the Central Farmers Institutes in co-operation with the Ontario Agricultural College;
- special meetings called at country points;
- display of posters, and distribution of pamphlets through railway station agents, hotels and post offices;
- display of the Manitoba Exhibit at the Industrial Fair in Toronto, after which the exhibit was divided into four sections to tour 20 Ontario fall fairs;
- office consultations;
- arranging with C.P.R. for cheap excursions to Manitoba - \$25.00 per round trip - ; and
- visiting the Eastern Townships (Quebec) to initiate interest in emigration to Manitoba.

The Toronto office also served as headquarters during the summer of 1888 for two representatives of the Winnipeg Colonization Committee who carried on propaganda work in Ontario in connection with emigration to, and settlement in, Manitoba.

In 1889, Provincial Government immigration activities were further enlarged, and with W.D. Scott added as assistant, the publicity and propaganda work carried on in Ontario was extended into Quebec and the Maritimes. Two special temporary agents also were added - O. Seebach of Russell, Manitoba, who worked among the Germans of Western Ontario; and Rev. Father Beaudry of La Presentation, Quebec, who in addition to

working in Quebec contacted expatriates in Canadian centres in the New England states. In addition, H.J. Borthwick was sent to undertake publicity work in the north of England and in the south of Scotland. This led to the recommendation that an immigration office be opened in Great Britain.

Farmers' excursions to Manitoba were continued by arrangements with the C.P.R. and colonist trains were operated in March and April, which were accompanied enroute to Manitoba by W.D. Scott as immigration advisor; and, with the assistance and co-operation of the C.P.R. and the G.T.R., Manitoba Exhibits were shown at 53 Fall Fairs in Eastern Canada.

From the data presented in Table 10, it is obvious that at the close of this period the Provincial Government assumed much more of the financial responsibility for immigration activities that were first undertaken in co-operation with the Dominion Government and the railway companies.

(5) AGRICULTURAL STATISTICS AND DEVELOPMENT DURING THE SECOND HISTORIC PERIOD, 1883 to 1889

Although there are sufficient statistical data to show that the acreage under agricultural development in Manitoba doubled from 1883 to 1889 by expanding at a varying rate of from 50,000 to 190,000 acres per year, nevertheless, the agricultural statistics for this period are not as complete as could be desired; hence, a review of the procedures followed in the early years of activity in collecting agricultural statistics may be required by way of explanation.

The Act respecting the Bureau of Agriculture and Statistics of 1876 made the Bureau, under the administration and management of the Minister of Agriculture and Statistics, responsible for "all that part of the administration of this Province which relates to Agriculture, Immigration and Statistics". However, it was not until February, 1881, that the current Minister (Hon. M. Goulet) submitted to the Lieutenant-Governor a report containing agricultural statistics for the year 1880, which he presented as "the first report of the Department of Agriculture."

On November 16th, 1881, Hon. M. Goulet resigned and was replaced by Hon. M.A. Girard who held the office until January, 1883, and it was not until September 6th, 1883, that the Hon. A.A.C. LaRiviere was appointed Minister of Agriculture. In the interim, Hon. John Norquay served as acting Minister.

In 1882, under the Reorganization Act of the Department of Agriculture and Statistics (Vict. 45, Chap. 14, SM), the Bureau of Agriculture was replaced by a Board of Agriculture composed of one representative from each electoral district, with the Minister and Deputy Minister holding ex-officio positions on the Board.

After the establishment of this Board, each member was asked to recommend one farmer in each township within the respective divisions to act as a crop correspondent. In 1883, the correspondents thus obtained were requested to supply answers to questionnaires, which were condensed by Department officials and submitted to members of the legislature with a request for an opinion as to the correctness of the information. The

information thus obtained and approved was published by the Department as Crop Bulletins* numbers 2, 3, 4 and 5, dated respectively July 26th, August 18th, September 24th, and October 4th, 1883. These early bulletins were primarily descriptive reports of crop conditions during the various months of the 1883 season, but acreage figures for the chief crops grown were included in the report for the month of August.

The crop acreage figures initially published were subsequently revised and published in summary reports of later date - probably due, in part, as the result of reports being received too late for inclusion at the time the initial bulletins were prepared - but in respect of the crop acreages of 1883 a specific qualification should be noted. In Crop Bulletin No. 3, mention is made of 460 circulars sent to correspondents and of 351 answers received. As the summation of the acreages from the answers received gave an incomplete estimate of the total provincial crop acreage for 1883, departmental officials adjusted the figures obtained for the major grain crop acreages in 1883 by a method which to them seemed justified. This system of gathering agricultural statistics initiated in 1883 continued until the Board of Agriculture was dissolved by Statute (Vict. 50, Chap. 14, Sec. 6, SM) in 1887.

In Crop Bulletin No. 6 (June, 1884) and continuing to Crop Bulletin No. 17 (October, 1886), the records were grouped and tabulated by three divisions,** i.e.:

- Eastern - consisting of the counties of: Manchester, Morris, Carillon, D'Iberville, Lorette, Selkirk, Lisgar.
- Central - consisting of: Dufferin, Marquette, Portage la Prairie, Rock Lake, Norfolk, Beautiful Plains, Westbourne.
- Western - consisting of: Russell, Shoal Lake, Minnedosa, Dennis, Brandon, Souris, Turtle Mountain.

Crop Bulletins Nos. 2 to 17 were issued as reports to the Minister over the signature of the Deputy Minister. Commencing with Crop Bulletin No. 18 (June, 1887), the bulletins had a different format and appeared as departmental communications without a personal signature. Furthermore, in Crop Bulletin No. 18 the records were grouped into four instead of three divisions, i.e.:

- Eastern Group - as in previous years.
- Central Group - consisting of: Westbourne, Portage la Prairie, Norfolk, Brandon, Dennis.
- North-Western Group - consisting of: Marquette, Beautiful Plains, Minnedosa, Shoal Lake, Russell.
- South-Western Group - consisting of: Dufferin, Rock Lake, Turtle Mountain, Souris River.

* First Report of Ministry, Feb. 1881 - Crop Bulletin No. 1.

** Maps of Crop Reporting Districts, Appendix III

Crop Bulletin No. 21 was issued in October, 1887, and Crop Bulletin No. 22 was issued in June, 1889, therefore, it is obvious that no provincial report on agricultural statistics was issued for 1888; namely, the year in which the office of Deputy Minister was abolished.

Sessional Papers No. 23, Vict. 53, 1890, contains a report of the Minister of Agriculture and Immigration (Hon. T. Greenway) to the Lieutenant-Governor (Hon. John C. Schultz) for the year 1889 which states:

"Early last spring (1889) steps were taken to resume the collection of crop statistics, together with other information relating generally to agriculture. Circulars were sent out asking responsible parties in each township to act as correspondents. In this way over five hundred persons, representing about five hundred and fifty settled townships, consented to send in information to the Department."

This renewal of collecting agricultural statistics, following the lapse of activity in 1888, was followed by the publication of Crop Bulletins Nos. 22, 23 and 24, dated respectively June 1st, August 1st, and October 1st, 1889.

In addition to the Provincial Crop Bulletins issued during the years 1883 to 1889, the Dominion Department of Agriculture, Ottawa, published a report entitled "Statistics of Agriculture, Manitoba and the North-West Territories" for the year 1883, and a further report was issued in 1884. The first of these reports was submitted by the Hon. J.H. Pope, Minister of Agriculture, Ottawa, to the Governor General of the Dominion of Canada, and begins with the statement:

"Pursuant to an arrangement made by the Minister of Agriculture with the Department of Agriculture of Manitoba, a series of investigations were made by the Provincial Department for the Dominion Department, in reference to the various crops raised during the season of 1883 in the Province of Manitoba and parts of the North-West Territories; the enquiries comprised information relative to the climate and other agricultural information not comprised by the term 'crops' . . .

"The report now published, being the first of the kind made in the Province of Manitoba and the North-West Territories, it has been found that difficulties incident to the organization of arrangements for obtaining information of this nature have been encountered, as was expected, with the result that the figures are not complete, but represent only about three-fourths of the settled townships of Manitoba and the earlier settled districts of the North-West Territories.

"Arrangements are, however, being actively pushed forward to provide for increased efficiency during 1884; and it is confidently expected that the returns for Manitoba will be much more complete, whilst the information from the North-West Territories will be very greatly amplified."

In the Dominion reports of Manitoba Agricultural Statistics for 1883 and 1884, the data are tabulated in detail by townships and the total acreages of cereal crops thus recorded were not adjusted. In the Provincial Crop Bulletins the data were condensed and reported currently by groups of electoral counties, but later summary reports show that the cereal acreage figures first recorded for 1883 were apparently adjusted by multiplying each total by the factor 1.25 to obtain the estimated provincial totals that appear in later publications. Thus the estimated acreage figures recorded for 1883 appear to be too high in comparison with the succeeding year.

The Dominion report of 1883 also contained a map showing the townships from which data were obtained and the kind of information supplied by the crop reporting correspondents. As this map shows the distribution of agricultural settlement in Manitoba at that time, it is reproduced at this point for historic reference as Map V.

The agricultural data acquired and published in the various crop bulletins as approximations* for the years 1883 to 1889 are summarized in Table 11 to indicate the agricultural development which took place during this second historical period of the Provincial Ministry of Agriculture.

These data show the estimated acreage under cultivation exclusive of new breaking, the classes of crops grown, and the estimated numbers of livestock on Manitoba farms for the period in question. The figures indicate that the total cultivated acreage increased from 1883 to 1889, but that a change took place in cropping practices. Although the total acreage increased nearly two times, the percentage of cultivated land under grain crops decreased while the percentage of land under fallow increased. There was not much change in total acreage of intertilled crops but there was a notable increase of interest in cultivated grasses and clovers.

The modification in cropping practices thus revealed appears to have been influenced by repeated emphasis, in the text of successive Provincial Crop Bulletins, on the necessity of adopting the recommended practice of summerfallow.

In respect of the numbers of livestock kept on Manitoba farms, it is apparent that the total horse population increased three times, and that the ratio of horses to 100 acres of cultivated land increased from 2.7 in 1883 to 3.9 in 1889. The cattle population also increased approximately three times, but showed a fairly constant ratio of 3.5 head of cattle to one horse over the whole period, ending in 1889 with a ratio of 12.8 head of cattle per 100 acres of land cultivated. The sheep population which was less than one head per 100 cultivated acres in 1883, increased over seven times and reached a ratio of 2.7 head per 100 acres of cultivated land in 1889.

The swine population was erratic. The total numbers increased from around twenty-eight thousand in 1883 to about sixty-two thousand in 1885. The numbers then apparently decreased to nearly half that number in 1887, but increased again to around fifty-one thousand in 1889.

It is fortunate from an historic standpoint that in addition to the number of acres in crop and the number of each class of livestock, the Provincial Crop Bulletins contained some record of crop varieties and breeds of livestock kept on Manitoba farms during this period.

* Certain discrepancies may be observed in the statistical figures quoted from the earliest Provincial Crop Bulletins; the Dominion statistical reports; and the summary tabulations in later Provincial publications. These discrepancies emphasize the difficulties experienced and the impossibility of obtaining complete data from crop correspondents under the pioneer conditions which prevailed, and the difficulties subsequently experienced, by different recorders of statistics, in attempting to arrive at reasonable estimates that could be presented as approximations derived from such data as were available at the time of compilation.

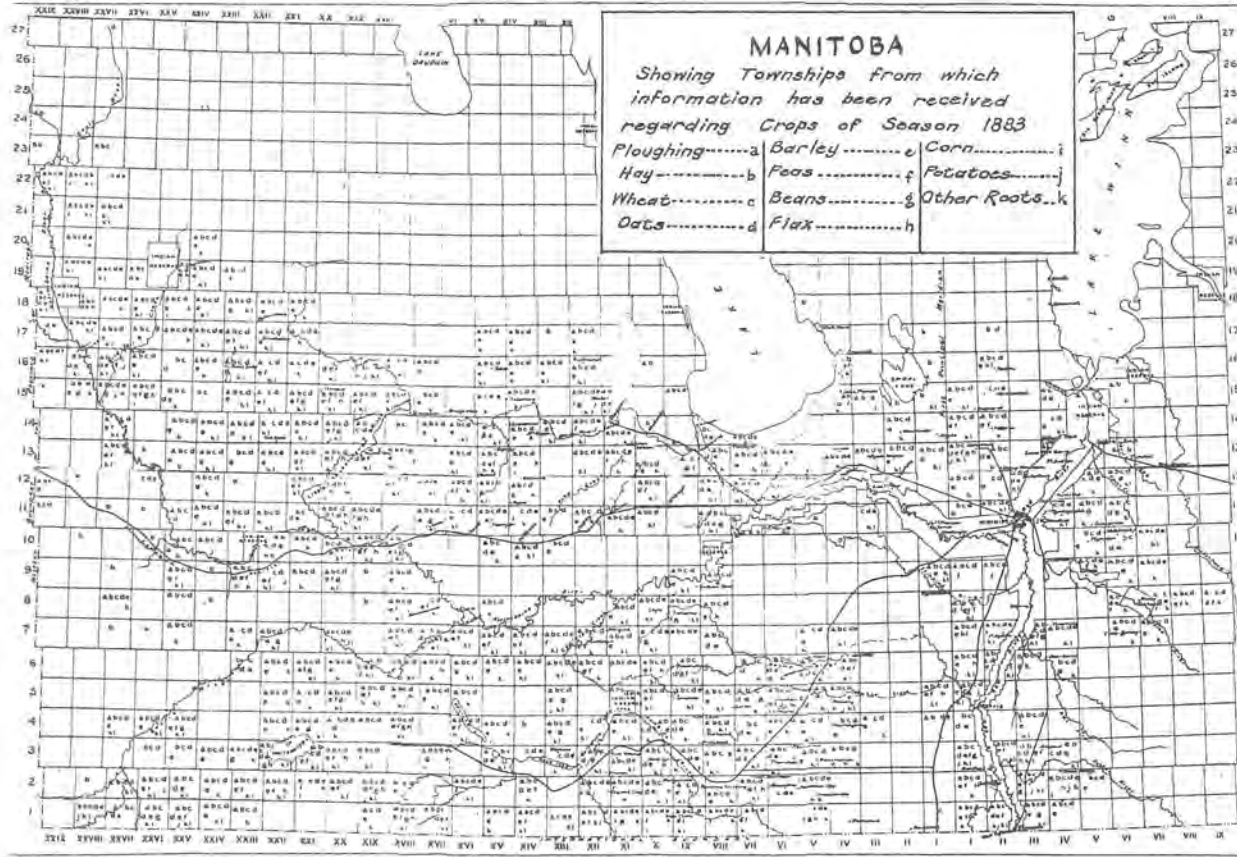


TABLE 11. (a) CULTIVATED FARM ACREAGE, AND THE CLASSES OF CROPS IN ACRES AND PERCENT GROWN IN MANITOBA BY YEARS 1883 to 1889

Year	Grain Crops		Grasses, Clovers and Alfalfa		Intertilled Crops		Fallow		Total Cult.
	Acres (000)	Percent	Acres (000)	Percent	Acres (000)	Percent	Acres (000)	Percent	Acreage (000)
1883	549		3		16				568
1884	485	88.4	2	.3	16	2.9	46	8.4	549
1885	581	86.4	4	.6	19	2.8	69	10.2	673
1886	632	85.1	7	1.0	14	1.9	90	12.0	743
1887	652	82.3	11	1.3	14	1.8	116	14.6	793
1888	798	82.4	14	1.4	15	1.6	142	14.6	969
1889	945	81.5	17	1.5	16	1.4	181	15.6	1,159
Means		84.3		1.0		2.1		12.6	

(b) TOTAL NUMBER AND KIND OF FARM LIVESTOCK AND NUMBER PER 100 ACRES OF CULTIVATED FARM LAND IN MANITOBA BY YEARS 1883 to 1889

Year	Total Number				No. per 100 ac. Cult. Farm Land			
	Horses	Cattle	Sheep	Hogs	Horses	Cattle	Sheep	Hogs
1883	15,486	53,894	4,211	27,991	2.7	9.5	.7	4.9
1884	20,071	64,011	6,431	44,901	3.6	11.7	1.2	8.2
1885	24,187	86,315	9,787	61,907	3.6	12.8	1.4	9.2
1886	23,602	87,390	13,187	58,779	3.2	11.8	1.8	7.9
1887	29,915	101,681	12,540	35,713	3.8	12.8	1.6	4.5
1888	—	—	—	—	—	—	—	—
1889	45,746	148,209	31,341	51,657	3.9	12.8	2.7	4.4

Crop Varieties - The crop bulletins for the five years, 1883 to 1887, give the variety names of the cereal crops grown and the number of townships reporting each variety. The following notations show the variety names of the respective kind of crop grown and the number of townships that recorded each variety expressed as an average for the five years in question.

Wheat, designated as

Red Fyfe (273); White Fyfe (59); White Russian (23); Fyfe (18); Golden Drop (19); Lost Nation (7); and

other varieties of less frequent reference: Red Chaff; Red Fern; Club; and Black Sea Wheat.

Oats, designated as

Black (107); White (85); Black Tartarian (36); White Russian (18); Black Main (8); Egyptian (8); White Australian (5); and

other varieties of less frequent reference: White Main; White Poland; White Norway; Black Norway; Excelsior; Potato; Welcome; Yellow Russian; Black Side; Hopton; Sovereign; and Black Champion.

Barley, designated as

Six-rowed (76); Four-rowed* (37); Two-rowed (9); Eight-rowed* (4); Hulless (4); Black Russian (2); and

other varieties of less frequent mention: White; English Melon; and Peruvian.

The varieties of field peas grown appear to have been recorded for the year 1884 only, and for only a few townships, i.e.:

Crown (20); Golden Vine (8); White (5); Marrow-fat (3); Black Eye (2); and Multipliers (1).

Breeds of Livestock - The breeds of livestock kept on Manitoba farms were recorded for the three years 1884 to 1886 only.

Horses - The only information in respect of horses at this time is the total number of horses kept and the number and breed of stallions. The total number of stallions reported was 168 in 1884, 263 in 1885, and 264 in 1886. The various breeds designated and the average number of townships per year reporting stallions of the designated breeds are as follows:

General purpose (38); Clydesdale (36); Percheron (25); French Canadian (23); Mixed (?) (15); Heavy Draft (10); Roadster (8); and other designated horses of less frequent mention, i.e.: Blood, Thoroughbred; Coach and "Native".

* Obvious incorrect designation used locally at that time.



PROGRESSIVE RURAL HOUSING

5. Chippewa-Metis camp of birch-bark lodges with buffalo hide tipi in background - 1873
(Courtesy of Manitoba Archives)

6. Early pioneer home of sod in the prairie region - a "Soddy"





7. Pioneer home of logs in the forest region

8. Pioneer frame home in Rosenfeld District





9. Well-established Mennonite farm home Altona District

10. Settler's home - Washow Bay Settlement Project, 1969





TYPES OF MANITOBA FARM HOMES

- Robert Kerr, Franklin.
- G. H. Blackert and H. C. Summerscales, Selkirk.
- G. F. Morrison, High Bluff (rear view).
- J. B. Lyons, Carberry.
- S. A. Matheson, Stonewall.
- Dawson Richardson, poultry farm, Selkirk.
- W. Lunn, Austin.
- A. Orr, Kenton.

11. Common types of Manitoba farm homes after three decades of farming



12. Pioneer Farming - Plowing with oxen Ethelbert District

EARLY FARM TRACTION POWER

13. Plowing with 16 inch sulky plow - a popular implement with homesteaders around 1900





14. Farming with Horse Power on Morris Clay
prior to the general use of Tractors

. 15. Homesteader working under difficulties - 1903
(Courtesy of Manitoba Archives)

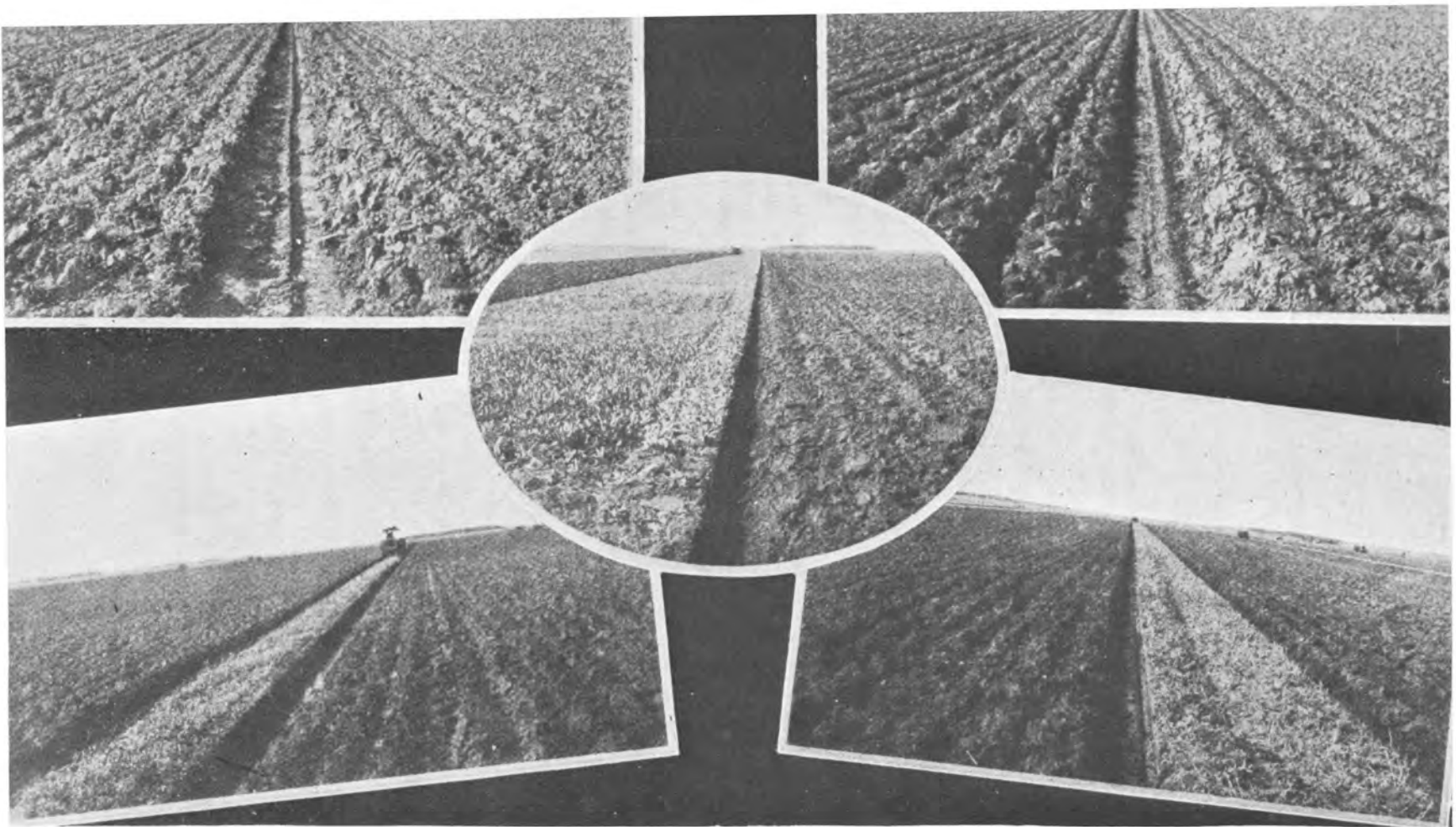




16. Early phase of mechanization.
Breaking bush land with steam tractor power - 1921

17. Early phase of mechanization.
Plowing arable field with early type of gasoline tractor - 1916





18. Plowing Match at Portage la Prairie - 1919

Cattle - The relative importance of the various breeds of cattle kept is indicated by the average number of townships per year reporting the designated breeds, i.e.:

Grade Cattle (198); "Durham" Shorthorn (149); Ayrshire (14); and other breeds of less frequent mention, i.e.: Devon; Galloway; Hereford; Jersey; Polled Angus.

Sheep - The breeds of sheep kept were recorded by townships for four years, 1884 to 1887. The average number of townships per year reporting the designated breeds is as follows:

Leicester (44); Cotswold (24); Southdown (23); and other breeds of less frequent mention, i.e.: Merino; Shropshire; and Unspecified.

Swine - The breeds of swine also were recorded for the four years 1884 to 1887. The average number of townships per year recording the designated breeds is as follows:

Berkshire (229); Suffolk (78); Poland China (8); Chester (5); and other breeds of less frequent mention, i.e.: Yorkshire; Jersey Red; and Hilda.

Although agriculture was expanding and developing during this period, and the Ministry of Agriculture progressed from the modesty of an embryonic commission within an embryonic administration to the dignity of a major department within an organized provincial government, nevertheless, the Ministry was, as yet, far from full development.

From the departmental publications and reports, it is evident that the Provincial Ministry of Agriculture was primarily concerned, at this time, with the general expansion of agriculture, and with recording the acreage and yield of field crops and the number and breeds of livestock; rather than with the direction of agriculture, and with investigating the suitability of the various varieties, the breeds of livestock, and the type of land use, to the areas under expanding settlement.

The field crop varieties and the specific breeds of livestock on Manitoba farms, as recorded in the crop bulletins of this period, therefore, may be considered as the end result of the mass influx of individual settlers and emigrant groups introducing seeds and livestock as settlers' effects from different sources of origin; than as the result of government directives and agricultural education, or as the enlargement of the pioneer agriculture formerly practised in the Red River Settlement.

(6) PUBLIC HEALTH ACTIVITIES TO 1889

Following the passage of the Act of 1883 (Vict. 46, Chap. 19, SM), which reorganized the Ministry of Agriculture, provincial activities in respect of Public Health were placed under the administration of the newly designated Department of Agriculture, Statistics and Health.

From 1870 to 1882, however, provincial grants to hospitals, health institutions, and financial charges in respect of public health, etc., were not

made through the Ministry of Agriculture but were charged directly to Government administration and appeared in the Public Accounts as "Charities", "Small-pox Account", or included under "Miscellaneous".

In 1870, when and while the government of Manitoba rested largely on the authority of the newly appointed Lieutenant-Governor A.G. Archibald, an expenditure of £155:12s:0d was made in connection with a Board of Health. Moreover, because of an epidemic of small-pox, a quarantine was imposed by the Lieutenant-Governor, and in this connection Lieutenant Butler* was sent from the Red River to investigate the small-pox scourge in the North-West Territories. Following the establishment of an elected Government of Manitoba in 1871, a "Small-pox Account" shows that the following sums were expended by the Manitoba Government in combatting small-pox, i.e.: in 1877 - \$1,683.73; in 1878 - \$5,390.38; in 1879 - \$2,160.49; in 1882 - \$2,374.15; and in 1883 a further sum of \$8,965.90. These expenditures were made before the Ministry of Agriculture was responsible for Public Health administration.

Grants by the Manitoba Government to hospitals, health institutions, etc. - prior to the reorganization of the Ministry of Agriculture in 1883 - are recorded as expenditures under "Charities" as follows:

to December 31st, 1873 (12 months)	-	\$1,000.00
to June 30th, 1874 (6 months)	-	No record
to June 30th, 1875 (12 months)	-	1,500.00
to December 31st, 1876 (18 months)	-	3,500.00
to December 31st, 1877 (12 months)	-	1,000.00
to December 31st, 1878	-	2,500.00
to December 31st, 1879	-	3,000.00
to December 31st, 1880	-	3,000.00
to December 31st, 1881	-	3,000.00
to December 31st, 1882	-	4,000.00

The two hospitals initially involved were the St. Boniface Hospital, inaugurated as a four-bed hospital on August 5th, 1871 and incorporated on May 3rd, 1872,** and the Winnipeg General Hospital, the contract for the erection of which was awarded in August, 1875.***

A further item listed as a Manitoba Government expenditure in respect of Public Health during the initial period was designated as "Lunatic Asylum". The years and amounts involved were recorded as follows: 1879 - \$1,972.67; 1880 - \$1,898.39; 1881 - \$1,807.41; and 1882 - \$2,493.94. In the last year of the initial period (1882) a sum of \$400.00 is also listed as paid to a Health Inspector.

With responsibility for Public Health delegated to the Ministry of Agriculture in 1883, provision was made for the appointment of a Provincial Health Superintendent as an officer of the Department of Agriculture,

* Later Lieutenant-General Sir William Butler.

** Four Grey Nuns Sisters arrived in St. Boniface in 1844 and carried on home nursing service prior to the inauguration of the St. Boniface Hospital - 50th Anniversary Pamphlet.

*** Begg, A. and Nursey, W.R. - "Ten Years in Winnipeg, 1870-1879", Page 120.

Statistics and Health, whose duties were defined in Vict. 46-47, Chap. 19, (SM), Part I, Section 7. (See Page 86). This Act also contained 41 sections in respect of Public Health as set forth in Part IX. (See Page 87).

In October of 1883 the Provincial Government decided to build a hospital for the insane at Selkirk,* and in the same year the Legislature voted the Department of Agriculture, Statistics and Health the sum of \$8,000.00 for the "Rockwood" asylum. In 1888 the supply voted to the Agricultural Department for maintenance, expenses, farm and livestock in connection with the Selkirk Mental Hospital was \$22,000.00, and for the year ending June 30th, 1889, a further sum of \$24,205.00 was allocated to the Agricultural Department for the same purpose. However, in the following fiscal year (i.e. at the close of the second period), the supply voted for maintenance of the Selkirk Mental Hospital was transferred to the Department of Public Works, and the Department of Agriculture, Statistics and Health was thus relieved of this specific responsibility.

During the second historic period, i.e. 1883 to 1889, the supply voted the Department of Agriculture, Statistics and Health, by the Legislature, and administered by the Ministry in connection with Public Health, involved expenses in respect of small-pox (i.e. \$10,000.00 in 1883 and \$2,500.00 in 1884) together with the annual supply for (a) Health Administration and (b) Grants to hospitals and public health organizations. The annual supply (exclusive of vote for small-pox) thus involved may be listed by years as: 1883 - \$9,200.00; 1884 - \$10,790.50; 1885 - \$5,610.86; 1886 - \$14,721.75; 1887 - \$13,379.13; 1888 - \$12,430.75; and 1889 - \$11,098.50.

The four health institutions that received grants in 1889 (i.e. the last year the Ministry was designated as a Department of Agriculture, Statistics and Health) were the Winnipeg General Hospital, the St. Boniface Hospital, the Children's Home, and the St. Boniface Orphanage.

A further statutory responsibility undertaken by the Ministry during this second historical period (1883 to 1889) was the gathering together of vital statistics from church records, etc., and the setting up of provincial records of births, marriages, and deaths, and subsequently kept up to date as the official vital statistics of the Province. (See Page 88).

* Seaman, H.S. - "Manitoba - Landmarks and Red Letter Days"; Winnipeg; 1920.

3. THE THIRD PERIOD - DEPARTMENT OF AGRICULTURE AND IMMIGRATION

The third historic period of the Provincial Ministry of Agriculture may be considered as coincident with the years during which it was designated as a Department of Agriculture and Immigration. The change in designation of the Department originated with an Act of the Legislature passed during the session of 1888, at which time the provincial fiscal year ended on June 30th. In 1889, however, the end of the fiscal year was changed to end on December 31st, so that the financial records for the fiscal year 1888-89, and the statistical records for the calendar year of 1889, were complicated by a financial fiscal year ending on June 30th and a financial fiscal period (of six months), together with a 12-month statistical year ending on December 31st. Hence, it is more convenient to date this third historic period as beginning with the 12-month fiscal year ending December 31st, 1890.

This third period consists of three significant sub-periods, namely:

- A. The Pre M.A.C. Sub-period - 1890 to 1905
- B. The M.A.C. Sub-period - 1906 to 1924
- C. The Post M.A.C. Sub-period - 1925 to 1959

A. THE PRE M.A.C. SUB-PERIOD, 1890 to 1905

(1) REVISION OF ACT RESPECTING THE MINISTRY OF AGRICULTURE

In 1890, a revised Act was passed respecting agriculture and immigration (Vict. 53, Chap. 28, SM). Section 3 of this Act provided that "all parts of the administration of the Province which relates to agriculture, immigration, statistics, and health, including hospitals, shall be under the control of the Department, which shall be administered by the Minister."

The duties of the Department were set forth in Section 8 as:

- (i) to institute inquiries and collect facts and statistics relating to agricultural, manufacturing, or other interests of the Province;
- (ii) to adopt measures for circulating and disseminating the same in such manner and form as may be found best adapted to promote the progress of the Province;
- (iii) to encourage immigration from other countries;
- (iv) to see to the observance and execution of certain provisions contained in the Consolidated Statutes, and of other Acts relating to agriculture, statistics and public health; and
- (v) to issue reports, publications and circulars, from time to time, as the Minister may deem advisable.

Section 5 of this Act provided that the Minister be ex-officio a member of:

- (i) the Board of Directors of Electoral Division Agricultural Societies; and
- (ii) the Board of Directors or Management of all Public Hospitals, and of any other societies which receive aid from the Province.

Section 9 made it obligatory for municipal councils, school boards, boards of trade, public institutions, railway, navigation and other companies, public officers, medical practitioners and veterinary surgeons, to supply certain statistical information to the Department.

Under Section 10, the Minister was required to organize Provincial Exhibitions. In addition, this Act contained some 22 sections relating to Electoral Division Agricultural Societies.

(2) FINANCIAL SUPPORT OF DEPARTMENT

In accordance with the Act of 1890 respecting Agriculture and Immigration, the duties of the Ministry of Agriculture, at that time, involved four main lines of endeavor, i.e.: Agriculture, Immigration, Statistics and Health. The support given by the Legislature to carry out the duties thus assigned to the Ministry is indicated by the supply voted for each of the years 1890 to 1905, included here as Table 12.

The relative amount voted by the Legislature for the respective items in the various years, however, does not necessarily reflect the relative interest or degree of activity on the part of the Ministry and staff. For example, one of the larger items of expenditure authorized was to provide grants to hospitals and charities, but the individual grants in this connection were conditioned by the activities of the grantees rather than by departmental initiative. Moreover, some of the lesser items of expenditure authorized (after initial organization as in the case of statistics) were somewhat of a routine nature.

The chief concern of the Ministry during the first portion of this sub-period appears to have been with immigration and the enlargement of agricultural settlement; whereas in the later portion of this sub-period the improvement and development of, and service to, agriculture became of increasing concern, and activities in this connection were undertaken as major responsibilities.

(3) IMMIGRATION ACTIVITIES – 1890 to 1905

By the beginning of the third historic period, Manitoba had already established an immigration office in Toronto, from which A.J. McMillan as "Emigration Commissioner", assisted by W.D. Scott, initiated and engaged actively in immigration work in Ontario, Quebec and the Maritimes (See Pages 92 - 93). Commencing with the last decade of the 19th century, the activities of the Department, however, in connection with immigration were greatly enlarged. In 1890, a Provincial Immigration Office was opened on Main Street, Winnipeg, with Alex Smith as Immigration Agent, and H. McKellar as assistant. This office carried out duties in connection with the reception of, and services to, immigrants as they arrived in Manitoba. This office was closed in 1894, but an immigration office was again opened in Winnipeg, in 1902, with J.J. Golden in charge.

In 1889, H.J. Borthwick had been sent to give lectures on Manitoba and to carry on temporary publicity work in northern England and southern Scotland, following which he recommended that an immigration office should be opened in Great Britain.

In October, 1890, the Provincial Minister of Agriculture and Immigration (Hon. T. Greenway) and the "Emigration Commissioner" went to Great Britain and, after investigation, an immigration office was opened in Liverpool, with A.J. McMillan in charge. W.D. Scott was then put in charge of the immigration work sponsored by the Province of Manitoba in Eastern Canada until, in 1899, he was succeeded by C.H. Jefferys, and in 1901 by James Hartney.

In 1893, S. Christopherson was engaged as Immigration Agent in Iceland.

In 1900, J.J. Golden was sent to Kansas City, Mo. to develop interest in emigration of farmers to Manitoba, and agents of the Province also were sent to the Dakotas and Minnesota in connection with immigration. In 1903, J.F. Tennant was appointed as Travelling Immigration Agent with an office in Gretna, Manitoba. His duties involved travelling in the Northern States along the Great Northern Railway to give information in respect of immigration into Manitoba, and to assist immigrants in passing through customs at Sprague, Emerson, Gretna, Morden, Crystal City, Mowbray, Killarney, Deloraine and Melita. In addition to encouraging new settlers to come to Manitoba, the activities of the immigration agents were responsible for the repatriation of numbers of Canadians who had first migrated from Eastern Canada to the United States.

Thus by the beginning of the first decade of the 20th century, the Provincial Government, through the Department of Agriculture and Immigration, had set up the machinery to carry on immigration activities:

- (i) in Great Britain and Europe through an office in Liverpool, England;
- (ii) in Eastern Canada and Eastern United States from an office in Toronto;
- (iii) in the Northwestern United States from an office in Gretna, Manitoba; and
- (iv) through a Winnipeg office to receive, advise, and render service to settlers as they arrived in Manitoba.

The immigration work carried on in Great Britain from the Liverpool office involved:

- (i) advertising in the leading agricultural papers;
- (ii) answering correspondence from Britain and Eastern Europe and giving information in respect of Manitoba;
- (iii) the preparation and distribution of literature and printed matter (for example, 88,000 copies of "The Manitoba Official Handbook" were issued from the Liverpool office in 1892, and 100,000 copies of a 16 page publication entitled "Manitoba: Opinions of Eminent Men, and Extracts from Reports of Farmer Delegates" were printed for distribution);
- (iv) the distribution and display of large posters;
- (v) the placing of literature describing Manitoba in libraries, in institutes, and in schools;

TABLE 12.

SUPPLY VOTED BY THE LEGISLATURE FOR DEPARTMENT OF
COLLEGE SUB-PERIOD, 1890 to 1905, AND SUPPLY VOTED FOR

	Legislative Session							
	1st of 7th Aug. 28 to Oct. 16, 1888	2nd of 7th Jan. 31 to Mar. 15, 1889	3rd of 7th Jan. 31 to Mar. 31, 1890	4th of 7th Feb. 26 to Apr. 18, 1891	5th of 7th Mar. 10 to Apr. 20, 1892	1st of 8th Feb. 2 to Mar. 11, 1893	2nd of 8th Jan. 11 to Mar. 2, 1894	3rd of 8th Feb. 14 to June 28, 1895
	Supply Voted for Year Ending							
	Dec. 31, 1889*	Dec. 31, 1890	Dec. 31, 1891	Dec. 31, 1892	Dec. 31, 1893	Dec. 31, 1894	Dec. 31, 1895	
<u>Agriculture</u>								
Salaries		5,400	\$ 5,400	\$ 5,500	\$ 5,700	\$ 5,800	\$ 5,800	\$ 5,800
Expenses (Printing & Stationery, etc.)		675	750	750	750	750	725	925
Agriculture		13,150	24,800	27,625	57,500**	28,850	17,400	34,060
Immigration		12,000	20,000	25,000	25,000	106,000	15,000	8,500
Noxious Weeds		200	250	500	1,000	1,000	1,000	1,000
Protection of Game		150	300	250	250	250	250	250
Grasshoppers		—	—	—	—	—	—	—
<u>Statistics</u>								
Agricultural		1,000	1,200	1,000	1,000	1,000	1,000	1,000
Vital Statistics		300	250	250	250	250	250	250
<u>Health</u>								
Marriage Licence Administration		1,300	100	100	—	—	50	50
Grants (Hospitals, Charities, etc.)		10,726	14,016	18,569	27,085	22,453	30,981	31,499
		44,901	67,066	79,544	118,535	166,353	72,456	83,334
Supply Voted for Administration and Maintenance of All Departments								9,245)
Supplementary Vote		463,864	36,575	46,374	93,800	—	—	13,410)
Supply Voted		581,486	736,571	726,233	787,628	1,047,526	711,619	796,275
Total		1,045,350	773,146	772,607	881,428	1,047,526	711,619	818,930
(including x for following year for January and February)			(50,000)	(50,000)	(50,000)	(80,000)	(80,000)	(80,000)

* See Table 10 for fiscal year ending June 30, 1889.

** Includes \$10,000 for agricultural college site.

AGRICULTURE AND IMMIGRATION DURING PRE MANITOBA AGRICULTURAL

ALL DEPARTMENTS FOR THE SAME PERIOD

Legislative Session									
1st of 9th Feb. 6 to Apr.16, 1896	2nd of 9th Feb.18 to Mar.30, 1897	3rd of 9th Mar.10 to Apr.27, 1898	4th of 9th Mar. 9 to July 21, 1899	1st of 10th Mar.29 to July 5, 1900	2nd of 10th Feb.21 to Mar.29, 1901	3rd of 10th Jan.10 to Mar. 1, 1902	4th of 10th Feb.12 to Mar. 18, 1903	1st of 11th Jan.7 to Feb. 8, 1904	2nd of 11th Dec.6, 1904 to Jan. 31, 1905
Supply Voted for Year Ending									
Dec.31, 1896	Dec.31, 1897	Dec.31, 1898	Dec.31, 1899	Dec.31, 1900	Dec.31, 1901	Dec.31, 1902	Dec.31, 1903	Dec.31, 1904	Dec.31, 1905
\$ 5,800	\$ 5,800	\$ 5,500	\$ 5,500	\$ 2,865	\$ 5,600	\$ 5,800	\$ 5,800	\$ 6,100	\$ 6,100
850	1,300	1,400	1,100	1,474	1,750	1,500	1,550	1,600	1,400
30,450	36,950	33,250	34,450	39,191	43,372	43,350	49,739	54,700	45,700
11,500	21,500	21,000	16,000	23,476	30,500	20,000	25,000	25,000	25,000
2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
500	1,200	1,500	2,000	2,042	2,100	2,100	2,250	2,350	3,500
-	-	-	-	10,000	-	-	-	1,500	500
1,000	1,200	1,200	1,500	1,530	1,500	1,500	1,500	1,500	1,600
250	400	400	400	954	800	1,000	1,200	1,300	2,000
50	50	50	50	75	75	75	75	75	100
<u>31,327</u>	<u>35,870</u>	<u>41,755</u>	<u>36,999</u>	<u>51,807</u>	<u>51,748</u>	<u>54,225</u>	<u>93,364</u>	<u>90,366</u>	<u>101,833</u>
83,727	106,270	108,055	99,999	135,414	139,445	131,550	182,478	186,491	189,733
	67,400	8,675		69,713	42,800	82,730	166,389	35,580	82,014
<u>732,685</u>	<u>812,331</u>	<u>882,990</u>	<u>1,024,373</u>	<u>1,284,530</u>	<u>1,141,612</u>	<u>1,388,869</u>	<u>1,564,053</u>	<u>1,814,160</u>	<u>2,019,902</u>
732,685	879,731	891,665	1,024,373	1,354,243	1,184,412	1,471,599	1,730,442	1,849,740	2,101,916
-(80,000)	-(100,000)	-(100,000)	-(100,000)	-(100,000)	-(100,000)	-(100,000)	-(200,000)	-(200,000)	-(200,000)

- (vi) the delivery of lectures, mainly at country points;
- (vii) the setting up of exhibits of Manitoba products at agricultural shows in Ireland, Scotland and England;
- (viii) drawing the attention of millers and grain dealers to Manitoba wheat;
- (ix) the exhibiting of Manitoba wheat (Red Fife, White Fife and Ladoga) at the Millers and Bakers Exhibition, at which the Red Fife weighing 65½ lbs per bushel was awarded the champion gold medal;
- (x) the sending of Manitoba grain to be exhibited at points in Iceland and Sweden;
- (xi) the rendering of assistance to Manitoba stockmen who visited Great Britain to purchase purebred livestock;
- (xii) the visiting of immigrants on steamers prior to their departure for Canada, etc.; and
- (xiii) co-operating with the High Commissioner for Canada and the staff of his London Office.

The immigration work carried on in Eastern Canada from the Manitoba immigration office in Toronto involved:

- (i) visiting farmers' meetings, auction sales, fairs and markets;
- (ii) advertising in newspapers;
- (iii) office consultations;
- (iv) displaying posters and lithographs in post offices, railway stations and hotels;
- (v) distribution of literature in the form of pamphlets, bulletins and maps;
- (vi) co-operating with Railway Company in railway excursions from Eastern Canada to Manitoba including:
 - farmers and land seekers excursions in June and in the autumn,
 - colonist trains, of settlers and settlers' effects, which ran weekly every Tuesday night from Toronto, during the period February 26 to April 30, and which carried a representative of Manitoba as immigration agent - (the initial rate on settlers' effects was \$110.00 per car, but by 1896 the rate was reduced to \$76.00 per car, including free transportation for one man in charge of livestock),
 - harvest excursion trains - (by 1902 the excursion rate for harvesters to come to any point in Manitoba was \$10.00, and \$18.00 return at the close of the season - in 1901 approximately 18,000 men came west on the harvester excursion trains);
- (vii) carrying on publicity work during visits made to the Maritimes;

- (viii) display of "The Manitoba Exhibit" of soil products (much of which in the earlier years was supplied by S.A. Bedford of the Brandon Experimental Farm) and samples of natural resources and manufactured products such as salt, building stone, bricks, beer, temperance drinks, etc. - (this exhibit was shown at the Toronto Industrial Exhibition - in 1890, it was awarded a silver medal and a diploma. It was supplemented by other exhibits sent directly from Winnipeg to local fairs. Thus, in 1890, for example, Manitoba exhibits were shown at 110 fairs in Ontario and Quebec, and one in St. John, New Brunswick. In 1891, and subsequently, the Manitoba Exhibit was set up in a building erected by the C.P.R. to house exhibits from Manitoba and the North-West Territories.);
- (ix) sending a portion of the St. John exhibit, comprising threshed grain and sheaves, to Jamaica - (this exhibit was supplemented by a quantity of flour for the purpose of being made into bread from time to time during the progress of the Jamaica Exhibition);
- (x) arranging for a Manitoba exhibit, including flour, to be sent to Trinidad;
- (xi) disposal of the various exhibits from Manitoba at the close of the Canadian fairs and using selected materials to decorate the Toronto immigration office, to supply the Liverpool office with an exhibit, and to furnish the C.P.R. with material for their offices in Canada and Europe. Some exhibit materials were supplied to the Permanent Exhibition of Manufacturers, Toronto; to the Model School, Kingston; to Rochester, N.Y. for permanent display; and to a number of churches in Toronto and vicinity for harvest festivals.

These various and extensive immigration activities were carried out throughout the first sub-period of the third historic period, i.e. 1890 to 1905, and required the services not only of full time immigration agents whose names appear in departmental records, such as A.J. McMillan; W.D. Scott; H.J. Borthwick, with the assistance of Rev. Father Beaudry; Alex Smith; H. McKellar; R. Nelson; C.H. Jefferys; J.J. Golden; James Hartney; and J.F. Tennant, but also a host of unnamed temporary agents from Manitoba who assisted with the exhibits and other activities at the fairs in Eastern Canada, in reference to which A.J. McMillan reported in 1890 that "a number of fairs run concurrently" and "for several weeks we were exhibiting at as many as nineteen fairs per day." At various times also, Manitoba farmers were sent as speakers on lecture tours to Great Britain or as assistants to the agent in the Liverpool office.

(4) AGRICULTURAL SOCIETIES AND FARMERS' INSTITUTES

During the Pre M.A.C. Sub-Period of the Department of Agriculture and Immigration, grants to agricultural societies - initially the chief endeavor of the Ministry of Agriculture - were continued as an important activity of the Department in the years 1890 to 1905, increasing in total amount as agricultural societies increased in number by about 25 percent.

In former years the grants were given to Electoral Division Agricultural Societies; however, as settlement developed, additional agricultural societies were formed and given similar assistance, but were designated by a local district name instead of by the name of an electoral division (i.e. -- Agricultural Society; and -- E.D. Agricultural Society).

The objects of agricultural societies were outlined in the reorganization Act of 1890 (Vict. 53, Chap. 28, SM) as:

to promote the progress of agriculture

- (i) by holding exhibitions and awarding prizes for livestock, agricultural and horticultural products, implements and machinery;
- (ii) by awarding prizes for excellence in agricultural products or operations;
- (iii) by importing or otherwise procuring seeds, plants, and pedigree animals of new and valuable kinds;
- (iv) by offering bonuses for introduction of same;
- (v) by offering prizes for essays on questions relating to agriculture, arboriculture and horticulture;
- (vi) by promoting the circulating of agricultural and horticultural publications; and
- (vii) by holding meetings for discussion, and securing the delivery of lectures on subjects connected with agriculture and horticulture.

In addition to the agricultural societies, two horticultural societies were formed during the 1890 to 1905 sub-period: one in 1898 and one in 1902. In 1902 the Act incorporating The Western Horticultural Society (1-2 Edw. VII, Chap. 56, SM) contained a section which provided that "The Society is hereby declared to be an Agricultural Society within the meaning of The Agricultural Societies Act." Consequently, these societies received grants from the Department of Agriculture and Immigration on the same basis as the agricultural societies.

It would appear however that, in practice, the chief activity of the respective agricultural societies, at the beginning of this sub-period, centered mainly around the holding of agricultural fairs; and also that the Ministry of Agriculture was now beginning to recognize the need of agricultural education, because at this time the establishment of Farmers' Institutes was initiated as a means of encouraging farmer groups to take more definite action in respect of farmer education.

Thus, in 1890, The Farmers' Institute Act (Vict. 53, Chap. 35, SM) was passed under which the Minister of Agriculture and Immigration - on petition by at least 25 persons - was empowered to authorize the petitioners to form a farmers' institute.

The objects of these institutes as set forth in the Act were aimed at improving agricultural practices by:

- (i) holding meetings for the discussion of and hearing addresses on subjects connected with the theory and practice of improved husbandry and other industrial purposes;

- (ii) promoting the circulation of agricultural, horticultural, arboricultural and mechanical periodicals;
- (iii) importing and otherwise procuring seeds, plants, and animals of new and valuable kinds; and
- (iv) offering prizes for essays on questions of scientific enquiry relating to agriculture, horticulture, arboriculture, manufactures and the useful arts.

The Ministry of Agriculture undertook assistance to farmers' institutes by providing speakers, by giving grants of 50 cents per paid-up member, and by authorizing municipalities, under the Act, to make grants to the local institutes.

In the report of the Minister of Agriculture and Immigration to the Lieutenant-Governor for the year 1891, it is recorded that "Farmers in many parts of the Province have availed themselves of the assistance to Farmers' Institutes to organize for mutual improvement. Interesting meetings have been held wherever organization has been perfected, and the interchange of ideas has proved highly beneficial. There are at present organized, and being organized, twenty-four farmers' institutes in the Province." This number was increased in the next few years.

This movement involved both local institutes and a Central Farmers' Institute. The Annual Report of the Department of Agriculture and Immigration for 1893* records that

"The Central Farmers' Institute composed of representatives from all local institutes, has a board of directors that arranges for speakers at local institutes, as well as for the Annual Meeting.

"A special bulletin No. 41, prepared by the Central Institute and issued by this Department, gives much valuable information including the 'Act respecting Farmers' Institutes' and a full report of the business transacted at the annual meeting, as well as copies of all essays and addresses delivered at the convention."

The Department report for the year 1894 refers to the third annual meeting of the Central Institute. It is thus apparent that the first annual convention of the Central Institute was held in 1892. Furthermore, the Department report for 1896 records

"The Annual Central Institute Convention was again held in Brandon on the 14th, 15th, and 16th day of July. . . . All these addresses and papers, with the discussions thereon, and a record of the proceedings of the convention, have been compiled and published as 'The Manitoba Central Farmers' Institute Fifth Annual Report', and freely distributed among Agriculturalists."

The annual report for the year 1896 also records that the speakers were usually sent in pairs to lecture at local institutes, and insofar as possible, each institute was supplied with lecturers twice a year, i.e. in June-July, and in the winter months December-March.

* Sessional Papers No. 17, 1894.

The 1899 report of the Department records that

“The institutes are now organized on a permanent basis”, and that “the addresses of the various speakers have been published in pamphlet form, together with the reports of the Pure-Bred Stock Breeders’ Association and the Manitoba Dairy Association.”

The move to establish farmers’ institutes led ultimately to the amalgamation of farmers’ institutes and agricultural societies. The annual report of the Ministry of Agriculture for 1900 records that

“Institute work has been greatly extended during the year. Agricultural Societies and Farmers’ Institutes, where each existed in the past, have amalgamated, and all Agricultural Societies now take up Institute work as part of the regular work of the society. The change has met with approval by Agricultural Societies. There are now over sixty locations or centres in the Province at which farmers meet to discuss practical questions relating to agriculture. Experienced, successful farmers have been sent out by the Department during the year to address these meetings. . . . A number of new institutes will likely be organized during the coming season and special attention be devoted to outlying districts, where there are no Agricultural Societies, especially east of Red River and in the Icelandic settlements on the shores of Lake Winnipeg and Lake Manitoba.”

That the wedding of agricultural societies and farmers’ institutes was inevitable, is obvious. An Act of 1900 (Vict. 63-64, Chap. 2, SM) to further amend “An Act respecting Agricultural Societies” provided that

“From and after the year 1900, the sum of Fifty Dollars of the grant or apportionment provided to be paid to each society . . . shall be withheld by the Minister from those societies not engaging in Farmers’ Institute work.”

Moreover, although this Act still permitted the formation of farmers’ institutes, other than agricultural societies on the recommendation of the Minister of Agriculture and Immigration, the Lieutenant-Governor-in-Council was authorized to make and adopt rules and regulations for such institutes; and by Section 4 of this Act, The Farmers’ Institute Act was repealed.

It may be of interest to note that the lecturers secured for farmers’ institute meetings during this sub-period included a diversity of personnel such as:

Manitoba Department of Agriculture officials, i.e.

Provincial Veterinarian, Dairy Superintendent, Weed Inspector, Immigration Agents, and Chief Clerk of the Department;

Dominion Department of Agriculture officers, i.e.

Dominion Dairy Commissioner; Botanist and Entomologist, Central Experimental Farm, Ottawa; and the Superintendent, Brandon Experimental Farm;

Institute workers from Province of Ontario and staff members of the Agricultural College at Guelph;

Educators (Botanists) from St. Johns College and the Normal School; Officers of Pure-Bred Livestock Association and of the Central Institute; and

Outstanding Manitoba farmers and horticulturists.

The growth of agricultural societies and farmers' institutes during the 1890-1905 sub-period is indicated by the annual supply voted by the Legislature for their support. In 1890 the supply voted for agricultural societies was \$12,000 and for farmers' institutes \$1,000, or a total of \$13,000. For 1899 the vote was \$14,500 for agricultural societies and \$2,000 for the institutes, or a total of \$16,500. The supply voted for the two organizations in subsequent years was expressed as a single item, which in 1905 amounted to \$19,800. Thus the figure of \$19,800 for 1905 compared with that of \$13,000 in 1890, indicates an overall increase of approximately 52 percent over this 16-year sub-period.

Industrial, Agricultural and Arts Associations - A movement to form associations for the purpose of holding larger fairs and exhibitions than those held by the electoral district and local agricultural societies was initiated by interested parties during the 1890-1905 sub-period. As early as 1890, the sum of \$7,500 for the Winnipeg Industrial Exhibition, and a further sum of \$300 for fair grounds, were included in the budget of the Department of Agriculture and Immigration; followed by an Act respecting "The Winnipeg Industrial Exhibition" which was passed in 1891 (Vict. 54, Chap. 32, SM).

This was followed in 1892 by an Act incorporating the Western Agricultural and Arts Association (Vict. 55, Chap. 55, SM). This Act was petitioned by:

Henry Nichols - Farmer - Elton
Thomas M. Percival - Farmer - Cornwallis
James M. Roddick - Farmer - Cornwallis
Thomas Harkness - Stock Dealer - Brandon
Spencer A. Bedford - Farm Manager -
Experimental Farm, Brandon
Andrew Kelly - Miller - Brandon
Donald McG. Stewart - Merchant - Brandon
William Johnston - Agent - Brandon
Kenneth Campbell - Grain Dealer - Brandon

These petitioners were designated as a Provisional Board of Governors. The objects of this association were stated as:

the organizing, establishing and holding an annual Agricultural, Industrial and Arts Exhibition at the City of Brandon and for other purposes.

The initial capital stock was stated as \$10,000, or 1,000 shares of \$10.00 each.

The Act further provided (by Section 9) that "Every municipality of Manitoba which grants a sum of money not less than \$400 in any year towards the funds of the said association shall be entitled to appoint one Director to the Board of Governors (by the municipality he represents)"; and "The Pure-Bred Cattle Breeders' Association of Manitoba and the North West Territories, The Southern Manitoba Poultry Association, The Manitoba Dairy Association, The Brandon Turf Club, The Manitoba Field Trials Club, and each and every other society which the Board of Directors may admit by

by-law passed for that purpose, shall at all times be entitled to appoint one Director each to the said Board of Governors.”

Thus was born what in time became the Provincial Agricultural Exhibition, held at Brandon; and from 1897 onward the Department of Agriculture and Immigration gave this association active support.

The Portage la Prairie Agricultural Society was given a contribution of \$2,000 to a building fund in 1901, and a grant of from \$500 to \$1,000 per year during the last four years of this sub-period. The exhibition held by this society eventually became one of the “B” Class Agricultural Fairs.

Two other Agricultural and Arts Associations were established, i.e., The Southern Manitoba Agricultural and Arts Association at Killarney, and the North-Western Agricultural and Arts Association at Neepawa. These two associations first received grants of \$3,000 and \$2,000 respectively from the Department’s supplementary vote in 1903, followed by substantial grants in subsequent years.

(5) AID TO LIVESTOCK ASSOCIATIONS

Although the Manitoba Dairy Association was established in 1886, by provincial statute, to encourage and stimulate interest in the dairy industry (Page 88), it was not until the 1890-1905 sub-period that specific groups of stockmen in Manitoba organized as livestock associations to which, commencing at various times, financial aid was extended by the Department of Agriculture and Immigration.

In this connection, the records available indicate a somewhat earlier interest, by the Department, in dairying and poultry production, whereas active interest in, and support of, pure-bred farm livestock associations appear to have been delayed until some years after they had been formed by interested stockmen.

Despite the fact that the Manitoba Dairy Association was established in 1886, it was not, apparently, until 1893 that the supply vote for the Ministry of Agriculture included financial aid to this association. This was followed by an early interest on the part of the Department in poultry production, as shown by a grant to the Manitoba Poultry Association in 1894 and by a comment in the report of the Minister of Agriculture in the same year which records that

“The interests which this (Poultry) Association represents have a direct bearing on one of our industries that has been too much neglected in the past. . . . The Province has commenced to market large quantities of poultry, but is met with a superior article, mature and well-developed birds, well-fattened and specially dressed from the Eastern Provinces. The efforts of the Poultry Association are in the right direction. Soon we shall not only be able to supply our own markets with prime birds, but we shall export to eastern and western markets.”

Early records of the pure-bred farm livestock associations - which were formed or reorganized by Manitoba stockmen at various times - do not appear in the annual reports of the Ministry of Agriculture, but the year in which each association was initiated can be determined by reference to the annual report of the livestock associations, submitted to the Minister of

Agriculture, in 1905, by the General Secretary, G.H. Greig, who records the annual meetings in that year as:

- the 19th annual meeting of the Dairy Association;
- the 15th annual meeting of the Horse Breeders' Association;
- the 14th annual meeting of the Cattle Breeders' Association; and
- the 11th annual meeting of the Sheep and Swine Breeders' Association.

Thus the chronology and year of initiation of these respective associations can be determined as shown in Table 13.

The years in which the Department began and continued to grant financial support to the livestock associations are indicated by the amounts which appear annually in the supply vote of the Department of Agriculture and Immigration. These years and amounts of financial aid are included for comparison in Table 13.

TABLE 13. ANNUAL GRANTS TO AGRICULTURAL ASSOCIATIONS LISTED IN SUPPLY VOTES OF THE MINISTRY OF AGRICULTURE IN PRE M.A.C. SUB-PERIOD 1890 to 1905

	Farmer's Institutes	Manitoba Dairy Assoc.	Manitoba Poultry Assoc.	Stock-Breeder's Assoc.	Horse Breeder's Assoc.	Pure-Bred Cattle Breeder's Assoc.	Sheep & Swine Breeder's Assoc.	Beekeeper's Assoc.
	\$	\$	\$	\$	\$	\$	\$	\$
1890	1000							
1891	1500							
1892	1500							
1893	1200	100						
1894	1500	100	300					
1895	2000	100	300					
1896	2000	400	300	300				
1897	2000	200	350	300				
1898	2000		350	300				
1899	2000	200	350	400				
1900		200	350		200	200	200	
1901	amalgamated with agricultural societies	200	350	discontinued	200	200	200	
1902		200	500		200	200	200	
1903		200	200		200	200	200	
1904		200	300		200	200	200	100
1905		200	200		200	200	200	100

Prior to 1899, the annual reports of the Dairy Association were distributed by the Department of Agriculture and Immigration, whereas the annual reports of the livestock associations, up to this time, were apparently the responsibility of the Pure-Bred Stock Breeders' Association. However, the report of Geo. H. Greig, Secretary of the Pure-Bred Stock Breeders' and the Sheep and Swine Breeders' Association, to the Minister of Agriculture for the year 1899, records that

"The annual meetings were held in the City Hall, Winnipeg, February 7th and 8th, 1899. In addition to the election of officers, representatives to fair boards and regular business, an interesting program of practical addresses was presented, which addresses, together with the discussions that followed, appear in full in the fifth annual report of the associations. This report was published by your Department in conjunction with the reports of the Farmers' Institutes and the Dairy Association. I have distributed over one thousand copies of this report to the breeders of pure-bred cattle, sheep and swine in Manitoba and the North-West Territories."

The report of the Manitoba Dairy Association submitted by the Secretary, E. Cora Hind, to the Minister of Agriculture for the year 1899 also records that

"The delegates who waited upon your Department, with regard to local meetings, also suggested that for the future the annual meetings of the various associations be printed in one volume. This suggestion being adopted, the annual reports were somewhat later coming out than usual. The entire expense of printing was borne by the Department, and the establishment of this rule is valuable, as the reports are more likely to be preserved, the cost of printing is materially reduced, and there is no waste of time and wrappers sending to the same parties again and again."

During the 1890-1905 sub-period, when the various livestock associations came into being, the Dairy Association held its annual meetings in the City Hall, Winnipeg, generally around the end of January or the beginning of February. The Poultry Association also held its annual meetings in Winnipeg, usually in the month of July, and held its annual poultry exhibition, which, in the month of March, 1896, was housed in the Lyceum Theatre. However, in 1901, the poultry show was held in Brandon on January 29th to February 1st, and was recorded as a successful venture.

The Central Farmers' Institute meetings, on the other hand, were invariably held in Brandon during the month of July; but were discontinued when The Farmers' Institute Act was repealed in 1900.

The annual meetings of the livestock associations, during this sub-period, were held in Winnipeg, generally at the City Hall and in the mid-winter season. The Secretary of the Pure-Bred Cattle Breeders' and Sheep and Swine Breeders' Association refers to his report of 1899 as "the fifth annual report of the associations", hence it is logical to assume that the first joint annual meeting of the Horse Breeders', the Pure-Bred Cattle Breeders', and the Sheep and Swine Breeders' Associations was held in 1895. In 1904, two joint evening sessions of the livestock associations were held in Wesley College Convocation Hall, and "taking advantage of the large number of agriculturalists from all parts of the Province, a meeting was held of representatives of agricultural societies." It is also recorded in the 1904 report of the livestock associations that stock-judging classes were held on

the ground floor of the Cockshutt Plow Company's warerooms on Princess Street, where a judging arena was arranged with seating accommodation for 300, which proved to be somewhat inadequate for the attendance.

At this convention the stock-judging classes were conducted by J.H. Gridale, Experimental Farm, Ottawa; W.S. Spark, Canterbury, England; and A.P. Ketchem of the Livestock Commissioner's staff, and the convention lecturers at the joint evening sessions were Hon. William Elliott, Commissioner of Agriculture for the Territories; J.A.M. Aikins, K.C.; Superintendent S.A. Bedford, Brandon; George H. Clark, B.S.A., Ottawa; and Dr. A.G. Hopkins, Winnipeg. Also at this convention, the visiting stockmen were tendered a banquet by the City of Winnipeg presided over by Mayor Sharp.

At the 1905 convention of the livestock associations, stock-judging classes were continued, and a meat cutting demonstration was an added feature under the supervision of Professor Ross, University of Minnesota. Meetings were again held at Brandon and Neepawa in co-operation with the agricultural societies which were in the nature of livestock judging schools.

At Brandon and Neepawa, livestock judging institutes were also held in 1904, each lasting two days, with public meetings in the evening. The local associations at Brandon provided the place of meeting and found suitable stock; at Neepawa, the meetings were held in conjunction with the winter fair held by the agricultural society - the first winter fair held in the Province.

In 1905, the first provincial auction sale of pure-bred cattle was held at the C.P.R. pavilion, Winnipeg, under the direction of the Cattle Breeders' Association, which was reported to have been a decided success. In addition, six car-loads of pure-bred stock were shipped and exhibited at the Dominion Fair held in September at New Westminster, B.C.

These endeavors by the livestock associations, with the blessing and support of the Department of Agriculture and Immigration, indicate the interest in agricultural education that was becoming evident towards the close of the 1890-1905 sub-period.

(6) SPECIFIC DEPARTMENTAL ACTIVITIES, 1890 to 1905

The foregoing activities of the Department of Agriculture and Immigration in connection with the livestock associations and farmers' institutes primarily involved financial grants and general assistance to, or encouragement of, farmer-stockmen organizations that were administered and controlled by directorates independently elected by the members of the respective associations.

During the 1890-1905 sub-period, however, (and in addition to routine departmental duties), services to agriculture were greatly enlarged, educational programs were initiated to cope with agricultural problems, and the Ministry of Agriculture became more and more involved in activities that were carried out as direct responsibilities of the Department.

Thus, in addition to supporting various agricultural organizations by grants, and carrying on routine activities - such as compiling official agricultural and vital statistics and, subsequent to 1903, performing the

additional duty of recording cattle brands and issuing brand certificates annually as required under the amended Cattle Brand Act* - the Department found it necessary to create new positions and to appoint administrative officials in connection with specific undertakings which the Ministry at this time assumed for the improvement, development and regulation of provincial agriculture.

The new positions created and the departmental officers appointed during this sub-period to carry out specific undertakings included:

- (a) a Provincial Veterinarian in 1893;
- (b) a Provincial Dairy Superintendent in 1895;
- (c) a Provincial Bacteriologist in 1896;
- (d) a Provincial Noxious Weeds Inspector in 1898; and
- (e) a Provincial Game Guardian in 1902.

These appointments may be considered as the first step toward the establishment of specific branches within the Department.

(a) Provincial Veterinarian

The first of these appointments resulted from departmental concern with diseases of animals. As early as 1880, an Act was passed (Vict. 42-43, Chap. 30, SM) providing for the appointment of a veterinary surgeon (temporary) to examine and report on the state and conditions of domestic animals. This was followed, in 1881, by an Act (Vict. 44, Chap. 18, SM) authorizing the formation of a Veterinary Association, and in 1883, the Act reorganizing the Ministry as a Department of Agriculture, Statistics and Health (Vict. 46, Chap. 19, SM) contained 25 sections relating to diseases of animals. In Part VII of this Act, regulations were outlined in respect of the appointment of veterinarians; disposal of dead animals; procedures in the case of disease affected premises; disinfection of vessels and cars used in livestock transit; quarantine, etc.

In 1890 The Veterinary Associations Act (Vict. 53, Chap. 60, SM) was passed, and in 1893 an Act to amend The Animal Diseases Act (Vict. 56, Chap. 1, SM) provided that:

“The Lieutenant-Governor may also appoint from among the Veterinary Surgeons qualified to practice in the Province one person who shall be known as ‘Provincial Veterinarian’. The Provincial Veterinarian shall have in every part of the Province all the powers which any District Veterinarian might have under this Act in the District for which such District Veterinarian acts.”

The first Provincial Veterinarian appointed under this Act was Dr. S.J. Thompson, V.S., whose first annual report was submitted to the Minister and included in the annual report of the Department for the year ending December 31st, 1893. On the retirement of Dr. Thompson, on January 14th, 1904, Dr. H.D. Smith, Winnipeg, became consulting Veterinary Surgeon.

* See (iv) on Page 70 of this treatise,

The annual reports of the Provincial Veterinarian during this time record the occurrence of, and the difficulty in controlling, Glanders in horses due to the great "increase in traffic of ranch-bred horses", and to the "large numbers of stock imported by incoming settlers, more especially from south of the line."

A vigorous campaign was waged against this disease by the Provincial Veterinarian with the co-operation of District Veterinarians. Mallein was used to test for Glanders, and the horses which reacted were destroyed and disposed of in accordance with statutory procedure. The departmental reports show the number of affected horses destroyed during the years 1893 to 1904 to have been as follows:

1893 - 122	1897 - 62	1901 - 60
1894 - 94	1898 - 120	1902 - 50
1895 - 42	1899 - 150	1903 - 60
1896 - 80	1900 - 90	1904 - 160

Dr. Thompson predicted that Glanders in horses on Manitoba farms could be eliminated if it were not for the traffic in ranch-bred stock. Consequently, compulsory veterinary inspection of horses brought into Manitoba was put into effect in 1899 and, in the course of time, with continuation of control measures, Glanders ceased to be a problem on Manitoba farms.

The earlier annual reports of the Provincial Veterinarian record the occurrence of Black-Leg or Anthrax and of Tuberculosis in cattle; and also of Scab in sheep. Later reports indicate that Black-Leg in cattle and Scab in sheep had been brought under control.

Swine were generally recorded in the annual reports as being more or less free from infectious diseases, except for an outbreak of Hog Cholera at Carman in 1899 and at Treherne in 1900. These outbreaks were quickly eliminated by prompt action.

Thus the fact that outbreaks of communicable diseases of farm livestock were kept from becoming widespread epidemics during the large importation of settlers' effects and farm livestock characteristic of this sub-period, can be attributed to the services provided by the Department of Agriculture and Immigration, and to the efforts put forth by the Provincial Veterinarian with the co-operation of the District Veterinarians and the individual livestock owners involved.

(b) Provincial Dairy Superintendent

The appointment of a Provincial Dairy Superintendent in 1895 appears to have been the natural outcome of a general interest in dairying both on the part of the Department and of a large number of immigrant farm settlers, some of whom had been patrons of cheese factories in Eastern Canada, and many of whom were accustomed to trading farm dairy products for goods and groceries at "the country store."

Prior to the 1890-1905 sub-period, The Manitoba Dairy Act was passed (Vict. 48, Chap. 12, SM) containing regulations for the manufacture of butter and cheese, and providing penalties for selling adulterated or diluted

milk. In the following year, 1886, the Manitoba Dairy Association was organized and incorporated, and in 1889 an Act was passed for the incorporation of cheese and butter-making associations (Vict. 52, Chap. 32, SM).

The sessional report of the Minister of Agriculture for the year 1890 records that

"Although there are quite a number of cheese factories and creameries in operation at different points there is not yet the number that is required. . . . Where cheese factories and creameries are in operation they are appreciated, and are spoken of as doing well, but unfortunately the number in operation is not equal to that which the Province demands." (Sessional Papers No. 38, 1891);

and again in the Minister's report for the year 1891, it is stated:

"Farm dairying had been fairly successful this year, but co-operative dairying has not made as great progress as is desirable. The chief difficulty is the distance necessary to haul milk and cream . . . All reports indicate that dairying will in the near future, become one of the most important industries in the Province." (Sessional Papers No. 18, 1892).

However, the Minister's report for 1892 is more pessimistic as it states:

"The milk products in Manitoba are already more than the Province consumes, and to secure a market, butter and cheese of a superior quality must be produced. There is no reason why the butter and cheese manufactured in Manitoba should not have like our wheat a name special for itself." (Sessional Papers No. 18, 1893);

but again, in the Minister's report for 1894, it is recorded:

"By the introduction of creameries, much labor on farms is saved, and better returns realized in cash, instead of in trade. The export of butter will be an important item with us in the near future. It is necessary, therefore, that we start right, establishing a high standard of quality, and maintaining it, so that markets once gained, may be retained. The manufacture of butter in creameries, is the only way of producing a uniform quality of high standard." (Sessional Papers No. 26, 1895).

In 1895 an Act was passed (Vict. 58-59, Chap. 7, SM) enabling the Minister of Agriculture and Immigration to make payments as loans - out of funds provided by the Legislature - in aid of creameries and cheese factories, to be secured by mortgage upon machinery and plant.

On May 17th, 1895, C.C. MacDonald commenced his duties as the first Provincial Dairy Superintendent. His initial task was to visit and inspect the different cheese factories and creameries which had applied for a Government loan. After completing his inspection and recommending 17 out of the 18 applications for a loan, he proceeded to British Columbia for the purpose of studying the requirements of the markets of that province for Manitoba dairy produce. A report of this visit was published and 5,000 copies distributed to the public. The Provincial Dairy Superintendent then initiated an active program of extension work including addresses to farmers' institutes; conducting milk tests of dairy cows competing for prizes in milking tests at the Winnipeg Industrial Exhibition; visiting cheese factories and creameries to give practical instruction to the cheese makers and butter makers; and in writing bulletins on the production of cream on the farm, and on the care of milk for cheese factories.

The Provincial Dairy Superintendent's report to the Minister for 1895 contained data showing that "52 cheese factories now in Manitoba had an output for the year of 1,553,192 pounds of cheese", and "19 creameries had an output of 529,812 pounds of butter", followed by the statement:

"These figures can be, and should be, enlarged at least three-fold. There is no reason in the world why the factories in Manitoba should not pay even better returns to the farmers than the Ontario factories do. It rests with the farmers alone of this Province whether they make dairying pay well or only half pay. They must feed better, breed better and care better for their dairy cows if they expect them to contribute wealth to the Province and to their pockets";

and further,

"That dairying in Manitoba can be a thorough success is proven by the fact that the butter manufactured in the creameries last year that found its way into the Eastern and English markets, was found to be of excellent quality, and reports sent to me personally from exporters in Montreal, go to show that the butter was equal to, and in some cases superior, to any that was manufactured in the Dominion of Canada. The cheese in some cases was found to be of an excellent quality, but there is spacious room for improvement. Where there was faulty cheese made it was due in some cases to lack of knowledge on the part of the cheese maker, and in some cases to neglect and carelessness, pure and simple; but these are matters that can and will be remedied in the near future."

To C.C. MacDonald, the first Provincial Dairy Superintendent, and the Ministry which supported him, should go credit for recognizing an agricultural need, and for undertaking an educational program to meet it. A Dairy School was fitted up in a building on Bannatyne Street, Winnipeg, and equipped with the latest improved model machinery for butter-making, cheese-making and milk-testing. The first Dairy School was opened in January, 1896, and kept open that year for four months, i.e. January, February, March and April. The first two courses (January 6th to January 27th and February 2nd to February 25th) were designed as butter and cheese makers courses, after which examinations were held; 32 students entered and 20 students wrote the examinations. On March 1st, a Farm Dairy Course was opened for which there were 132 applications but, due to limited space, only 97 applicants were accepted.

In 1898, the Dairy School was moved to Thistle Street, Winnipeg, where the Farm Dairy Course was conducted in January with eleven students in attendance; twenty-one students attended the professional school in February; and seventeen students attended the second professional course in March. It is noteworthy that Robert (Bobby) Maxwell Moore, who later became a well-known citizen of Winnipeg, attended the professional butter and cheese makers courses in February and March of that year, and that after the two monthly examinations he stood 6th and 1st respectively. (Sessional Papers No. 11, 1899).

The educational and extension programs initiated by C.C. MacDonald as branch activities within the Ministry of Agriculture were carried on and enlarged until and including the year 1905. During these years the projects undertaken in addition to the Dairy School included visits to all creameries in the Province; the conducting of cheese making schools in local districts; judging dairy products and milk-cow competitions at agricultural fairs;

holding butter making competitions; and visiting and giving lectures at farmers' institute meetings. In 1899, as directed by the Minister, C.C. MacDonald made the Provincial cheese at the Ste. Anne cheese factory which was sent to the Paris Exposition.

Regulatory action was taken with the passing of The Butter and Cheese Brand Act of 1901 (1 Edw. VII, Chap. 85, SM) in respect of the branding and sale of dairy products. Under this Act, brands of creamery butter were required to be registered with the Department of Agriculture and Immigration. All packages of butter manufactured and shipped from each specific creamery were required, by this Act, to show the name and address of the creamery, the words "Creamery Butter", and the number of the stencil as furnished by the Department.

Also in 1901, The Milk and Cream Act, respecting the sale of dairy products (1 Edw. VII, Chap. 21, SM) was passed, which required that milk for sale must have not less than 11½ percent of total solids, or 8½ percent of solids not fat, or less than 3 percent butter fat; and cream was required to contain not less than 15 percent of butter fat. The Superintendent of the Dairy Branch was authorized to institute prosecution for violation of this Act.

In October, 1899, C.C. MacDonald ended his connection with the Department, and from 1900 to 1903, the reports of the Provincial Dairy Superintendent were submitted by C.A. Murray, who records the names of the Dairy School instructors in 1900 as Fred Lutley - butter making, J.R. Nesbitt - milk testing, J.D. Moran - cheese making; and in 1901 as Fred Lutley - butter making, C. Wheatland - milk testing, J.R. Cote - cheese making, and Miss Emma McNiven - home dairying. In 1903 "the regularly appointed instructors carried on instruction work in the factories as well as in the Dairy School", and in 1904 and 1905 the branch reports to the Minister took the form of separate submissions from Fred Lutley as Superintendent of Creameries, and J.R. Cote as Superintendent of Cheese Factories.

In respect of the educational activities of the Dairy Branch, it is of interest to note that in his report of 1904, Fred Lutley stated, "I drew up several plans for the dairy building for the agricultural college", and in the report for 1905 he stated, "Circulars of information on the courses in dairying, with application form for the season of 1906, have been sent to the butter and cheese makers in the Province of Manitoba, beginning on February 6th, at the Manitoba Agricultural College."

(c) Provincial Bacteriologist

In 1893 The Public Health Act (Vict. 56, Chap. 28, SM) provided that there shall be a Provincial Board of Health of not more than seven members appointed by the Lieutenant-Governor-in-Council for a period of one year, three members to be medical practitioners and one member to be a veterinary surgeon. This Act was amended in 1894 (Vict. 57, Chap. 27, SM) whereby the Board of Health was changed from seven to five members, and of which four instead of three members were to be medical practitioners. Two years later, 1896, The Public Health Act was amended (Vict. 59, Chap.

22, SM). Section 1 of this amendment authorized that a suitable and competent person be appointed Provincial Bacteriologist to be under the Board of Health and to perform such duties as may be assigned by the Lieutenant-Governor-in-Council or by the Board.

In the annual report of the Ministry of Agriculture for the year 1900 (Sessional Papers No. 2, 1901), Gordon Bell, Bacteriological Branch, Provincial Board of Health, submitted the results of an experiment which he was carrying out with a fungus - obtained from locusts in South Africa - in an attempt to control grasshoppers in Manitoba. The report indicated that the fungus, said to be a very efficient means of combatting the locust plague in South Africa, did not appear to be of much use under the climatic conditions in Manitoba.

In the same annual report, Gordon Bell submitted a progress report on the work undertaken by the Bacteriological Branch in connection with the investigation of swamp fever in horses in the eastern portion of the Province, which ended with the recommendation that more work should be undertaken and more funds provided as the funds provided to date were inadequate.

(d) Provincial Noxious Weeds Inspector

As early as the first session of the First Legislature (1871), legislation was enacted, and amended from time to time, with the object of controlling weeds, variously designated at different times as noxious. In the reorganization Act of 1883 (Vict. 46, Chap. 19, SM), Part VIII, Sections 93 to 100, outlined the duties of owners and occupiers of land in respect of noxious weeds; the duties of path-masters in regard to noxious weeds on highways and railway lands; the penalties for vending noxious weed seeds; and the appointment of district weed inspectors, etc.

In 1894 an amendment to The Noxious Weeds Act (Vict. 57, Chap. 24, SM), authorized district weed inspectors, path-masters and overseers to cut down noxious weeds mingled with growing crop. By 1898 the plants which had become designated as "noxious" were "common wild mustard, hare's ear mustard, tumbling mustard, Canada thistle, perennial sowthistle, wild oats, French weed or stinkweed, false flax, and other weeds to which this Act (Vict. 61, Chap. 36, SM) may be extended by any municipality."

In due time, however, it became recognized that education was better than coercion. The report of the Ministry of Agriculture and Immigration for the year 1898 records that

"The Department has devoted much attention during the year to the question of Noxious Weeds. The method of giving information by means of pamphlets, addresses, and personal supervision by inspectors have all been continued with good results."

"District Inspectors were appointed in a few localities, as usual, and Mr. Charles Braithwaite, of Portage la Prairie, was appointed Provincial Inspector to devote his whole time to the work."

In further reference to education in respect of weeds, the 1898 report records that

"A special feature of the work done directly by the Department was the exhibit of weeds at the Industrial Exhibition, Winnipeg, and at the Western Fair, Brandon. Dr. James Fletcher (Central Experimental Farm, Ottawa), Rev. Mr. Burman, Lecturer on Botany at St. John's College, Winnipeg, and the officials of the Department, collected the weeds and gave practical object lessons on the same to visitors at the fairs."

In his second annual report to the Minister, the Provincial Weed Inspector, C. Braithwaite, refers to the 1899 crop as the cleanest, on the whole, that the country had ever produced; but after giving credit to the favorable climatic conditions he added the following:

"While the foregoing may be the direct cause and results of the season last past, I respectfully contend that there is an indirect agency which has been working for years. . . . I refer to the educating influences and the practical and persistent work done by the Department of Agriculture in the spread of literature, by the teaching and interchange of thought of the Farmers' Institutes at central gatherings, arranged by the Department, also by the unique exhibits of weeds at our leading agricultural fairs and the practical object lesson there taught. . . . I would suggest a continuation of the education work of your Department, as this to my mind is the mainspring of the machinery."

In further enlarging on the desirability of agricultural education, C. Braithwaite added:

"I am more than ever convinced of the lasting benefits that would accrue to our Province by the establishment of a practical school of agriculture. Not an experimental farm backed up by Government aid, but a farm or farms, a plot or plots of land where there is a variation in soils and plant growth, either rented or otherwise acquired by the Government, and placed in the hands of a good practical farmer, with the distinct understanding that outside of first costs or subsequent improvement, fairly chargeable to capital account, such lands must be self-sustaining, and the work to consist of demonstrative object lessons in the building up of depleted soils and the checking and eradication of weeds of all descriptions by systematic methods and means within the reach and scope of every intelligent farmer."

Activities carried on by the Provincial Noxious Weeds Inspector in the years of this sub-period included attendance at agricultural fairs, at which weed exhibits were displayed and advice was given to visitors seeking information in regard to weed control or in respect of plant identification; attending and giving lectures at Farmers' Institute gatherings; inspection visits to flour mills and elevators; and co-operating with district weed inspectors in respect of local problems in administration of The Noxious Weeds Act. Weed inspectors also rendered service in connection with grasshopper control in seasons when government assistance was required.

In 1901, C. Braithwaite was succeeded by R.G. O'Malley as Provincial Noxious Weeds Inspector. An interesting observation is recorded by R.G. O'Malley in his report to the Minister for 1903, namely:

"The more general use of gasoline engines instead of steam power, to operate elevators, has caused an accumulation of screenings and weed seeds at elevators, which, in former years, were used as fuel. These screenings have considerable feeding properties. The Weeds Act does not allow screenings, with weed seeds to be sold or bartered. Farmers, however, take home screenings from their own grain. Unless such screenings are cooked, so as to destroy germination, there is much danger of spreading weeds on farms."

It is also of interest to note that R.G. O'Malley, who succeeded C. Braithwaite, recognized the importance of agricultural education. Commenting on his inspection visits throughout the Province, O'Malley records that

"General satisfaction is expressed at the prospect of having an agricultural college in the Province in the near future."

In the last year of this sub-period (1905), however, R.G. O'Malley reported that due (in part) to wet seasonal conditions, weeds were becoming troublesome, and noted that

"I have to report that I did not receive the assistance from mill and elevator owners that I expected, having had to prosecute in several cases, but I understand that the Act will be amended to make it more workable in the interests of all concerned. . . . While it is necessary to have a law for the prevention and spread of noxious weeds, in my opinion education is the most effective and least drastic remedy for this serious situation."

(e) Provincial Game Guardian

As early as 1876 an Act was passed for the protection of game (Vict. 39, Chap. 19, SM), but in 1879-80 this Act was repealed by a new Act (Vict. 42-43, Chap. 10, SM) which contained revised regulations for hunting and trapping of game birds and animals; and for the protection of wildfowl eggs; but making provision through the Attorney-General for procuring specimens for scientific purposes.

The 1883 Act, reorganizing the Ministry of Agriculture (Vict. 46, Chap. 19, SM), outlined in Part VI, Sections 61 to 67, revised regulations (to be administered by the Ministry) governing the protection of game; closed seasons; the appointment and duties of game guardians; the prohibition of hunting in closed grounds and of dogs running at large; the protection of insectivorous birds; and the issue of permits to naturalists in regard to collecting specimens.

In 1890 a further enactment was passed (Vict. 53, Chap. 32, SM) for the protection of game and fur-bearing animals; and an additional Act (Vict. 53, Chap. 33, SM) was passed for the protection of insectivorous and other birds beneficial to agriculture. An amendment to The Game Guardian Act also was passed in 1892 authorizing the Minister to grant licences for the Manitoba Field Trials Club. Various amendments also were made from time to time in respect of licence fees, closed season dates, and the number of animals or birds allowed per hunter or trapper.

An Act was passed in 1894 (Vict. 57, Chap. 38, SM) requiring a Commissioner of Oaths or a Justice of the Peace to examine wolf heads, to cut off the ears and to issue a certificate for presentation to the Treasurer of a municipality who was thereby required to pay the current bounty to the claimant.

In 1899 the Act respecting wolf bounty was amended, which abolished the \$300.00 limit which a municipality could expend for wolf bounties in any one year, and which prohibited the use of poison for killing wolves.

Although appointments of (local) game guardians were made under the 1883 Act (which reorganized the Department of Agriculture and which also

set forth the duties of game guardians), it was not until 1902 that a Provincial Game Guardian submitted an annual report which was included in the annual submission of the Ministry of Agriculture to the Lieutenant-Governor (Sessional Papers No. 6, 3 Edw. VII, 1903). This report submitted to the Minister on "Game Protection" for the year 1902 was signed by C. Barber, Provincial Game Guardian, who appears to have been appointed at this time to be responsible for the development of a Game Protection Branch as an administrative unit within the Department.

From the remainder of the 1890-1905 sub-period, the annual reports of the Provincial Game Guardian recorded the permits issued for exportation of mounted heads of game animals; the permits for exportation of live animals and birds; the shooting licences issued; taxidermists' licences; the action taken in respect of violations under the Act; the sales of confiscated game; and the difficulty of controlling the destruction of wildlife in the pioneer districts. Reference also was made to information in respect of violations of The Game Act which was reported to the Department by the Manitoba Game Protection Association.

The report of the Chief Game Guardian for the year 1904 contains the following significant notation:

"It appears to me that the only way to prevent the ultimate extinction of our game, and to keep it up to its present complement, is to make the laws a little more stringent, and to enforce them through paid officers, who will devote their whole time to such work."

In the 1905 annual report of C. Barber, Chief Game Guardian, reference was made to posters of warning, and to non-resident cards of warning and circular letters mailed for information of the public. This report also contained the statement that,

"The repeal of Section 11 of "The Game Protection Act", which pertained to the domestication of game animals and birds, has been the means of a great protection and retention of big game in our forests. By the repeal of this section an open door for the violation of the whole Act has been closed."

The following comment also was contained in the annual report of 1905:

"The action of your Department, in appointing an assistant game guardian on the permanent staff of the Department, and the fact that an extra official of the Government is assisting to look after all infractions of the game laws, is having a salutary effect in checking many violations of the Act."

(f) Additional and Aperiodic Activities, 1890-1905

In addition to routine activities of the Department of Agriculture and Immigration, and to specific departmental activities that resulted in the appointment of specific personnel and the creation of administrative branches within the Department, a number of additional activities were undertaken, during the 1890-1905 sub-period, as departmental duties that were more or less of an aperiodic nature. These included:

- (i) Grasshopper Control Projects
- (ii) Seed Grain Exchange
- (iii) Prairie Fire Relief

- (iv) Sugar Beet Investigation
- (v) Miscellaneous Activities

(i) Grasshopper Control Projects

In June, 1898, the Department was advised by farmers south of Deloraine that grasshoppers were quite numerous in the district and that an investigation should be made.

Prior to this date, Dr. James Fletcher, Botanist and Entomologist, Central Experimental Farm, Ottawa, had made routine summer inspection tours of the Dominion Experimental Farms in the west, and had co-operated with the Provincial Ministry of Agriculture in weed studies and in educational work at farmers' institute gatherings in connection with weed control. On the occasion of his 1898 visit, the Provincial Minister of Agriculture arranged with Dr. Fletcher to investigate the situation in respect of grasshoppers in southwestern Manitoba. A first inspection was made in the month of July, and "the presence of the genuine Rocky Mountain locust was reported." Some damage was done to the crops, but not sufficient to cause general alarm. It also was found that "two different parasitic enemies of the grasshoppers were busily engaged fighting the locusts with good results, for thousands of dead locusts were on the prairies at that season of the year." A second inspection was made in August, at which time the locusts were not so numerous. Farmers were advised to plow down all stubble land in the fall or early in the spring before grasshopper eggs would hatch.

In June of 1899, Dr. Fletcher, accompanied by Professor Otto Luggler, Entomologist, University of Minnesota, made a grasshopper survey in southwestern Manitoba and found young hoppers of the "true Rocky Mountain locusts." Farmers' meetings were held in Deloraine and Boissevain, at which (as in the previous year) farmers were urged to plow summerfallow before grasshopper eggs were hatched. Dr. Hunter of the U.S. Department of Agriculture, who was investigating grasshopper infestation in North Dakota, also visited southwestern Manitoba and reported the presence of migratory locusts and referred to species which he designated as "spretus" and "atlanis". On a return trip later in the season Professor Hunter "found that the hoppers had virtually left the district."

At this time the Department of Agriculture and Immigration let it be known that the Ministry would "be pleased to receive specimens of hoppers or any other insects that are proving injurious and will advise farmers regarding same."

In 1900, grasshoppers "appeared in dangerous numbers in the districts skirting the Assiniboine and Souris rivers . . . The Department acted promptly on the matter, advising farmers how best to destroy the hoppers, as well as supplying them with hopper dozers and coal oil necessary in using same." Furthermore, an item of \$10,000 for the destruction of grasshoppers was included in the supplementary estimates of the Department in 1900.

Experiments were undertaken at this time by Dr. Gordon Bell* with a South African fungus obtained from Professor Luggler, Minnesota, who,

* Page 131.

together with Dr. Fletcher, continued to keep in touch with the grasshopper problem in southwestern Manitoba.

In 1901, Dr. Fletcher, now Dominion Entomologist, continued his visits and followed up the grasshopper surveys of former years. His report to the Provincial Minister of Agriculture, dated July 6th, 1901, contains a comment in respect of cut-worms and a tribute to the work being done by Norman Criddle in control of grasshoppers.

In respect of cut-worms he records:

"The remedies against cut-worms are the keeping down of all weeds in the autumn, upon which the eggs are laid, or when the caterpillars are found to be present in the spring the distribution over the ground of the poisoned bran bait, which has been fully described in the last annual report of the Central Experimental Farm."

In respect of grasshopper control he records:

"One and a half miles south of Douglas, on the farm of Mr. Agnew, much harm was being done, and also on the land of Mr. Sibbett, two miles further on. At this point a remarkable instance was observed of the attractive nature of horse manure to locusts. A manure pile outside a stable was so entirely covered with the insects that they could only be likened to the scales on a fish or the shingles on a roof. . . . A few miles further on we came to the farm of Mr. T. Fortune, where we found a fine crop of wheat which had been saved by the use of the Paris green mixture, on land where everything had been destroyed last year. We next inspected crops at Aweme, where magnificent crops were found, all of which had been similarly saved. Mr. Cullen used the remedy regularly and has saved his crop. The same may be said of Mr. Criddle's crops, at the same place. Too much cannot be said of the commendable and disinterested zeal which has been shown by Mr. Norman Criddle and his brothers in experimenting with this remedy, which has been developed and much improved from his experiments, and those of his neighbor, Mr. Vane. As a result he has saved good crops, where he would, in all probability, have lost everything. Some of his neighbors are following his example with the same good results. The only assistance he has received is just such as you have given all other farmers who have applied to you, namely, a supply of poison."

At the close of the 1901 season Mr. Norman Criddle wrote to the Provincial Ministry of Agriculture, stating that

"The mixture of Paris green and horse dung was undoubtedly the means of saving our crop. There is not a person in this district, who used this remedy properly, that does not say the same."

The mixture thus evolved consisted of, 1 part by measure of Paris green; two parts salt (unnecessary with fresh droppings); sixty parts horse droppings; and water sufficient to mix, but not too sloppy.

In 1902, Mr. Norman Criddle, of Aweme, was engaged by the Department for a short time, to assist farmers interested, in the proper use of the Paris green mixture.

The departmental report on grasshoppers for the year 1902 ended with the statement

"As sufficient experimenting has now been done by the Department . . . farmers in future will have to use the remedy for destroying locusts at their own expense."

Nevertheless, in 1903, Norman Criddle reported

"There is no doubt that much damage was averted through the country by the promptness of the Department of Agriculture in sending out Paris green as soon as it was found necessary";

and further, the departmental estimates in 1904 also contained an item of \$1,500.00 and an item of \$500.00 in 1905 for Paris green.

(ii) Seed Grain Exchange

What appears to have been a special emergency activity undertaken by the Department was the operation in 1892-93 of a seed grain exchange service. Although not recorded in the annual report of the Ministry, nevertheless, the supplementary estimates of the Department for the year ending December 31st, 1892, contained an item of \$300.00 for seed grain exchange which was approved by the Legislature.

(iii) Prairie Fire Relief

In Sessional Papers (No. 11) 1900, containing the annual report of the Ministry of Agriculture for the year 1899, it is recorded:

"A prairie or bush fire in the newly settled district, between Dauphin and Gilbert Plains proper, and extending northwest to the railway and eastward to Lake Dauphin, caused considerable loss to the settlers. Measures were taken by this Department to relieve those in greatest need. A few cases of losses are still under consideration."

To enable the Ministry of Agriculture to undertake such measures of relief an item of \$8,000.00 for Prairie Fire Relief Fund was provided in the departmental estimates for 1898, and a further item of \$1,000.00 for Prairie Fire Sufferers Relief in the departmental estimates for 1900.

(iv) Sugar Beet Trials - 1900, 1901 and 1902

A somewhat perfunctory investigation was undertaken by the Department of Agriculture and Immigration in an attempt to obtain information in respect of sugar beets grown in Manitoba. This investigation was undertaken at the request of the Winnipeg Board of Trade and carried out in the growing seasons of 1900, 1901 and 1902.

In 1900, two varieties of sugar beets were sown on plots, 22 x 20 feet each, by nine growers in the Winnipeg-Birds Hill district. Three varieties were included in these trials in 1900, i.e., Kleinwanzleben, New Danish and Vilmorin, but only two varieties were grown by any one co-operator.

The same varieties of sugar beets were grown by eight co-operators in the Winnipeg-Birds Hill district in 1901, but in 1902, eight varieties of sugar beets were grown by eleven co-operators on plots that were located as far apart as Louise Bridge; Silver Heights; Headingley; Gretna; Pilot Mound; Morden; Ninga; Brandon; and Boissevain.

In each year samples of beets were obtained from the respective plots and sent by the Department to the Dominion Chemist, Central Experimental Farm, Ottawa, who analysed and reported on the quality of the beets submitted.

The reports and the comments of the Dominion Chemist on the beets and their analyses did not give the Provincial Department of Agriculture cause for optimism, and as a result these trials were discontinued.

A critical study of the records of crop management, however, reveal that the management of the plots was responsible in large measure for the

low sugar content and low coefficient of purity recorded in the majority of the beets analysed. In 1900 the date of seeding the beets ranged from June 11th to June 28th (or four to six weeks too late), but the dates of seeding the sugar beets in 1901 and 1902 do not appear to be on record. Furthermore, beets were pulled to be sent for analysis on the 9th of October in 1900, on an unrecorded date in 1901, and in late September in 1902. The low quality of the roots which were subject to these management practices would thus appear to have been due to lack of maturity in the beets.

On the other hand, the analytical results of beets harvested from some of the plots, at later dates in the fall, showed a much higher percentage of sugar and higher purity, so that, in some cases (and in spite of late seeding) satisfactory beets of good quality were produced.*

It is unfortunate, therefore, that the overall poor showing of the beets produced in these perfunctory trials appears to have been due to unsatisfactory management, and to failure to take advantage of the information that could have been obtained from these trials to design and carry out additional experiments in crop management and variety adaptation. Such follow-up experiments might have led to beet sugar production in Manitoba at a much earlier date than that at which sugar beet growing eventually materialized.

(v) Miscellaneous Activities

Registration of Cattle Brands - Towards the close of the 1890-1905 sub-period an Act was passed by the Legislature respecting the branding of cattle (3 Edw. VII, Chap. 6, SM) which came into effect on June 1st, 1903. This Act required, among other items, that

“there shall be kept in the Department of Agriculture and Immigration a register in which shall be recorded a full description of the brands or markings of cattle, the shape, size, and locality thereof, and such other matters and things as the Minister may deem necessary, together with the date of such recording.”

Prior to this, and as early as 1877, an Act in regard to marks and brands of cattle (Vict. 40, Chap. 40, SM) required that such marks and brands be registered with county registrars. Subsequent to 1903, however, a list of the brands of cattle were recorded and published in the sessional papers as part of the Department's annual report. It may be of interest to note that 58 brands were recorded in 1903, and that the total number increased to 86 in 1904 and 118 in 1905.

Miscellaneous Acts of Agricultural Context - During the 1890-1905 sub-period several Acts of agricultural context were passed by the Legislature that are of historic interest, including

(1) An Act respecting the representation of the Province at the International Exhibition proposed to be held in the City of Chicago . . . during the year 1893 (Vict. 55, Chap. 19, SM). This involved the

* Analytical results recorded in Sessional Papers No. 2, 1 Edw. VII - 1901; No. 10, 1-2 Edw. VII - 1902; and No. 6, 1 Edw. VII - 1903.

appointment of a commissioner under the direction of the Minister of Agriculture and Immigration, the erection of a building and the collection of exhibits.

(2) An Act respecting Municipal Hail Insurance (Vict. 58-59, Chap. 37, SM, 1895-96). This Act was not a responsibility of the Ministry of Agriculture but is of agricultural interest because it authorized municipalities to pass a municipal hail insurance by-law, and to levy an annual rate not exceeding five mills until a fund of \$5,000 was collected. Such by-law, however, had to be submitted to the electors and a three-fourths vote was required to pass the by-law. Taxes collected under this Act were required to be remitted to the Municipal Commissioner to be held in trust, compensation was not to exceed \$4.00 per acre, and the by-law could be repealed by vote of the electors. In 1896 an amendment changed the levy to two cents per acre until a fund of \$10,000 was collected, and in the case of a referendum, the assent of two-thirds of the votes of at least three-quarters of the registered electors was required. A further amendment in 1901 required that loss from hail must be at least one-third total loss before any compensation would be allowed.

(3) An Act to amend The Stable Keepers Act passed in 1899 established the right of detention of animals by a keeper of a livery stable in case of default on the part of the animal owner.

(4) An Act was passed in 1901 authorizing the Government of Manitoba to lend a municipality up to \$5,000 to be used as loans, in certain cases, for the purchase of seed grain (1 Edw. VII, Chap. 32, SM).

(7) PUBLIC HEALTH ACTIVITIES, 1890-1905

Prior to the 1890-1905 sub-period, the Act of 1883 which reorganized the Ministry of Agriculture as a Department of Agriculture, Statistics and Health (Vict. 46, Chap. 19, SM), outlined, in the 41 sections of Part IX, regulations in respect of Public Health to be administered by the newly reorganized Ministry of Agriculture. This Act provided for the appointment of a Provincial Health Superintendent and for County Council Health Officers; it also set forth their duties and the regulations in respect of Public Health activities.*

In 1890, a Public Health Act (Vict. 53, Chap. 30, SM) was passed which was similar to Part IX of the previous statute but containing, among other items, more detailed provisions in respect of the conditions under which certain colleges could obtain dead bodies for anatomical purposes.

In 1893, The Public Health Act was revised; this revision included provision for a Provincial Board of Health of not more than seven (changed in 1894 to five) members,**with a suitable secretary to be appointed by the Lieutenant-Governor-in-Council. In addition, the Province was divided into

* See Pages 87 and 108 to 110 of this treatise.

** See Page 130.

health districts and an inspector appointed in each district. This 1893 Act contained 131 sections and covered all phases of action in respect of public health.

Section 13 of the 1894 amendment, which reduced the Board from seven to five members, also enacted that the Provincial Board of Health report to the Legislative Assembly, and an amendment to The Public Health Act in 1896 provided for the appointment of a Provincial Bacteriologist.*

In 1899 an Act respecting the study of anatomy outlined procedures when persons, with no relatives, die in an institution or are found dead; and also regulated the appointment of Inspectors of Anatomy for any city or town or public institution in the Province.

In the 1890-1905 sub-period, Government grants to hospitals and charitable institutions were continued annually through the Department of Agriculture and Immigration. In 1889 - the last year the Ministry was designated as a Department of Agriculture, Statistics and Health - four organizations received an annual grant from the Ministry which in 1889 amounted to \$10,726.38, but additional recipients were added from time to time. The total amounts thus granted to hospitals and certain charities, in 1889 and during the sixteen years of this sub-period, may be tabulated to indicate the expansion of this departmental activity as follows:

Year	Recipients	Total Grants
	Winnipeg General Hospital; St. Boniface General Hospital; Children's Home; and St. Boniface Orphanage	\$ 10,726.38
1890	As in 1889, plus Women's Home and Prisoners' Aid Society	15,016.26
1891	Plus Brandon Hospital	17,147.37
1892	As in 1891	22,585.25
1893	As in 1892	22,453.01
1894	Plus Morden Hospital	26,981.24
1895	As in 1894	27,257.26
1896	Plus Portage la Prairie Hospital	31,127.26
1897	Plus Girls' Home of Welcome	35,369.75
1898	Plus Salvation Army Rescue Home	33,754.56
1899	Plus Misericordia Hospital and Children's Aid Society	36,999.39
1900	As in 1899	51,807.14
1901	Plus St. Joseph's Orphanage; Dauphin Hospital; Shoal Lake Hospital; and Foundling Children's Home	51,748.02
1902	As in 1901	53,725.11
1903	Plus Carberry Cottage Hospital and Souris Cottage Hospital	78,363.49
1904	Plus Swan River Hospital	85,365.86
1905	Plus Neepawa General Hospital; Teulon Hospital; Margaret Scott Nursing Home; and Grace Hospital	101,832.90

* See Page 130 .

Marriage Licences

In 1890 an Act was passed respecting the solemnization of marriages (Vict. 53, Chap. 36, SM) which enacted that "marriage licences shall be issued from the Department of Agriculture and Immigration", and that the fee for a marriage licence was to be \$2.50, of which \$1.00 was to be retained by the issuer of the licence, and \$1.50 was to be forwarded to the Provincial Treasurer.

(8) AGRICULTURAL DEVELOPMENT DURING THE 1890-1905 SUB-PERIOD

The annual agricultural statistics recorded by the Provincial Department of Agriculture and Immigration, supplemented by census data, show that the 1890-1905 sub-period was one of agricultural expansion.

It was also a period of population expansion. The total population, expressed in round figures, increased from 150,000 in 1890 to 340,000 in 1905. The population classed at this time as "rural" increased from 108,000 in 1890 to 216,000 in 1905, and the population classed as "urban" increased from 42,000 in 1890 to 124,000 in 1905. These figures indicate that both the rural and the urban population doubled over the 15 years in question.

The total land held as farms in Manitoba increased from an estimated acreage of 4.8 million in 1890 to an estimated acreage of 10.2 million in 1905 - or an average increase of around 356,000 acres per year - .

The total number of farms increased from an estimated number of 21,000 farms in 1890 to an estimated number of 38,000 farms in 1905. Thus there was an increase of approximately 17,000 farms over the 15-year period, which reflects the effectiveness of the immigration activities carried on by the Department. Moreover, if the total farm acreage figures at the beginning and at the end of this sub-period are divided by the respective number of farms, it is apparent that, in addition to an increase in number, there was also a tendency to increase the size of farm holdings from an average of 231 acres in 1890 to 270 acres in 1905, which indicates a continuation of the trend from quarter-section homestead units to half-section farm units, through the acquisition of pre-emptions, or the purchase of additional quarter-sections, etc.

The cultivated farm acreage also increased markedly during this sub-period. As shown in Table 14, the cultivated acres increased from 1.3 million acres in 1890 to 4.8 million acres in 1905. This represents an increase from an average of approximately 62 acres of cultivated land per farm in 1890 to an average of approximately 127 acres of cultivated land per farm in 1905, or an overall average increase of 236,386 acres per year for the Province as a whole.

Each of the various classes of farm crops grown on cultivated farm land also show an increase in acreage, but the acreages of the various classes of farm crops, as compiled from provincial statistics, do not indicate any striking change in the type of land-use practised on Manitoba farms during the 1890-1905 sub-period.

Although both the percentage of farm land sown to grain, and the percentage of land under fallow, appear to have been somewhat erratic from year to year, the total acreage of grain crops and fallow combined remained

TABLE 14. CULTIVATED FARM ACREAGE, AND THE CLASSES OF CROPS IN ACRES AND PERCENT GROWN IN MANITOBA BY YEARS 1890 to 1905

Year	Grain Crops		Grasses, Clover and Alfalfa		Intertilled Crops		Fallow		Total Cult.
	Acres (000)	Per-cent	Acres (000)	Per-cent	Acres (000)	Per-cent	Acres (000)	Per-cent	Acreege (000)
1890	1,062	81.3	20	1.5	19	1.5	205	15.7	1,307
1891	1,315	81.6	24	1.5	22	1.4	250	15.5	1,611
1892	1,310	79.8	27	1.7	29	1.8	275	16.7	1,641
1893	1,519	77.8	30	1.5	34	1.7	370	19.0	1,953
1894	1,570	82.6	34	1.8	22	1.1	275	14.5	1,900
1895	1,862	83.5	37	1.6	24	1.1	307	13.8	2,231
1896	1,593	79.1	40	2.0	20	1.0	362	17.9	2,015
1897	1,936	80.9	44	1.8	20	.9	393	16.4	2,393
1898	2,189	86.4	47	1.8	29	1.2	269	10.6	2,534
1899	2,413	81.3	50	1.7	33	1.1	472	15.9	2,968
1900	2,065	79.7	53	2.0	26	1.0	447	17.3	2,591
1901	2,916	81.7	57	1.6	36	1.0	560	15.7	3,569
1902	3,139	82.6	60	1.6	36	1.0	564	14.8	3,799
1903	3,686	82.7	63	1.4	41	.9	668	15.0	4,458
1904	3,759	81.8	66	1.5	42	.9	728	15.8	4,595
1905	4,139	85.3	70	1.4	46	1.0	598	12.3	4,853
Means		81.8		1.6		1.2		15.4	

remarkably close to the yearly average of 97.2 percent of the cultivated acreage. The yearly variations, therefore, in the percentage of land under grain and of the land under fallow, were not due to any change in type of land-use but were the result of seasonal variations in weather conditions, grasshopper infestations, etc., which affected the acreage seeded to grain in a given year, so that, inevitably, the fallow acreage increased or decreased accordingly.

The grass and clover acreage increased over three times during the 15-year period without changing the overall ratio which fluctuated around a mean of 1.6 percent of the cultivated acreage. The most important factor in determining the acreage of forage crops sown was apparently the large acreages of native grassland available for hay and pasture either on or adjacent to occupied farms. For example, in 1890 only 27 percent of the farm land was under cultivation, and in 1905 the cultivated land on Manitoba farms, as a whole, did not exceed 48 percent. Thus considerable areas of uncultivated land were still available for use as native forage or fodder on prairie farms.

The only definite trend in respect of classes of crops grown on Manitoba farms, during the 1890-1905 sub-period, was in a one-third reduction in the percentage of intertilled crops; nevertheless, the overall total acreage of row crops more than doubled during the years in question.

As an average of 81.8 percent of the cultivated land was used for the production of grain at this time, it is apparent that grain-growing had become the major type of arable land-use; and, of the grain crop grown, the wheat acreage averaged 66.4 percent, oats - 24.3 percent, barley - 8.0 percent, flax - 1.2 percent, and rye - .1 percent.

The data in respect of the number and kind of farm livestock kept on Manitoba farms, during the 1890-1905 sub-period, are not complete as the provincial livestock statistics for the years 1890, 1891 and 1892 are missing; moreover, the Dominion census data for 1891 appear to be somewhat out of line, and only roughly comparable, with the provincial statistics recorded prior to, and subsequent to, these three years. Nevertheless, the data in Table 15 are sufficient to indicate that the horse, cattle and swine population at the close of the 1890-1905 sub-period were approximately double that of each of these three classes of livestock on Manitoba farms at the beginning of this sub-period.

TABLE 15. TOTAL NUMBER AND KIND OF FARM LIVESTOCK
AND NUMBER PER 100 ACRES OF CULTIVATED
FARM LAND IN MANITOBA BY YEARS
1890 to 1905

Year	Horses		Cattle		Sheep		Hogs	
	Total (000)	Per 100 Acres	Total (000)	Per 100 Acres	Total (000)	Per 100 Acres	Total (000)	Per 100 Acres
1889	46	3.9	148	12.8	31	2.7	52	4.4
1890	-	-	-	-	-	-	-	-
1891	87	5.4*	231	14.3*	36	2.2*	54	3.4*
1892	-	-	-	-	-	-	-	-
1893	88	4.5	173	8.9	35	1.8	51	2.6
1894	89	4.7	194	10.2	35	1.9	68	3.6
1895	91	4.1	192	8.6	36	1.6	59	2.7
1896	95	4.7	210	10.4	34	1.7	73	3.6
1897	100	4.2	222	9.3	34	1.4	75	3.1
1898	102	4.0	227	9.0	32	1.3	70	2.7
1899	103	3.4	220	7.4	33	1.1	66	2.2
1900	119	4.6	238	9.2	26	1.0	78	3.0
1901	142	4.0	263	7.4	23	.6	95	2.6
1902	147	3.8	282	7.4	21	.5	96	2.5
1903	161	3.6	311	7.0	23	.5	105	2.3
1904	143	3.1	307	6.7	18	.4	119	2.6
1905	158	3.2	319	6.6	18	.4	104	2.1

* Dominion Census Data 1891

From the data in Table 15, showing the number and kind of farm livestock kept per 100 acres of land under cultivation, it is evident that the number of acres worked per horse increased, whereas the number of cattle per 100 acres of crop land decreased, probably because recent settlers were not as well-stocked with cattle as the earlier settlers who were better

established. Furthermore, because of their relatively small numbers, it would appear that hogs continued to be kept generally for domestic subsistence rather than as market livestock.

An outstanding change in the farm livestock kept, however, is shown in the case of sheep. The total number of sheep decreased in 1905 to approximately half the number kept in 1893. Thus while other classes of farm livestock showed progressive expansion, sheep-raising suffered a definite regression.

A further conclusion may be drawn from the data in Tables 14 and 15, i.e. that although both cultivated land and the three main classes of livestock were increasing in total numbers, fallow-grain culture on the cultivated acreage on Manitoba farms at this time was increasing at a somewhat more rapid rate than was the production of farm livestock.

The interest in dairying, which many of the earlier settlers brought with them from Eastern Canada, is reflected in the production of dairy products that had developed prior to 1890, and was carried on as an ancillary phase of agriculture on Manitoba farms during the 1890-1905 sub-period. In this connection it is unfortunate that the provincial statistics are incomplete, but such data as are available have been compiled and presented as Table 16 to indicate the place occupied by dairying on Manitoba farms during this sub-period.

In the year 1895, when the interest of the Department of Agriculture and Immigration in dairying led to the appointment of the first Provincial Dairy Superintendent, the total production of butter in Manitoba was 1.7 million pounds or 8.8 pounds per capita per year. In 1905, the total production of butter had increased to 4.1 million pounds or 12.2 pounds per capita per year.

One striking fact, however, is that, during the years of this sub-period for which records are available, the average ratio of dairy or farm-made butter to creamery or factory-produced butter was 1.77 to 1.0. Moreover, in addition to supplying their own table requirements, it was a well established custom with many settlers or, more specifically, the settlers' wives, to milk a few cows and to make butter in amounts sufficient to trade or pay (in whole or in part) for family purchases at the local country store.

That the quality of Manitoba butter, in the early part of this sub-period, left much to be desired, is indicated by the statement in the Minister's report for 1892, i.e., that "to secure a market, butter and cheese of a superior quality must be produced", and "the manufacture of butter in creameries is the only way of producing a uniform quality of high standard."

In connection with the production of cheese, it is evident that there were more than twice as many cheese factories in Manitoba in 1895 as there were creameries, but that ten years later, despite the endeavors of the Ministry of Agriculture, the number of cheese factories had decreased to 36. The amount of factory-produced cheese in 1895 was 1.5 million pounds or 7.8 pounds per capita per year, and 1.2 million pounds or 6.0 pounds per capita per year in 1905.

While giving full credit to the Ministry of Agriculture and the Dairy Branch for the improvement effected in the quality of Manitoba dairy

TABLE 16. (a) ANNUAL PRODUCTION OF FARM AND CREAMERY BUTTER IN MANITOBA 1890 to 1905

Year	No. of Creameries	Creamery Butter (lbs.)	Average Price (Cents) (per lb.)	Dairy Butter (lbs.)	Average Price (Cents) (per lb.)	Total Production (lbs.)
1890	—	—	—	—	—	—
1891	—	—	—	—	—	—
1892	—	—	—	—	—	—
1893	—	—	—	—	—	—
1894	—	—	—	—	—	2,516,200
1895	19	529,815	16.16	1,233,437	10.6	1,763,252
1896	24	776,000	16.04	1,469,025	—	2,245,025
1897	—	—	—	—	—	2,397,464
1898	—	965,024	18.6	1,151,620	13.94	2,116,644
1899	—	1,302,809	18.75	1,354,240	14.44	2,657,049
1900	—	1,254,511	19.18	2,083,920	14.45	3,338,431
1901	—	2,460,650	17.92	2,748,090	14.04	5,208,740
1902	—	1,406,450	18.60	2,509,425	14.92	3,915,875
1903	—	1,532,335	18.13	2,738,868	15.7	4,271,703
1904	26	1,067,243	19.0	2,881,351	16.0	3,948,594
1905	19	1,249,967	22.0	2,910,989	17.0	4,160,956

(b) ANNUAL PRODUCTION OF FACTORY MADE CHEESE IN MANITOBA - 1890 to 1905

Year	No. of Factories	Pounds of Cheese Produced	Average Price (Cents Per lb.)
1890	—	—	—
1891	—	—	—
1892	—	—	—
1893	—	—	—
1894	—	—	—
1895	52	1,553,192	6.9
1896	44	986,000	7.44
1897	—	987,007	—
1898	—	800,084	8.67
1899	—	848,587	10.25
1900	—	1,021,258	10.02
1901	—	1,039,392	6.5
1902	—	1,093,653	10.19
1903	—	1,382,304	10.95
1904	34	1,172,130	9.20
1905	36	1,201,382	10.6

products, it is apparent that a type of agricultural land-use was developing at this time in which the cheese factory could not compete successfully with the grain elevator as an outlet for the soil products that were being produced. It is, however, of historic significance, that the Ministry of Agriculture developed an interest in dairying, both prior to and during the 1890-1905 sub-period - due perhaps in part to pressure from dairy men and farmers with an eastern background - and it is not improbable that the unsatisfactory condition of dairy products in the earlier years played a not unimportant role in influencing the Department to turn to educational programs in order to effect improvement in dairying, which subsequently developed into educational programs for the improvement of agriculture generally.

(9) AGRICULTURAL EDUCATION, 1890-1905

The increasing concern with service to, and with improvement and development of, agriculture in Manitoba, during the 1890-1905 sub-period, was reflected not only in increased and enlarged endeavors on the part of the Ministry of Agriculture, but was particularly evident in respect of the introduction and development of agricultural education.

Prior to this sub-period, the activities featured in the annual reports of the Department of Agriculture, as matters of primary concern, were chiefly activities in connection with immigration; the enlargement of areas under agricultural settlement; financial grants to agricultural societies and charities; the routine duties involved in the compilation of agricultural and vital statistics; and the administration of regulatory statutes. Except for the publication of occasional pamphlets, little attention appears to have been given in previous years to agricultural education as an activity of the Ministry of Agriculture, even though, as early as 1884, Lieutenant-Governor J.C. Aikins is reported* to have urged the founding of an agricultural college in Manitoba.

In the 1890-1905 sub-period, however, certain aspects of agricultural education were gradually undertaken as recognized duties of the Department of Agriculture and Immigration; and although first introduced as various relatively small endeavors to meet immediate needs or demands, nevertheless, as problems and needs became more and more obvious, educational endeavors were enlarged and expanded in time with a vigor that resulted ultimately in the establishment and operation of the Manitoba Agricultural College as a major responsibility of the Department.

Some of the early endeavors undertaken by the Ministry of Agriculture in the field of agricultural education, already referred to in previous sections of this treatise, may be summarized as follows.

One of the earliest activities in respect of agricultural education was the establishment of farmers' institutes under The Farmers' Institute Act of 1890. Lecturers were provided by the Department for meetings of the

* Morton, W.L. - "Manitoba - A History"; Page 286.

Central Institute, and for local meetings which featured lectures followed by discussions carried on by attendant farmers. This activity continued from 1890 to 1900 when, under an Act respecting the Agricultural Societies, The Farmers' Institute Act was repealed and the educational work of the institutes was transferred to, and carried on through, the agricultural societies.

In 1892 an item of \$10,000 was included in the estimates of the Ministry of Agriculture, and approved by the Legislature, for an agricultural college site; but as no reference to this item is found in the annual reports of the Department, action was obviously held in abeyance.

In 1894 a travelling dairy school was equipped by a grant from the Department to the Dairy Association. This school visited some 25 points in the Province and provided instruction in the processing and manufacture of dairy products. In 1896, following the appointment of the first Provincial Dairy Superintendent in 1895, a Dairy School was established and equipped to give instruction in farm dairying and in the factory processing of dairy products. This school continued to operate, under the newly appointed Dairy Branch of the Department, for three months each year in down town Winnipeg (at first on Bannatyne, later on Thistle Street) until 1905. It was then transferred to the Manitoba Agricultural College when the M.A.C. was established and opened in 1906. The Provincial Dairy School, therefore, may be considered as the forerunner of the Manitoba Agricultural College.

From time to time, the Dairy Branch also initiated and carried out instruction in local creameries and cheese factories, as well as at the larger agricultural fairs, and through educational programs achieved remarkable progress in improving the quality of Manitoba dairy products.

Educational programs in respect of weeds and weed control also were initiated and carried out by the Department. In 1894 a pamphlet containing essays on "Manitoba Weeds and How to Destroy Them" was published and distributed; and following the appointment of a Provincial Noxious Weeds Inspector in 1898, educational programs were undertaken through agricultural societies and farmers' meetings. At the larger fairs, exhibits of weeds were shown, and Rev. W.A. Burman, Botanist, of St. John's College, as well as the Provincial Noxious Weeds Inspector, and others, identified weeds and gave object lessons to interested visitors attending the respective agricultural fairs.

The annual reports of the Provincial Noxious Weeds Inspector repeatedly drew attention to the need of adopting education rather than coercion as the essential approach to weed control; and in his annual report to the Minister in 1899, the Inspector stressed the need for a School of Agriculture. The idea thus expressed, however, implied a demonstrational farm rather than a fact-finding and educational institution.

Educational activities by the Ministry were also undertaken in connection with the control of grasshoppers. In the earlier years, dependence was placed on the services of Dr. James Fletcher, Dominion Entomologist, but the successful control of hoppers by Norman Criddle of Aweme led the Department in 1902, and in subsequent years, to use Mr. Criddle's services, on a temporary basis, in an educational campaign for the control of grasshoppers in affected areas of the Province.

Special recognition should be given to outstanding farmers and stockmen who through the various livestock associations fostered and worked co-operatively with the Ministry of Agriculture in programs of agricultural education. In addition to holding business sessions, programs of an educational nature were undertaken at annual meetings of the various livestock associations which, during the 1890 to 1905 sub-period, were usually held in Winnipeg.

In 1904 livestock judging classes also were held in connection with the annual livestock conventions, as well as at Brandon and Neepawa in connection with the local agricultural societies. Again in 1905, the program at the livestock conventions in Winnipeg featured stock-judging classes and meat-cutting demonstrations, in addition to the usual educational lectures given by officers of the Dominion and Provincial Departments of Agriculture, editors of farm papers, and other speakers.

A significant service rendered by the Ministry of Agriculture in connection with the various livestock associations, the Dairy Association, etc., was the publication and general distribution of the educational lectures given at the annual conventions, together with the annual reports, of the respective livestock breeders' organizations.

In undertaking the various educational endeavors during the 1890-1905 sub-period, it inevitably became more and more apparent that - rather than being so dependent on technical personnel brought in, periodically and temporarily, from the provinces to the east and the states to the south, to give service to the Ministry or instruction to farmers and stockmen - there was a growing need for trained personnel in the Province capable of dealing with agricultural education and with the agricultural problems that were becoming more and more obvious or more and more acute.

Thus in 1900, following the repeal of The Farmers' Institute Act, an Agricultural Commission was appointed by the Provincial Government* to report on the advisability of establishing an agricultural college in the Province, as well as on the practical details of management and instruction in connection therewith. In connection with the work of this commission the Minister recorded in the annual report of the Department to the Legislature for the year 1901, that

"When we consider that three-fourths of the people in Manitoba are occupied directly in tilling the soil, and the remaining portion in handling the products of our lands or supplying farmers with their requirements, that our exports are all from the soil, principally grain, livestock and dairy products, it is somewhat remarkable that so little attention has been given to the education of this three-fourths of our population and their preparation for future life work."

and it is significant to note, he further stated that

"The movement for a practical school of agriculture in Manitoba started with the farmers themselves some years ago."

Sessional Papers No. 17, 1903, record that instructions were given by Order-in-Council passed on August 1st, 1901:

* Sessional Papers No. 10, 1902.

“That pursuant to the provisions of the Revised Statutes of Manitoba, a Commission be issued to the following named persons, that is to say:

“The Reverend Principal Patrick, Manitoba College (Chairman); J.A.M. Aikins, K.C., of Winnipeg; the Honourable Thomas Greenway; Harvie C. Simpson of Virden; John S. Miller of Manitou; and Harry Irwin of Neepawa, for the purpose of inquiring into and reporting on:

“(a) The wisdom and advisability of establishing and maintaining an agricultural college in the Province of Manitoba;

“(b) The best method of conducting or operating such an institution;

“(c) The probable cost thereof;

“(d) Such other matters or things connected with or growing out of the subject of inquiry as will afford to the said Commissioners the fullest possible information and material to enable them to report fully and comprehensively upon all and singular the premises.”

After their investigations and after consultations with agricultural colleges in Ontario, Michigan, Wisconsin, Iowa, Minnesota and North Dakota, the Commissioners reported that they were “unanimously of the opinion that the time is ripe for the establishment of an agricultural college in the Province.”

Following the report of the Agricultural Commission, the Legislature appropriated the sum of \$75,000 for the purchase of a suitable site for a farm in connection with the College proper.* The site selected consisted of approximately 117 acres of river lots 3 and 4 adjoining the south bank of the Assiniboine River at the eastern end of the Parish of St. Charles. This location became known as the Tuxedo site.

During the 4th Session of the Tenth Legislature, “An Act respecting the Agricultural College” was passed (3 Edw. VII, Chap. 1, SM) and assented to on March 18th, 1903, which enacted that:

“There shall be established in the Province of Manitoba at such place as the Lieutenant-Governor-in-Council may decide, a school to be called The Agricultural College of Manitoba for instruction in the theory and practice of agriculture, horticulture and forestry; the characteristics, care, breeding and management of farm animals; butter and cheese making; domestic science; the principles, construction and use of varieties of buildings, fences, drainage systems and other permanent improvements; machinery, implements, tools, instruments and appliances necessary or desirable on the farm; the elements of various sciences applicable to the above subjects; such English and mathematical branches as may be requisite for success on the farm, and in such other subjects as will promote a knowledge of the theory and practice of the pursuits and subjects referred to or add to the general proficiency and usefulness of the College.”

Thus the Manitoba Agricultural College came into being, and its opening in 1906 marked the beginning of an era of enlarged and expanded service to the Province by the Ministry of Agriculture.

* Sessional Papers No. 2, 3-4 Edw. VII, 1904.

(10) GENERAL CONCLUSIONS RE DEPARTMENTAL
ACTIVITIES, 1890-1905 SUB-PERIOD

The 1890-1905 sub-period was one in which the Ministry of Agriculture increased in stature, not merely because of the enlargement in statutory duties and regulatory activities involved in respect of agricultural administration, game protection, public health, and of agricultural and vital statistics incident to an increase in total population and in the number of farms; or because of enlarged activities undertaken in connection with agricultural development or expansion; but chiefly because of innovations adopted in respect of services rendered in connection with agricultural improvement and of educational activities undertaken that culminated in the establishment of the Manitoba Agricultural College as a departmental responsibility.

The concept of agriculture and agricultural needs that motivated the Ministry of Agriculture (especially during the latter portion of this sub-period) appears to have been expressed in the departmental report of 1900, which stated:

"The sentiment that livestock forms the basis of all agricultural success now pervades the Province. This sentiment fully developed will bring on its tide of prosperity, natural fertilizers and rotation of crops, which will preserve the fertility of the soil and ensure the proud position which Manitoba has today, that of being the best wheat-growing district in North America. Already the number of breeders of pure-bred stock, the number of cattle, horses, and hogs owned, as well as the merit of many individual herds, is a credit to the Province. The development and success of the livestock industry within the past ten years, still in its infancy, is a guarantee of the permanent success of agriculture."

and further,

"What the Province wants at the close of the nineteenth century is more settlers, more practical farmers, who are able and willing to work, in order to change her millions of acres of virgin prairie into waving fields of wheat, oats, barley and cultivated grasses, and to raise livestock to consume the coarse grains and grasses, so that the concentrated products, meat, butter and cheese, may be sent to markets at least cost for transportation."

and in the same report,

"Education is the hand-maid of progress. . . . Thorough preparation is essential to the highest success. . . . In the past successful farmers have obtained necessary education by slow degrees and painful efforts in the dear school of experience, but there should be a quicker and better way open to the prospective farmer of today. . . . The great unexplored field for the educator is, however, along agricultural lines."

B. THE M.A.C. SUB-PERIOD, 1906 to 1924

The years 1906 to 1924 - although designated as a sub-period - were progressive years during which the Ministry of Agriculture grew to full stature; and in which, by virtue of initiating, developing and maintaining agricultural education, and of supporting various investigational, demonstrational and research projects, the Department of Agriculture and Immigration was enabled rightly to assume leadership and greatly to enlarge the services rendered in the improvement and development of agriculture in Manitoba.

It is of significance that at the beginning of this sub-period an Act was passed (5-6 Edw. VII, Chap. 29) and assented to on March 16th, 1906, Section 1 of which states:

"The flower known botanically as the Anemone patens and popularly called the 'crocus' shall be adopted as and deemed to be the floral emblem of the Province";

and in 1907, a proclamation is included in the Statutes of Manitoba (6-7 Edw. VII) which states:

"Know ye therefore that we, of our princely grace and special favor, have granted and assigned and do by these presents grant and assign for the Province of Manitoba the armorial ensigns following, that is to say, vert on a rock a buffalo statant proper, on a chief argent the cross of St. George, as the same are in the painting hereunto annexed more plainly depicted, to be borne for the said Province on seals, shields, banners, flags or otherwise according to the laws of arms"

(to Henry Duke of Norfolk, College of Arms)

"and for doing so this shall be your warrant.

Given at our Court of St. James, this tenth day of May, 1905, in the fifth year of our reign

By His Majesty's Command."

Thus it would appear that, at this time, the Government of Manitoba was becoming affected with a "pride in being" and a "consciousness of destiny." It is not surprising, therefore, that there was an increased appreciation of the Ministry of Agriculture which is reflected in increased financial support of the Department by the Legislature.

The annual supply voted by the Legislature for support of the activities of the Ministry of Agriculture during this sub-period is indicated in Table 17. Unfortunately, although records of the total annual supply votes indicate marked increase in departmental activity, the designation of the component items was so changed from time to time that some of the individual amounts ear-marked for specific purposes, in certain years, are of doubtful significance for comparison with amounts voted for the same purpose in other years.

The undertakings and accomplishments of the Ministry of Agriculture during the years 1906 to 1924 may be grouped and reviewed under:

- I. Continuing Departmental Activities;
- II. New and Enlarged Activities; and
- III. Aperiodic and Special Activities.

TABLE 17. SUPPLY VOTED BY THE LEGISLATURE FOR DEPARTMENT OF AGRICULTURE AND

	Legislative Session				
	3rd of 11th Jan. 11 to Mar. 16, 1906	4th of 11th Jan. 3 to Feb. 13, 1907	1st of 12th Jan. 2 to Feb. 26, 1908	2nd of 12th Feb. 4, to Mar. 10, 1909	3rd of 12th Feb. 10 to Mar. 16, 1910
	Supply Voted for Year Ending				
	Dec. 31, 1906	Dec. 31, 1907	Dec. 31, 1908	Dec. 31, 1909	Dec. 31, 1910
<u>Agriculture and Statistics</u>					
Salaries	\$ 8,260	\$ 8,460	\$ 10,460	\$ 10,460	\$ 10,660
Supplies and Expenses (including Printing and Stationery, etc.)	1,600	2,000	2,100	2,100	2,100
Agriculture	39,250	39,250	58,900	53,200	64,900
Agricultural Statistics	2,000	2,000	2,500	2,500	2,500
Agriculture and Statistics	—	—	—	—	—
Immigration	26,000*	26,500	26,500	26,000	36,000
Immigration and Publicity	—	—	—	—	—
Immigration and Colonization	—	—	—	—	—
Weeds (Noxious) - Inspections, etc.	2,500	2,500	2,500	3,000	3,000
Protection of Game	6,000	8,000	9,000	9,000	9,000
Agricultural College	25,000	30,000	37,750	46,000	75,000
Grasshoppers (including Paris Green)	500	500	500	—	—
Agricultural Survey	—	—	—	—	—
Birtle Demonstration Farm	—	—	—	—	—
Employment Service of Canada	—	—	—	—	—
Publicity & Agric. Publications	—	—	—	—	—
Administration of Settlers	—	—	—	—	—
Animal Purchases Act	—	—	—	—	—
Marketing Investigations	—	—	—	—	—
Supplementary (not detailed)	—	—	—	—	—
<u>Health</u>					
Vital Statistics	3,500	3,500	4,000	4,000	4,000
Marriage Licence Administration	100	200	200	200	200
Grants (Hospitals, Charities, etc.)	103,883	120,574	125,377	115,519	102,200
	218,593	243,484	279,787	271,979	309,560

* Includes supplementary grant of \$1,000 to Salvation Army for immigration.

IMMIGRATION DURING THE MANITOBA AGRICULTURAL COLLEGE SUB-PERIOD, 1906 to 1924

Legislative Session					
1st of 13th Feb. 9 to Mar. 24, 1911	2nd of 13th Feb. 22 to Apr. 6, 1912	3rd of 13th Jan. 9 to Feb. 15, 1913	4th of 13th Dec.11,1913 Feb. 20, 1914	1st of 14th Sept. 15 to Sept. 18, 1914	2nd of 14th Feb. 9 to Apr. 1, 1915
Supply Voted for Year Ending					
Dec. 31, 1911	Nov. 30, 1912 (11 Mths.)	Nov. 30, 1913	Nov. 30, 1914	Nov. 30, 1914	Nov. 30, 1915
\$ 11,180	\$ 9,753	\$ 14,000	\$ 14,700		\$ 14,700
2,100	1,700	2,000	2,000		2,000
76,100	79,700	96,500	72,200		166,350
3,000	3,000	3,000	3,500		3,000
-	-	-	-		-
46,000	48,500	56,000	51,000		41,000
-	-	-	-		-
-	-	-	-		-
4,000	6,000	8,000	7,000		7,000
11,000	16,000	16,000	15,000		25,000
76,000	81,250	111,700	129,000		152,500
-	-	-	-		-
-	-	-	-		-
-	-	-	-		-
-	-	-	-		-
-	-	-	-		-
-	-	-	-		-
-	-	-	-		-
4,000	5,000	7,000	7,000		6,000
200	200	300	500		500
102,540	144,100	133,455	151,916		155,647
336,120	395,203	447,955	453,816		573,697

TABLE 17. SUPPLY VOTED BY THE LEGISLATURE FOR DEPARTMENT OF AGRICULTURE AND

	Legislative Session			
	1st of 15th Jan. 6 to Mar. 10, 1916	2nd of 15th Jan. 11 to Mar. 9, 1917	3rd of 15th Jan. 17 to Mar. 6, 1918	4th of 15th Jan. 23 to Mar. 14, 1919
	Supply Voted for Year Ending			
	Nov. 30, 1916	Nov. 30, 1917	Nov. 30, 1918	Nov. 30, 1919
<u>Agriculture and Statistics</u>				
Salaries	\$ 13,700	\$ 14,600	\$ 13,317	\$ 13,660
Supplies and Expenses (including Printing and Stationery, etc.)	6,000	4,000	1,500	1,800
Agriculture	—	—	—	—
Agricultural Statistics	—	—	—	—
Agriculture and Statistics	77,750	95,550	109,990	131,010
Immigration	—	—	—	—
Immigration and Publicity	41,000	46,000	—	—
Immigration and Colonization	—	—	45,000	42,520
Weeds (Noxious) - Inspections, etc.	16,700	15,500	14,505	13,840
Protection of Game	25,000	35,000	35,000	37,000
Agricultural College	203,289	186,370	205,135	237,615
Grasshoppers (including Paris Green)	—	—	—	—
Agricultural Survey	—	—	—	—
Birtle Demonstration Farm	—	—	2,560	2,920
Employment Service of Canada	—	—	—	—
Publicity & Agric. Publications	—	22,800	20,100	24,780
Administration of Settlers	—	—	—	—
Animal Purchases Act	—	—	6,800	8,960
Marketing Investigations	—	—	—	—
Supplementary (not detailed)	—	—	—	—
<u>Health</u>				
Vital Statistics	—	—	—	—
Marriage Licence Administration	850	850	850	600
Grants (Hospitals, Charities, etc.)	153,957	172,511	166,447	178,079
	538,246	593,181	621,204	692,784

IMMIGRATION DURING THE MANITOBA AGRICULTURAL COLLEGE SUB-PERIOD, 1906 to 1924

Legislative Session					
5th of 15th Jan. 22 to Mar. 27, 1920	1st of 16th Feb. 10 to May 7, 1921	2nd of 16th Jan. 12 to Apr. 6, 1922	1st of 17th Jan. 18 to May 5, 1923	2nd of 17th July 25 to July 27, 1923	3rd of 17th Jan. 10 to Apr. 5, 1924
Supply Voted for Year Ending					
Nov. 30, 1920	Nov. 30, 1921	Aug. 31, 1922 (9 Mths.)	Aug. 31, 1923		Aug. 31, 1924
\$ 14,800	\$ 15,100	\$ 11,850	\$ 15,600		\$ 16,850)
2,500	2,500	1,875	3,000)
-	-	-	-		-
-	-	-	-		-
187,720	225,920	159,655	186,820		137,550
-	-	-	-		-
-	-	-	-		-
20,000	20,000	20,000	15,000		10,000
14,951	-	-	-		-
10,000	10,000	7,500	11,000		21,500
306,050	355,458	254,550	318,070		143,053
-	-	-	-		-
-	-	11,250	750		-
3,830	5,670	4,250	5,120		-
64,500	64,500	30,000	32,350		29,900
23,500	23,500	16,525	20,700		10,800
9,140	9,320	-	-		-
-	-	1,000	1,000		7,500
-	138,400	-	-		-
-	-	-	-		-
600	600	600	600		-
<u>189,847</u>	<u>164,062</u>	<u>253,427</u>	<u>227,969</u>		<u>-</u>
847,438	1,035,030	772,482	837,979		377,153

I. CONTINUING DEPARTMENTAL ACTIVITIES

(1) IMMIGRATION - COLONIZATION AND EMPLOYMENT SERVICES

The rising tide of immigration into Manitoba which began in the last decade of the 19th century continued as a swelling tide during the first decade and on into the second decade of the 20th century, thereby reflecting the efforts, past and current, put forth by the Ministry of Agriculture in this connection.* This movement, however, was checked in the middle and latter years of the second decade by World War I.

The continued expansion of activities by the Ministry in connection with immigration - from the beginning of the M.A.C. Sub-Period until the outbreak of war in 1914 - is indicated by the increase in the annual supply vote for immigration from \$25,000 in 1906 to \$56,000 in 1913. By the latter date (and in addition to immigration offices established earlier in Toronto, Montreal and Gretna), three provincial immigration offices - i.e. one each in England, Scotland and Ireland - had been opened in Great Britain; one was opened at Emerson - the quarantine port of entry - with its own agent (W.W. Unsworth) separate from the Gretna agency, to serve incoming settlers from United States. In addition, several information and colonization offices were being maintained in Winnipeg. The latter were located at various times and at various sites, such as 617 Main Street, 1906; 178 Logan Avenue, 1908; the Industrial Bureau Building, Main Street, 1912; and the Canada Building, Donald Street, 1921, later transferred to the Maw Block, William Avenue.

In the pre-war years of the M.A.C. Sub-Period the railway companies continued to run settlers' trains from the east, in the months of March and April, to transport settlers and settlers' effects westward. Homeseekers' excursions, which ran every two weeks during the months of June to September, also were continued as railway projects until interrupted by war-time conditions. Information services in connection with these movements were provided enroute by travelling agents of the Provincial Department of Agriculture and Immigration and, on arrival at Winnipeg, by the staff of the Provincial immigration offices.

Although the movement of immigrants into Manitoba from overseas and from Eastern Canada was retarded by the war (1914-1918) until it practically ceased, settlers continued to come into Western Canada from United States. Some settled in Manitoba but others continued through to Saskatchewan and Alberta. Nevertheless, the attention and interest of these immigrants were no doubt drawn to Western Canada by the outstanding exhibitions put on by the Manitoba Department of Agriculture and Immigration at the Chicago International and at various State Fairs; by Manitoba advertising literature; and by pamphlets distributed by Manitoba immigration agents, such as "Farm, Wheat and Dairy Lands in Prosperous Manitoba", and "Manitoba, Canada - the Province where Prosperity Reigns."

* See Pages 112 to 117 .

The Harvesters' excursions, on the other hand, continued on into the war years. These were run by the railway companies, but the Manitoba Department of Agriculture had the task of collecting information in respect of the number of laborers required in the different parts of the Province, and of arranging, insofar as possible, for the orderly distribution of harvesters to the points where harvest help was most needed.

As the war continued, farm labor became more and more difficult to secure, and as the colonization activities of the immigration staff decreased, the employment service work increased and an Immigration and Employment Bureau was established. This Bureau was first mentioned in the departmental annual report for 1915, and Louis Kon was appointed Superintendent of Immigration and Colonization in March, 1916, with an office at 439 Main Street, Winnipeg. In the annual report of 1918, J.A. Bowman, who succeeded Kon as Superintendent of Immigration and Colonization, notes "that very few immigrants came during the past four years except from United States. These went mostly to Saskatchewan and Alberta. This office (Immigration and Colonization) has been given over largely to securing employment in connection with farm work throughout the Province."

A further activity noted in the annual report of 1918 was the organization of groups in every community for stooking and assisting with the harvesting of crops. In addition, through a "Soldiers of the Soil Movement", about 1,600 boys were sent to farms, 600 of them going from the City of Winnipeg. It is recorded that "fully 85 percent of these boys did well."

In contrast to the acute labor shortage on Manitoba farms during the war, the years immediately following the war were years of depression, unemployment was prevalent, many persons in the cities were in desperate need,* and Government action had to be taken.

In compliance with the "Employment Offices Co-ordination Act", the Provincial Government, in March, 1919, opened employment offices in Winnipeg, Portage la Prairie, Brandon and Dauphin; as well as a clearing house for employment in Winnipeg. The extent of this service is shown by the number of persons placed as farm help, or, in trades and labor positions, in bush and construction work, or as women household workers, etc. The number of persons thus placed is recorded in the annual reports of the Department of Agriculture and Immigration as: 58,293 in 1919; 92,613 in 1920; and 75,414 in 1921. The 1921 annual report also records that approximately 50 percent of the persons who thus obtained employment were sent to the country through the Employment Service of Canada.

(2) SERVICES TO AGRICULTURE

The various services and aids, previously initiated, which the Ministry of Agriculture continued to extend to agriculture during the 1906-1924 sub-period, may be classed as:

* Gray, J.H. - "The Winter Years"; MacMillan of Canada, Toronto; 1966.

- (a) Services and aids to specific groups; and
- (b) Services and aids to agriculture and agriculturists in general.

As noted in preceding pages, various groups of farmers and stockmen interested in specific phases of agriculture formed societies or associations on their own initiative in earlier periods, but were given support in the form of annual grants by the Department of Agriculture and Immigration.* These organizations may be divided into two categories, i.e.:

- (i) active organizations of producers, farmers, and stockmen, such as, the Dairy Association; the livestock breeders associations; and the agricultural and arts associations; which functioned under the direction of their respective elected officers; and
- (ii) societies of a more general nature, such as agricultural and horticultural societies, which, although initiated in former periods by public-minded farmers and citizens, and carried on under officers elected by the society members, gradually became more and more dependent on the Ministry of Agriculture, not only for financial support but also for leadership, inspiration, and direction.

The review of the activities of the Department in connection with this second group of societies may be deferred at this point, to be considered more conveniently in a review of activities of the Extension Service which came into existence after the Manitoba Agricultural College was established.

(a) Services and Aids to Dairying

(i) Manitoba Dairy Association

In the M.A.C. Sub-Period the Manitoba Dairy Association continued as an inspired organization of devoted dairy farmers and producers, working actively and vigorously in close co-operation with the Department of Agriculture and Immigration to improve the dairy industry.**

During this sub-period the Ministry of Agriculture continued to give a grant-in-aid to the Manitoba Dairy Association of \$200.00 per annum from 1906 to 1912. This grant was increased to \$300.00 per annum in 1913, and increased again by 1919 to \$500.00 per annum. Departmental assistance also was given to the Association in connection with providing or securing speakers for the annual dairy conventions, and in the publication of the annual proceedings.

However, the close co-operation between the Manitoba Dairy Association and the Ministry of Agriculture, and the involvement of departmental officials in joint activities of the Association and the Ministry, makes it difficult to differentiate between the activities of the Association and the activities of the Department. This is particularly true in the earlier

*Table 13, Page 123.

** Fifty Years of Dairying" Memorial Souvenir, Winnipeg, 1935.

years of the 1906-1924 sub-period before the Dairy Branch was established as a recognized unit within the Department of Agriculture and Immigration.

(ii) Evolution of the Dairy Branch

Prior to the M.A.C. Sub-Period - as noted in Pages 127 to 129 - the Ministry of Agriculture had already become actively involved in the development and improvement of dairying in Manitoba.

Following the appointment of the first Superintendent of Dairying as an official of the Department of Agriculture and Immigration, in 1895, the activities initiated and carried on prior to 1906 included:

- inspection of cheese factories and creameries;
- instruction through lectures and demonstrations given to cheese and butter-makers at dairy produce plants, and to farm groups engaged in dairying, as well as education given through exhibits at agricultural fairs;
- publishing of bulletins dealing with dairying; and the
- establishment of the Dairy School, in 1896, which should be given credit for playing an important role in directing the attention of the Ministry of Agriculture to the larger effort of establishing an Agricultural College as a departmental activity.

These activities, first initiated under a Superintendent of Dairying, were greatly enlarged in the 1906-1924 sub-period, and before its close, the Dairy Branch came into existence to carry on departmental activities in connection with dairying and the dairy industry. The evolution of the Dairy Branch may be outlined as follows:

“At the annual meeting of the Manitoba Dairy Association in January, 1895, a motion was passed asking the Provincial Government to appoint a Dairy Superintendent”*

and in May, 1895, C.C. Macdonald was appointed to the staff of the Ministry of Agriculture as the first “Superintendent of Dairying”. In addition to other duties, Macdonald opened and carried on the Provincial Dairy School with R.H. Herbison and A.A. Jory as assistants in 1896; A.K. Baird and A.A. Jory in 1897; and Fred Lutley, Harry Pigott and D.W. Shunk in 1898.

Macdonald resigned in 1899. He was succeeded in 1900 by C.A. Murray who carried on, and from 1900 to 1903 submitted the annual reports of the Superintendent of Dairying. He resigned in January, 1904. The assistants who served at various times as instructors with Murray, in the Dairy School during these years, included: Fred Lutley, A. Baird, N. Kuneman, J.R. Nesbitt, J.D. Moran, C. Wheatland and Emma McNivens. In addition, B.B. Olson was appointed in March, 1901, as dairy instructor to the Icelandic people settled in Manitoba. In 1902 Fred Lutley was appointed creamery instructor and J.R. Cote was appointed cheese-making instructor

* “Fifty Years of Dairying”; Page 22.

for the Province; and in 1904 and 1905, in lieu of submissions by the Provincial Superintendent of Dairying, the departmental reports on dairying consisted of separate submissions by Fred Lutley, Superintendent of Creameries, and by J.R. Cote, Superintendent of Cheese Factories.

In the fall of 1905, and while the Manitoba Agricultural College was under construction, W.J. Carson was appointed Professor of Dairying for the College. In this capacity and as Superintendent of Dairying for the Department of Agriculture and Immigration, Professor Carson held the ten weeks Dairy School, which opened on February 6th, 1906, in the newly constructed dairy and science building of the "in embryo" College at Tuxedo. Thereafter, until 1917, the College became the headquarters of the dairying activities of the Ministry. The College proper, however, was not opened for regular classes in agriculture until the fall of 1906.

In June, 1906, F. Lutley resigned and L.A. Gibson was appointed creamery instructor and inspector of creameries. Professor Carson resigned, in 1908, as Professor of Dairying and as Superintendent of Dairying, and was succeeded by J.W. Mitchell who continued as Professor of Dairying at the Agricultural College until October, 1916. During this interval, reports on dairying in the annual reports of the Department of Agriculture for the years 1909 to 1914 were submitted and signed by J.W. Mitchell as Superintendent of Dairying, but his report on dairying for 1915 was signed by Professor Mitchell as "Dairy Commissioner". Professor Mitchell resigned late in the year of 1916 and the departmental report on dairying for that year was submitted by the Acting Deputy Minister of Agriculture along with reports prepared by L.A. Gibson, dairy produce grader; W.J. Crowe, travelling dairy agent; and W. Weir, in charge of cow-testing.

In 1917 dairy work in the Province was reorganized, divided and departmentalized. R.W. Brown was appointed Professor of Dairying by the Agricultural College Board, and L.A. Gibson, who first served as Creamery Instructor and subsequent to April 1st, 1914, as Provincial Butter Grader, was made Provincial Dairy Commissioner to administer the Dairy Branch, assisted by D.E. MacKenzie as Dairy Inspector and J.A. MacDonald as Dairy Produce Grader. I. Villeneuve also became Dairy Inspector with the Dairy Branch in October, 1917. The latter gave outstanding service to the Agricultural College as a dairy instructor from 1909 to 1917, and to the Department of Agriculture as Cheese-factory and Dairy Inspector from 1910 to 1944.

(iii) Expansion of Activities in Respect of Dairying, 1906-1924

During the 1906-1924 sub-period, and in addition to carrying on the activities already initiated - as noted on Page 159 - the Ministry of Agriculture, through its staff of dairy workers, greatly expanded departmental efforts to improve and develop the dairy industry in Manitoba.

In 1906, cow-testing associations were organized at Woodlands and Lundar; milk samples sent from farms to the Dairy Department of the Agricultural College were tested free of cost to the sender; and, in 1910, E.H. Farrell was put in charge of cow-testing, at which time 129 herds comprising 1,784 cows, and in 1911, 204 herds comprising 2,600 cows, were

under production test. In the 1914 annual report of the Superintendent of Dairying, Professor Mitchell stated that:

"We will continue to supply farmers with the outfit necessary for weighing and sampling milk, . . . report forms (to be) forwarded to us for completion."

The cow-testing service was carried on by the Province until it was taken over for a three-year period by the Dairy Branch of the Federal Department of Agriculture. In 1921 this work was returned to the Provincial Dairy Branch and C.S. Prodan was appointed to serve as Provincial Supervisor of Cow-testing.

A further innovation was a 48-hour test of milk production, open for competition to all breeds, which was put on at the Winnipeg Industrial Exhibition in 1907. Another innovation was the first "Dairy Show" of dairy machinery and dairy cows which was held in the Industrial Bureau, Winnipeg, in connection with the Manitoba Dairy Association Convention of 1919.

Various steps also were taken to improve the quality of creamery products in Manitoba. Investigations in respect of pasteurizing cream on the character and keeping quality of butter were carried out between 1910 and 1918, and recommendations, based on the results of these investigations, were passed on to all creameries in the Province. "At the beginning of the butter-making season of 1917, the announcement was made that the Dairy Branch would issue Special Grade certificates only on butter that had been made from properly pasteurized cream giving a negative reaction for peroxidase by the Storch test." In the same year "a laboratory was established in the Department of Agriculture and Immigration for testing all butter examined for grading, as well as for research work."

At the Manitoba Dairy Convention, in 1914, a committee consisting of Professor J.W. Mitchell, J.R. Nesbitt, W.J. Crowe, and L.A. Gibson, was appointed to recommend standards for uniform grading of cream, and on April 1st, 1914, the Manitoba Department of Agriculture and Immigration instituted the grading of creamery butter and appointed L.A. Gibson as Provincial Butter Grader. In 1917, official butter grade standards were established and defined by the Department, and in 1923 cream grades were established by Order-in-Council. The grading of butter in Manitoba was continued by the Provincial Ministry of Agriculture from 1914 to 1924. On May 1st, 1925, both butter grading work and the Provincial butter graders - i.e. J.A. McManus and J.R. Sweeney - were transferred to, and taken over by, the Dairy Branch of the Dominion Department of Agriculture.

In 1919 the Ministry of Agriculture was requested by the Manitoba Dairy Association to check the testing of milk and cream at milk plants and creameries; and in 1921, under new regulations, all persons engaged as milk or cream testers were required to be licensed annually. Written and practical tests or examinations were held. In that year, 62 applicants were granted licences which provided at least one competent tester for every plant where milk or cream was purchased on a butter-fat basis. Butter- and cheese-making licences also were issued by the Department.

In addition to carrying dairy education to creamery and cheese-factory personnel, and to dairy farmers through meetings of the Dairy Association and of agricultural societies, the Ministry of Agriculture, with the co-operation and assistance of the railway companies, equipped and ran special dairy trains to enable the dairy staff to meet and give lectures and demonstrations in dairying to farmers and others at a number of country points. The first of the Special Dairy Trains was operated in 1907 and consisted of an engine, a refrigerator car, and a passenger coach fitted up at one end with demonstrational equipment. This unit ran on Canadian National Railway lines as far as Swan River. Three meetings with demonstrations were held daily. The speakers on this tour were J.J. Golden, Deputy Minister; Principal W.J. Black; and Professors Carson and Rutherford, with Messrs. A.R. Craig, L.A. Gibson and N.J. Kuneman as demonstrators.* During June, 1910, special dairy trains were operated on the Canadian National and the Canadian Pacific Railway lines.

The effect of the various efforts to improve and maintain high quality dairy products in Manitoba, during the 1906-1924 sub-period, is reflected in the 1915 annual report of the Deputy Minister of Agriculture which contains the statement, "It is gratifying to note that Manitoba creamery butter has now claimed a prominent place on the open markets of the Dominion." It is further reflected in the 57 prizes won in 1918 by Manitoba exhibitors for dairy produce shown in competition at Calgary, Edmonton, Brandon, Regina, Winnipeg, Toronto and London, Ontario, and in the large number of awards won by Manitoba exhibitors in subsequent years.

(b) Services and Aids to Livestock Associations and the Livestock Industry

(i) Livestock Associations

At the beginning of the 1906-1924 sub-period, the Manitoba Horse Breeders' Association, the Pure-Bred Cattle Breeders' Association, and the Manitoba Sheep and Swine Breeders' Association, constituted the Livestock Associations, each of which was in receipt of financial aid from the Ministry of Agriculture in the amount of \$200.00 per annum. In 1905, as shown in Table 13 (Page 123), George H. Greig served as secretary of these three associations as well as of the Manitoba Dairy Association.

In November, 1906, Dr. A.W. Bell was appointed Secretary-Treasurer of the Livestock Associations, in which capacity he served until 1913, when George H. Greig again served as secretary until 1916. However, as the secretary was unable to attend the 1916 convention of the associations, Professor G.W. Wood acted as secretary pro tem and in that capacity submitted the annual reports of the livestock associations for that year.

Up to and including 1916, an annual report of each of the livestock associations was prepared by the secretary and submitted to the Ministry of Agriculture for publication in the annual report of the Department of Agriculture and Immigration. After this date, however, the reports of the livestock associations were not published in the annual reports of the

* Sessional Papers No. 11, 1908, Pages 522-523.

Department. The annual vote of \$200.00 per annum for each of the three associations was continued from 1906 to 1911, but in 1912 the Sheep and Swine Breeders' Association separated into two organizations, i.e.: the Manitoba Sheep Breeders' Association and the Manitoba Swine Breeders' Association, and the grant from the Department was raised to \$300.00 per annum for each of the four associations.

In 1913 the annual vote was increased for the Horse Breeders' and the Pure-Bred Cattle Breeders' Associations to \$500.00 per annum, but for the years 1915 and 1916 the grant voted for the Pure-Bred Cattle Breeders' Association was increased to \$700.00 per annum, and the vote for the Sheep Breeders' Association was raised in 1915, 1916 and 1917 to \$500.00 per annum.

As in the case of the Manitoba Dairy Association, the Manitoba Livestock Associations and the Ministry of Agriculture worked so closely together, during the 1906-1924 sub-period, that it is difficult to differentiate between activities carried out as specific projects of the livestock associations and activities that were exclusively projects of the Department of Agriculture and Immigration. Nevertheless, a number of activities may be presented as evidence of progress in respect of the development of the livestock industry, in which both the Associations and the Department were interested or involved during this historic sub-period.

Up to and prior to 1905, the annual meetings of the livestock associations were held in Winnipeg (Pages 124-125). In 1906, Dr. A.W. Bell, as secretary of the Manitoba Livestock Associations, reported that the annual meetings of these organizations were held in Brandon in the month of February. The programs at these meetings involved short courses in stock-judging, including classes of draught horses, beef cattle, and bacon hogs. A provincial stallion show also was inaugurated under the auspices of the Horse Breeders' Association. These endeavors received the assistance of the local agricultural society and of the citizens of Brandon.

In 1907 the annual meetings of the Manitoba Livestock Associations also were held in Brandon, during the week of February 19th, and in the report of the secretary of that year it was stated:

"In connection with the meetings was held what we trust will prove to be the commencement of a series of winter fairs for the Province, as our sister provinces have such institutions and are today reaping the benefit of them. The show comprised stallions, bacon hogs, mutton sheep, seed grain, and the annual show of the Manitoba Poultry Association."

The lecturers at the livestock meetings in 1907 included: Dr. J.G. Rutherford, Dominion Livestock Commissioner; Dr. Standish, Walkerton, Ontario; Professors W.J. Rutherford and W.J. Carson, Manitoba Agricultural College; John Bracken, Seed Branch representative, Winnipeg; Professor H. Bolley, North Dakota Agricultural College; and others. The secretary, Dr. A.W. Bell, comments that "the accommodation was crowded, but for the future this has been overcome by erection of a suitable structure by the citizens of Brandon."

It is also significant, that whereas the first and second auction sales of pure-bred cattle were held in Winnipeg in 1905 and 1906, the third annual sale of pure-bred cattle, under the auspices of the Cattle Breeders' Association, was held at Brandon on May 30th, 1907.

In 1908 the annual meetings of the livestock associations were held in a new Winter Fair building at Brandon, furnished by the Board of Brandon Winter Fair Association. Thus the spiritual home of the livestock associations moved from Winnipeg to Brandon approximately 20 years after Brandon had held its first summer fair in 1889. Although the annual meetings of the livestock associations were severed from the Winter Fair in 1914, it was apparent that Brandon had now become the agricultural fair centre of Manitoba.

In 1910 the Manitoba Sheep and Swine Breeders' held three sales of grade ewes (i.e. at Winnipeg, Portage la Prairie and Brandon). Encouraged by the success of this venture, six sales of sheep were held in the fall of 1911. In 1912 the Dominion Sheep Breeders' Association announced it would "spend a portion of a grant of \$25,000 from the Dominion Government for distributing pure-bred sheep in the Province."

In 1914, George H. Greig, who had again taken over the duty of secretary, reported that the Manitoba Sheep Breeders' Association undertook the handling of the wool clip of the Province, that the Dominion Department of Agriculture provided an expert grader, and that a report of each consignment was sent to the respective shippers. However, in the annual report for 1915, Greig records that "The Sheep Breeders' Association, being unable to finance the handling of wool for its members, was gratified when the Department of Agriculture and Immigration undertook the handling of wool on a co-operative basis for the farmers of the Province, and results proved most satisfactory."

Three years later, however, the handling of wool ceased to be an activity directly supervised by the Provincial Department of Agriculture. In 1918, "as the result of an arrangement entered into by the Manitoba Sheep Breeders' Association (in common with the Sheep Breeders' Associations of all other provinces in the Dominion of Canada) with the Canadian Co-operative Wool Growers, Limited, it was provided that this latter organization should sell the wool clip of the Province."*

(ii) Evolution of the Livestock Branch

In 1911, Dr. A.W. Bell, in the secretary's report of the livestock associations, recommended "the appointment of a Livestock Commissioner as the work has become so great." This recommendation was not implemented until May, 1917, when a Livestock Branch was established in the Department of Agriculture and Immigration, and W.W. Fraser was appointed Livestock Commissioner - a position he continued to fill until, at the close of the 1906-1924 sub-period, he was succeeded by J.R. Bell.

* Annual Report of Deputy Minister, Provincial Dept. of Agriculture and Immigration; 1918; Page 12.

Thus out of the efforts of the livestock associations and the activities of the Ministry of Agriculture, a Provincial Livestock Branch was born, and from 1917 onward the specific activities of the Ministry of Agriculture in connection with livestock are recorded as departmental projects in the annual reports of the Livestock Commissioner.

(iii) Additional Associations in Connection with the Livestock Industry

Further in respect of the Manitoba Livestock Associations, mention should be made of two other livestock organizations which came into existence during the 1906-1924 sub-period. In his annual report for 1913, Dr. A.W. Bell records that:

"From a resolution, first adopted at the annual meeting of our association last winter, there has sprung into existence the Western Canada Livestock Union, composed of membership of all livestock associations of the three prairie and Pacific Coast Provinces, having for one of its main objects the cementing together of those with kindred work in the west, hoping thereby to overcome, through the union, many of the difficulties that western breeders have been laboring under for a number of years."

Later, at the close of the 1906-1924 sub-period, a co-ordinating move was made to bring the pure-bred livestock breeders and the commercial producers of livestock closer together. In his report for 1924, the Livestock Commissioner noted that:

"For a number of years there has been apparent lack of co-operation between the various livestock associations in the Province. . . . The commercial producer has taken but little part in the programme of the (pure-bred) Livestock Associations and has no organization before which he may go to place his problems and opinions. . . . In order to effect co-operation, unity of action, and to give to the producer an organization through which he might work, the Manitoba Livestock Board was organized by the Livestock Associations at their annual meeting held in Brandon, January 3rd, 1924. It has a common Board around which the representatives of the Breeders' Associations, the commercial producer and kindred bodies may meet to discuss problems of mutual concern."

(iv) The Manitoba Cow Scheme

In an attempt to improve and develop agriculture - primarily in the pioneer districts between the lakes north of Township 14 - "The settlers' Animal Purchase Act" of 1916 was passed, which in essence was a specific form of rural credit commonly referred to at that time as the "Manitoba Cow Scheme".

This Act provided that married applicants, living with their families on the farm, in groups numbering not less than ten, could apply for, and if approved, purchase cows procured and provided by the Provincial Government. The applicants could thus acquire up to five cows each on credit extending up to a period of five years. The agreement in connection with this scheme called for five annual payments, bearing interest of seven per centum per annum, to be made to the Provincial Government. In addition, each member of a group had to give a bond for one-tenth of his purchase price, and in the event of any member not being able to meet his obligation, if it was found necessary, each member of the group could be

called upon to aid in meeting the deficiency to the extent of the bond given. Provision also was made for a settler to pay the full purchase price at any time within the five years if he were able and elected to do so. S.G. Sims was appointed by the Ministry of Agriculture, as purchasing agent, to procure and to distribute the required cows from the St. Boniface stockyards.

From June 1st to November 1st, 1916, 518 cows and heifers were supplied to settlers at an average price of \$74.80; from November 1st, 1916 to November 1st, 1917, 1,570 cows and heifers were delivered at an average price of \$80.00; and in 1918, 1,768 animals were delivered under this scheme. By November 1919, 4,605 animals (with an increase of approximately 10,000) had been distributed at a cost of \$88.12 per cow; in 1920, 209 cows were delivered at \$89.90 per animal, and 45 cows had been transferred. By 1921, a total of 4,859 cows and heifers had been supplied to 123 associations with a total membership of 1,379 farmers.

The helpful effect of this scheme is indicated in the annual reports of S.G. Sims who recorded in the 1918 report that:

“Since inception of this scheme, seven butter factories and two cheese factories have been erected in the districts where cows have been delivered and creamery butter has increased three fold”;

and in the 1921 report he stated that:

“Prior to the cow scheme in 1916, many homesteads in the territory between the lakes had been abandoned two or three times - this is now extremely rare.”

(v) Livestock Purchase and Sale Act

The agricultural statistics for the years 1906 to 1916 show that agriculture in Manitoba continued to expand despite the fact that the last two of these years were war years. Not only did the arable acreage increase but the numbers of classes of farm livestock showed more striking increases though not all in the same proportion. However, apart from the increase in the numbers of cattle, there appears to have been a strong movement, at this time, on the part of a considerable number of farmers and stockmen, to undertake the feeding and finishing of market cattle.

In the report of the Acting Deputy Minister of Agriculture, for 1916, it is recorded that:

“Cattle were never so popular on our farms, and the high prices prevailing during the past season have been the means of inducing more farmers to go in for cattle raising. There has been an unusual demand for stockers and feeders, and over 10,000 of this class of cattle returned to Manitoba farms from the Union Stock Yards this year. Apart from the fact that the steers will return to be marketed in a more finished condition, and produce more revenue, the still more important factor of this return of stockers and feeders to the farms is that fully 80 percent of them were females, many of which will be retained as foundation stock for breeding herds.”

To extend this movement for the conservation of cattle and to assist farmers who lacked the capital necessary to engage in this enterprise, the Department of Agriculture and Immigration undertook a livestock extension program which initially involved two objectives.

In the first case, commencing in 1917 and continuing on in succeeding years, the Department of Agriculture and Immigration sponsored the purchase of stockers and feeders, both male and female, and advanced them to farmers, on terms of 25 percent cash, to be fed and later marketed in better finished condition.

In the second case, commencing in 1918 the Department advanced beef-type heifers to farmers on a basis of 10 percent cash and the balance to be refunded in three equal payments bearing interest at seven per centum per annum. The heifers purchased at the stockyards were inspected and approved by the Livestock Commissioner.

In connection with these programs the Livestock Commissioner recorded in his annual report for 1919 that:

"During the past three years this Department has advanced to the farmers of Manitoba 7,133 steers and breeding heifers."

"The Livestock Purchase and Sale Act" was passed in 1919, some two years after the purchase and sale program had been initiated by Order-in-Council.

Under this Act, grade cattle and sheep could be purchased in the Union Stock Yards subject to the approval of the Department upon the following terms, i.e.: one-third cash, one-third purchase price with interest at seven percent on November 1st of the year following, and the balance with interest at seven percent on November 1st of the second year following purchase. Registered bulls and rams could be purchased on a basis of 50 percent cash, and the balance of the purchase price with interest payable on November 1st of the year following purchase.

These schemes for the conservation and development of livestock also were encouraged and supported by the Federal Government and the railway companies. The Federal Government granted free transportation on car lots of 20 heifers or of 40 ewes shipped back to farms to encourage the extension of the livestock industry; and the railway companies gave a 25 percent reduction in freight on stockers and feeders shipped in car lots back to the land for further finishing. A reduction of 50 percent on freight charges for bulls and rams also was granted.

The efforts of the Ministry of Agriculture to improve the quality of livestock on Manitoba farms, at this time, were supplemented by the Federal livestock sire policy, under the Dominion Health of Animals Branch of testing cattle for T.B., and the accreditation, after testing, of T.B.-free herds.

(vi) Improvement of Swine and Horses

Further efforts currently made by the Ministry of Agriculture in respect of livestock improvement involved both hogs and horses.

The war-time demand for bacon, and the loss of ships and cargos by submarine warfare, led the Department to sponsor a vigorous campaign, not only to increase the quantity of hogs produced in spite of "the appalling scarcity of farm labor due to enlistments", but also to foster the production of the type of hogs required for "Wiltshire sides". A Greater Hog Production Conference was convened in Winnipeg on November 29th, 1917, and

subsequent meetings were held at rural centres at which special speakers were provided by the Department.

In respect of the improvement of heavy horses, the Ministry of Agriculture purchased the Clydesdale stallion, "First Principal", imported from Scotland, and placed this animal at the Agricultural College farm in 1921. "This stallion not only distinguished himself at the western shows held in the summer of 1921 by taking first honors in strong classes, but also in securing second and reserve championship and reserve grand championship in a very strong class at the Chicago International in December of the same year. A committee was appointed by the Clydesdale Association consisting of W.I. Elder, Brandon; George H. Jones, Melita; John Wishart, Portage la Prairie; and the Livestock Commissioner, to make arrangements for the service use of this stallion."

(vii) Cattle Brands and Stallion Enrolment

Two routine activities in respect of livestock registration were made the responsibility of the Livestock Branch after its formation, i.e., the recording of cattle brands and stallion enrolment.

Cattle Brands - As noted on Page 138, an Act requiring that marks and brands of cattle should be registered with county registrars was passed as early as 1877, but on June 1st, 1903, The Cattle Brand Act came into force. This Act required all cattle brands to be registered with the Department of Agriculture.

Initially, registration under this Act was more or less a routine office duty of the Clerk of Agricultural Statistics, who kept the records of cattle brands until this duty became a responsibility of the Livestock Branch. The fee for recording and issuing cattle brand certificates by the Department was fixed at \$1.00. The number of cattle brands issued from 1903 to 1916 are shown in the 1916 report of the Clerk of Agricultural Statistics as:

Year	No. Issued During the Year	Year	No. Issued During the Year	Year	No. Issued During the Year
1903	59	1908	14	1913	30
1904	26	1909	15	1914	35
1905	30	1910	13	1915	110
1906	31	1911	11	1916	105
1907	26	1912	19		
		Total - 524			

In 1917 "The Cattle Brand Act" was amended and all brands issued prior to January 1st, 1917, were made subject to cancellation on December 31st, 1917. All brands issued subsequent to December 31st, 1916, were issued subject to cancellation on December 31st of the third year next

following the year of issue and allotment (unless renewed). The fee for renewal or re-allotment was fixed, as in the initial year, at \$1.00.

The number of cattle brands issued from 1917 to 1924 are recorded in the annual reports of the livestock Branch as:

Year	No. Issued During the Year	Year	No. Issued During the Year	Year	No. Issued During the Year
1917	173	1920	280	1923	58
1918	386	1921	131	1924	46
1919	330	1922	88		
Total — 1,492					

Thus it is apparent that the use of cattle brands by Manitoba farmers and ranchers, during the 1906-1924 sub-period, reached its peak during the war years and the years immediately following World War I.

Stallion Enrolment - The first legislation in respect of the enrolment of stallions standing for public service appears to have been introduced before the Legislature in 1893 by Dr. J.G. Rutherford, Member for Lakeside. Later, registration and enrolment of stallions was required under "The Horse Breeders' Act", 5-6 Edw. VII, Chap. 32 (1906); under Revised Statutes of Manitoba, Chap. 86 (1913); and under Chap. 56, 6 Geo. V. (1916). The revised Act of 1916 required all stallions to be enrolled annually; that application for enrolment must be accompanied by pedigree certificate of registration in a stud book recognized by the Canadian National Records; and that all stallions must be examined by a duly qualified veterinary inspector for the first enrolment and every three years thereafter until nine years of age. A Board of three members was appointed to consider each application and to recommend approval, or otherwise, to the Department. By the revised Act of 1916, the standing of grade stallions for public service was eliminated and the use of pure-bred sires ensured.

The number and breed of the stallions enrolled from 1906 to 1915, when grade sires were permitted, and from 1916 to 1924, when only pure-bred sires qualified for enrolment, is shown in Table 18.

The figures in Table 18 indicate that a peak in the number of stallions enrolled in Manitoba was reached around 1914 to 1916; after which farm labor became a problem due to enlistments, and except for a slight resurgence of stallion enrolment in the three years immediately following the end of the war in 1918, the farmers of Manitoba began to turn more to farm tractors for power, and to automobiles and trucks for transportation, with the result that interest in horse-breeding on Manitoba farms began to wane, and the number of horses kept on farms began to decrease.

TABLE 18.

STALLION ENROLMENT
DEPARTMENT OF AGRICULTURE AND IMMIGRATION - 1906-1924

A = Pure-Bred and Sound
B = No Certificate of Soundness

Year	Clydesdale		Percheron		Shire		Suffolk		Draught		Hackney		Coach		Thorough-bred		Standard Bred		Total Pure-Bred	Grade Stallions	Enrolled
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B					
1906	160	4	45	3	15	—	5	1	4	—	9	—	7	1	1	—	34	2	291	107	398
1907	168	1	36	—	16	—	6	—	2	—	7	—	7	—	2	—	26	—	272	82	354
1908	244	—	52	—	25	—	7	—	4	—	21	—	8	—	8	—	41	—	419	195	614
1909	316	—	71	—	34	—	8	—	6	—	23	—	7	—	7	—	49	—	530	194	724
1910	355	—	84	—	26	—	8	—	6	—	19	—	7	—	13	—	48	1	571	194	765
1911	372	3	117	—	23	—	6	—	16	—	25	—	5	—	13	—	51	3	634	199	833
1912	420	4	131	1	19	—	6	—	14	—	20	—	3	—	22	—	45	—	685	186	871
1913	438	2	150	—	18	—	5	—	18	—	13	—	7	—	31	—	42	—	724	172	896
1914	500	—	155	—	20	—	8	—	21	—	15	—	8	—	14	—	55	—	797	167	964
1915	505	—	157	—	19	—	5	—	26	—	21	—	5	—	15	—	44	—	796	175	971

STALLION REGISTRATIONS AND ENROLMENT UNDER REVISED ACT OF 1916

Year	Clydesdale	Percheron	Shire	Suffolk	Belgian	Hackney	Coach	Thorough-Bred	Standard Bred	Morgan	French Canadian	Kentucky Saddle	Total Enrolled*
1916	660	167	24	9	25	24	7	1	52	—	4	1	974
1917			Fewer enrolments due to scarcity of grooms under war-time conditions										
1918	476	168	13	6	28	21	7	—	25	1	2	—	737
1919	524	215	13	4	29	11	3	—	15	1	3	—	818
1920	491	310	10	7	53	5	3	1	17	—	3	—	900
1921	470	322	10	3	50	8	1	—	11	1	3	—	879
1922	362	282	7	3	42	9	1	—	11	1	3	—	721
1923	308	282	5	1	49	8	—	2	15	1	1	—	672
1924	284	250	5	2	45	8	—	2	17	1	1	—	615

* Pure-bred sires only qualified for enrolment.

(c) Provincial Noxious Weeds Inspector and Provincial Weeds Commission

Activities in respect of combating and controlling farm weeds in Manitoba commenced as early as 1871; and these activities led to the appointment, in 1898, of a Provincial Noxious Weeds Inspector. The first Provincial Weeds Inspector, C. Braithwaite, was succeeded by R.C. O'Malley, who undertook the duties of this position in 1901 and continued in this position until 1916, when, under an amended Noxious Weeds Act, a Provincial Weeds Commission was appointed and the weed control activities of the Ministry were enlarged.

The newly formed commission consisted of three commissioners, i.e.: S.A. Bedford, Chairman; George Walton, and H.B. Brown. These commissioners carried out the administration of The Noxious Weeds Act until, under a further amendment to the Act in 1921, this first commission was abolished and one member, S.A. Bedford, was retained and designated as Weeds Administrator.

Recognition should be made of the fact that S.A. Bedford had rendered outstanding service to agriculture in Manitoba for many years. From 1888 to 1905 he had served as Superintendent of the Dominion Experimental Farm at Brandon, and from 1908 to 1912 he was head of the Field Husbandry Department at the Manitoba Agricultural College. He then served as Provincial Deputy Minister of Agriculture from 1912 until superseded by A.J. McMillan in 1915. He was later awarded the Honorary Degree of Doctor of Laws by the University of Manitoba. Although Dr. S.A. Bedford was designated as Weeds Administrator in 1921, he gradually retired from the active duty and the administrative duties were taken over by a newly designated Board of Weed Commissioners. In the third annual report of George Batho as Secretary of the Board of Weed Commissioners, 1925-26, he records "The Board consists of Dr. S.A. Bedford, Professor T.J. Harrison and Geo. Batho. Dr. Bedford lives retired, and Professor Harrison is head of the Field Husbandry Department of the Manitoba Agricultural College. . . . While the Commission as a whole is called together occasionally to confer upon matters of general policy, the work of administering the Act day by day is centralized in this office (Publications Branch)."

The appointment of George Batho as secretary and active member of the Board of Weed Commissioners at a time when he was continuing and enlarging the duties he had commenced some eight or nine years previously as editor of publications, led inevitably to the close identification of weeds administration and publications that characterized the activities of the Publications Branch in the years that followed the appointment of the Board of Weed Commissioners (1923-24).

During the 1906-1924 sub-period various weeds were designated as noxious at various times as new weeds were introduced or the spread of specific weeds threatened to become troublesome, harmful, or difficult to control. Hence the weed bulletins were periodically revised to meet changing conditions and to conform to amendments to the Act. After its appointment, the Weeds Commission of 1916 undertook a vigorous program of education in respect of weed identification and control. The educational measures undertaken included:

Short course schools; meetings of the commissioners with municipal councils; weed inspectors conferences in leading towns; field work with local weed inspectors; and lectures at seed fairs, seed growers meetings and agricultural society conventions, etc. Weed bulletins were widely circulated and weed exhibits displayed at the larger agricultural fairs.

During the months of January, February and March, 1921, the three provinces of Manitoba, Saskatchewan and Alberta co-operated in a noxious weeds campaign. To launch this campaign, a special train, provided through the generosity of the Canadian Pacific Railway, was run for six weeks over the southern parts of the three provinces. The train consisted of a demonstration car and two lecture cars. The speakers represented the Departments of Agriculture for the three provinces, the Agricultural College, and the Dominion Experimental Farms. Twenty-five places were visited in Manitoba, twenty-four in Saskatchewan and twenty-four in Alberta.

In addition to enlarging the educational activities, the first Weeds Commission which superseded the Provincial Weed Inspector also secured more co-operation and action from the municipalities. This is indicated in the report of the Commission for 1916 which records that:

"Probably for the first time, this year every Municipality appointed one or more weed inspectors. In former years municipal weed inspectors were usually engaged by the day, and were not expected to spend all their time at this work. Under the amended Act, every inspector's engagement must be for five months (May 15th to October 15th) and he is expected to devote his whole time to the work. Every weed inspector also must now make a full report showing the prevalence of weeds on each quarter-section and the area devoted to farm crops and summerfallow - one copy to be kept in the Municipal Office, and one copy to be sent to the Weeds Commission."

(3) PUBLICATIONS BRANCH AND AGRICULTURAL STATISTICS

(a) Publications

Long before the beginning of the 1906-1924 sub-period, the preparation, supervision and distribution of publications dealing with immigration information and with agricultural instruction in the form of booklets, bulletins, pamphlets and posters, together with assistance given in connection with the publication of the annual proceedings of certain agricultural associations, were undertaken as incidental activities by officers of the Department of Agriculture and Immigration.* Moreover, the collecting, compiling, and publishing of agricultural statistics in the form of regular crop bulletins had become routine activities. From 1906 to 1913 these various continuing activities appear to have been integrated with general office administration. However, the annual departmental report for 1915 contains a "Report of Publications Branch" submitted to the Minister of Agriculture and Immigration and signed by H.J. Moorhouse as "Assistant Deputy Minister", which states in part:

* Pages 79-81; 88; 93-95; 111; 124.

"... this is the first official report of the Publications Branch of your Department. ... The addition of a qualified stenographer and the recent appointment of an editor of agricultural publications opens the way to a wider expansion in the usefulness of this office, the duties of the Publications Branch having multiplied very rapidly since its establishment in 1913."

One year later the annual report of 1916 records the appointment of George Batho as Editor of Publications, to date from February 1st following the resignation of H.J. Moorhouse effective January 31st, 1916.

The departmental booklets, bulletins, pamphlets, etc., that were published at irregular intervals by the Department of Agriculture and Immigration, were augmented, subsequent to the establishment of the Agricultural College, by a series of publications on agricultural subjects that were numbered and designated as M.A.C. bulletins. In the 1916 annual report the list of departmental publications given by H.J. Moorhouse as available included: three special immigration booklets, M.A.C. bulletins numbers 1 to 20, Department of Agriculture and M.A.C. circulars numbers 1 to 32, and 31 lessons in Home Economics subjects, as well as annual reports of the Department of Agriculture and Immigration, and of the M.A.C., and Crop Report No. 91.

One of the first matters to which the newly appointed editor of publications directed his attention in 1916 was an attempt, by arrangement with the Post Office Department at Ottawa, to secure free postage of at least a portion of the agricultural bulletins. Prior to this time, Manitoba agricultural bulletins had not been published periodically, and Post Office Department regulations did not recognize free carriage of irregularly published literature. Arrangements, however, were made with the Postmaster General for free postage of a series of monthly bulletins that would be prepared and known as the Manitoba Farmers' Library series. The first of the bulletins in this new series was issued and distributed under this arrangement in 1916. However, in 1918, this postage-free privilege extended to Provincial Departments of Agriculture was cancelled suddenly in the middle of the year. After this, although the Manitoba Farmers' Library series ceased to be issued monthly, the series continued to be issued in irregular sequence as successively numbered (MFL) Extension Bulletins.

Departmental activities in respect of agricultural publications greatly increased following the establishment of the Publications Branch and the appointment of George Batho as editor. In 1916 there was commenced the publication of a series of agricultural articles in several non-English newspapers in the Province. These articles were published in Swedish, Norwegian, Icelandic, German, French, Ruthenian and Polish language newspapers. In addition, press articles on current topics were prepared and distributed, and newsletters were issued to practically every newspaper in Manitoba and to the principal farm papers in Canada. New publications also were initiated, such as the monthly "Extension Service News Notes" in 1918, and the "Manitoba Agricultural Extension News" in 1920. The Manitoba Bank Bulletin Intelligence Service also was instituted which involved the preparation of a series of monthly posters announcing departmental activities that were mailed to every rural bank in Manitoba.

Additional agricultural bulletins and circulars continued to be published as the material was forthcoming, and all printing required for the various offices of the Department continued to pass through the Publications Branch office.

The distribution of departmental bulletins, circulars, etc., was carried out at this time by various means, including:

mailing from the Department on request or in answer to correspondence; distribution by weed inspectors and lecturers at short courses, or by personnel in charge of booths set up at exhibitions and fairs; by the operators of creameries and cheese factories; through the Department of Education to school libraries and overseas for use in the Khaki University.

It is also of interest to note a statement of the editor of publications in the 1918 report that the Gas Engine bulletin* "published by this Department has been used as a textbook in the Agricultural Colleges of at least three of the provinces of Canada."

(b) Crop Information and Agricultural Statistics

Prior to 1916, both agricultural and vital statistics were the responsibility of the Ministry of Agriculture. In 1916, however, vital statistics were transferred to the Municipal Commission, R. Dixon resigned as Registrar of Vital Statistics, and J. McLean was retained in charge of agricultural statistics. During 1918 a change was made in connection with securing and publishing the Manitoba statistics of agriculture. Prior to this date, separate publications of crop reports, by the Dominion Statistics Office and by the Provincial Department of Agriculture and Immigration, predisposed to conflict and confusion. To remedy this situation the Provincial Department of Agriculture entered into an agreement with the Dominion Census and Statistics Office whereby co-operative effort was directed to securing joint returns and mutual conclusions in respect of the figures that should be published in connection with agricultural data.

To this end statistical and crop news work was centred in the Provincial Publications Branch. In previous years, the data were secured entirely from crop correspondents, but under the revised system, blank forms were forwarded in June to every rural school in Manitoba to be filled in by the parents of the pupils. The purpose of this canvass was to ascertain the acreage sown to various crops, etc. Suitable instructions were supplied to the school teachers, who were responsible for returning the cards after the questionnaires were completed and signed by the parents. These cards were then sorted into the respective crop reporting districts and forwarded to the Statistics Office at Ottawa for compilation into tabular form, but adjusted to the number of farms as shown in the census records.

Late in the year, returns were obtained by joint inquiry through Provincial and Dominion crop correspondents in respect of yields per acre,

* Extension Bulletin No. 18 by A.C. Campbell.

areas seeded but not harvested, damage by hail or rainfall, dairy products, wages paid, buildings erected, land prepared for crop, and various other matters. The results thus obtained were then published as official figures in the annual Crop Bulletins of the Provincial Department of Agriculture and Immigration.

In addition, a service of tentative information was initiated throughout the growing and harvesting season. Questionnaires were forwarded, fortnightly, to a corps of about 80 specially selected correspondents acquainted with neighborhood conditions. The information returned was at once published in Crop Newsletters that were then supplied to interested persons and to newspapers, which gave this information wide distribution.

(4) PROTECTION OF GAME AND EVOLUTION OF THE GAME BRANCH

The protection of game, which from the initial period was recognized as a duty of the Ministry of Agriculture,* continued to be an activity of the Department of Agriculture and Immigration throughout the 1906-1924 sub-period. C. Barber, who was appointed first Provincial Game Guardian in 1902, continued to serve in that position until 1919, with the assistance in 1905 of an additional staff member, and in 1909 of John Keyes and William H. Joyce as deputies; and later, with six to eight game guardians and up to 18 or more extra game guardians and inspectors appointed for intervals of up to three months during hunting seasons.

In 1913 an additional man was appointed to the permanent staff of field men to devote full time to the enforcement of "The Game Act"; and in 1915, J.C. Waugh and S.E. Richards were appointed as an advisory board or honorary game commission to assist the Provincial Game Guardian in protecting, conserving and perpetuating wildlife in Manitoba. In 1916 the Game Protection Act was repealed and a new Act (6 Geo. V., Chap. 44, SM) was passed, subsequent to which the departmental unit that carried out the activities in connection with wildlife was designated as "the Game Branch". Nevertheless, C. Barber continued to submit the annual report of the Game Branch as Chief Game Guardian until 1919, and in 1920 the annual report on wildlife was prepared, submitted and signed by A.M. Cole, Clerk, Game Branch. A further innovation was made in 1920. On May 1st, prosecutions under the Act were transferred from the Game Branch to the Provincial Police, and in this connection seven inspectors and game guardians came under the jurisdiction of Colonel J.G. Rattray, Commissioner of the Manitoba Provincial Police, namely:

Southern Judicial District	-	Inspector Wood
Northern Judicial District	-	Inspector Morris
Eastern Judicial District	-	Inspector Clark
Western Judicial District	-	Inspector J.K. Foster
Dauphin Judicial District	-	Inspector Martin
Central Judicial District	-	Inspector Kitson
The Pas	-	Game Guardian F.J. Hogan

* Pages 68; 87; and 133-134.

Exclusive of the transfer of prosecutions under the Game Protection Act to the Provincial Police in 1920, the routine activities of administering the Game Act were continued under the Ministry of Agriculture. The departmental activities during 1906-1924 involved the issuing and recording of licences and permits required of

- resident and non-resident big game hunters;
- resident and non-resident game bird hunters;
- resident trappers;
- non-resident fur buyers;
- travelling fur buyers;
- raw fur merchants and dealers;
- travelling agents;
- tanners;
- exporters of wild animal and wildlife trophies (heads, hides and horns);
- resident and non-resident dog trainers;
- cold storage of birds, etc.; and
- special taking of beaver;

and also the office work of

recording the returns required from big game hunters and, subsequent to 1920, returns required from hunters of game birds taken during the hunting season, and the publication of the same in the respective annual reports.

Towards the close of the 1906-1924 sub-period, an interest developed in fur farming, for which licences were issued by the Ministry of Agriculture. The number of fur farm licences issued for the years 1920 to 1924 are recorded as:

<u>Year</u>	<u>Number of Fur Farms</u>
1920	2
1921	5
1922	8
1923	12
1924	31

An additional activity involved publications in connection with wildlife administration, such as, game literature, copies of The Game Protection Act, circular notes to newspapers, and posters giving dates of closed and open hunting seasons under the Act. These publications and posters were variously distributed to post offices, Indian agents, Hudson's Bay Posts, milling and elevator companies, railway agents, hotels, licensed houses, provincial game guardians, secretary-treasurers of municipalities, public schools, and persons to whom licences were issued during the previous year. Warning cards also were supplied to all provincial border post offices.

Further, to foster the conservation and preservation of wildlife, action was taken during this sub-period to set aside ten areas as game preserves, four of which, i.e. Riding Mountain, Spruce Woods, Turtle Mountain and Duck Mountain areas, were initially established by an amendment to the Act in

1911, with the addition of Lake St. Martin, Doghead Point, and Red Deer Point areas in 1916. In this connection the Chief Game Guardian's statement in the annual report for 1916 indicates the objective and the effect of this legislation.

"The setting aside of game preserves, properly inaugurated and established, is the most effective means of protecting and perpetuating a supply of game that can possibly be devised."

Royalties on furs do not appear to have been collected prior to 1920. The departmental report for 1921 states:

"This is the second year royalty on furs has been in effect, and the work of collecting and keeping records has been carried on by Mrs. Cook who is in charge of the general office work of the Department. Over \$4,000 was collected this past year, which was largely possible through the co-operation of the men in the fur trade. Comparatively few complaints have been registered by the fur men in this connection."

(5) PUBLIC HEALTH

Although, as shown in Pages 139 to 141, the Ministry of Agriculture was designated by provincial statute, during the 1883-1889 period, as the Department of Agriculture, Statistics and Health, and designated as the Department of Agriculture and Immigration in 1890, the public health activities of the Provincial Government were continued under the Minister of Agriculture throughout the Pre-M.A.C. Sub-Period of 1890 to 1905 and remained under the Minister of Agriculture until well into the 1906-1924 M.A.C. Sub-Period. However, the Provincial Board of Health - first established with a secretary under the Minister of Agriculture in 1893 - was reconstituted in 1916 and a Chief Health Officer and a Sanitary Engineer were added as staff members of the Board of Health.

At this time also the administrative work and records in connection with vital statistics were transferred to the Municipal Commission, but the administration of marriage licences, and the grants to hospitals under "The Charity Aid Act", continued to be provided for in the estimates of the Department of Agriculture and Immigration until and including 1923. Ultimately, a Department of Health was established with Hon. C. Cannon as Minister in 1924, and reconstituted in 1928 as a Department of Health and Welfare under Hon. E.W. Montgomery. Thus, by these administrative changes, the Department of Agriculture was finally relieved of the administrative duties in respect of public health.

The extent to which the Department of Agriculture and Immigration was involved in health administration during its final period of involvement can be shown by the amounts voted annually in the departmental estimates for the years 1906 to 1924, which are reproduced in Table 19.

TABLE 19. AMOUNTS PROVIDED IN DEPARTMENT OF AGRICULTURE AND IMMIGRATION ANNUAL VOTES FOR VITAL STATISTICS, MARRIAGE LICENCE ADMINISTRATION AND GRANTS TO HOSPITALS UNDER "THE CHARITY AID ACT" FOR THE YEARS 1906 to 1924

Year	Vital Statistics	Marriage Licence Administration	Hospital Grants under The Charity Aid Act
1906	\$3,500	\$100	\$103,883
1907	3,500	200	120,574
1908	4,000	200	125,377
1909	4,000	200	115,519
1910	4,000	200	102,200
1911	4,000	200	102,540
1912*	5,000	200	144,100
1913	7,000	300	133,455
1914	7,000	500	151,916
1915	6,000	500	155,647
1916	Transferred to	850	153,957
1917	Municipal	850	172,511
1918	Commission	850	166,447
1919		600	178,079
1920		600	189,848
1921		600	164,062
1922**		600	253,427
1923		600	227,969
1924		None	None
*11 months		(End of Department of Agriculture and Immigration involvement)	
** 9 months			

As shown on Page 140, the number of hospitals and charitable institutions which were in receipt of financial assistance through the Ministry of Agriculture increased from four in 1889 to 24 in 1905. During the 1906-1924 sub-period, the institutions receiving grants through the Ministry of Agriculture practically doubled, both in number and in amount of financial aid. The hospitals and charitable institutions receiving such aid in 1920 (the last year for which the grants were listed in detail in the published estimates) were as follows:

Winnipeg General Hospital	Selkirk Hospital	St. Benedict's Institution
Winnipeg Convalescent Hospital	Victoria Hospital (Winnipeg)	Gladstone Hospital
St. Boniface Hospital	Ninette Sanatorium	Ester Robinson Jewish Orphanage
Morden Free Mason's Hospital	Children's Hospital (Winnipeg)	Victorian Order of Nurses
Misericordia Hospital	Children's Home	Hamiota Hospital
Grace Maternity Hospital	St. Joseph's Orphanage	Children's Aid Society (Dauphin)
Shoal Lake Hospital	St. Boniface Orphanage	Lady Minto Hospital (Birtle)
Neepawa General Hospital	Children's Aid Society	Mineral Springs Sanatorium

Teulon Presbyterian Hospital	St. Adelard Children's Aid Society	Ethelbert Hospital
Swan River Hospital	Girls Home of Welcome	Old Folks Home (Gimli)
Portage la Prairie Hospital	Margaret Scott Nursing Mission	Canadian Institute for the Blind
Brandon Hospital	Knowles Boys Home	St. Anthony Hospital (Portage la Prairie)
Virden Hospital	Old Folks Home (Middlechurch)	Canadian National Council, Mental Hygiene
Carman Hospital	St. Boniface Old People's Home	
Dauphin Hospital	Salvation Army Prison Relief	
Minnedosa Hospital	Richot Foundling Asylum	

(6) MISCELLANEOUS ADMINISTRATIVE DUTIES

Specific provisions in certain provincial statutes relating to agriculture involved the Ministry of Agriculture in inspections, observations and administrative activities of a continuing nature throughout the 1906-1924 sub-period. These activities may be grouped and designated as regulatory administrative duties requiring the attention or services of the Minister, the Deputy Minister, or subordinate members of the Department of Agriculture and Immigration. In addition, reference may be made of three Acts passed during this sub-period which also involved the Ministry in administrative duties, i.e. The Co-operative Associations Act; The Produce Dealers' Act; and The Farm Implements Act.

The Co-operative Associations Act - The Co-operative Associations Act was put into operation in 1916. Under this statute, groups of patrons were enabled legally to organize as co-operatives. These earlier co-operative businesses dealt chiefly in carload lots of flour, feed, binder twine and apples. However, a few general grocery co-operatives also were organized by veterans, and later, additional co-operatives were organized to deal with a variety of commodities.

In 1921, Registrar J.P. Grant recorded the societies which were organized at that date as:

- 1916 - Dugald Co-Operative Society, Ltd., Dugald
- 1917 - Basswood Co-Operative Society, Ltd., Basswood
 - Mulvihill Grain Growers' Co-Operative Society, Ltd., Mulvihill
 - Hazelridge Grain Growers' Co-Operative Society, Ltd., Hazelridge
 - Hunterville Co-Operative Association, Ltd., Rapid City
- 1918 - Kenville Co-Operative Association, Ltd., Kenville
 - Manitoba Agricultural College Co-Operative Association, Winnipeg
 - Glenella Co-Operative Society, Ltd., Glenella
 - Moline Co-Operative Society, Ltd., Moline
- 1919 - Keyes Co-Operative Trading Association, Ltd., Keyes
 - Arborg Co-Operative Association, Ltd., Arborg
 - Ochre River Co-Operative Association, Ltd., Ochre River
 - Elm Bank Co-Operative Association, Ltd., Starbuck
 - Rufford Co-Operative Association, Ltd., Rapid City
 - Plumas Farmers' Co-Operative Society, Ltd., Plumas
- 1920 - Brandon Veterans' Co-Operative Society, Ltd., Brandon
 - Belmont Co-Operative Association, Ltd., Belmont
 - Co-Operative Stores, Ltd., Winnipeg

- Austin Co-Operative Society, Ltd., Austin
- Starbuck Co-Operative Association, Ltd., Starbuck
- Manitoba Co-Operative Dairies, Ltd., Winnipeg
- 1921 - St. Andrews United Farmers' Co-Operative Association, St. Andrews
- Giroux United Farmers' Mutual Co-Operative Association, Giroux

The following societies formerly recorded as registered, but not listed in 1920, may be considered as dissolved.

Ruthenian Farmers Co-Operative Society, Ltd., Sunville
 Alexander Co-Operative Society, Ltd., Alexander
 St. James Veterans' Co-Operative Association, Ltd., St. James
 West Kildonan Co-Operative Association, Ltd., West Kildonan
 St. John's Veterans' Co-Operative Society, Ltd., Winnipeg
 Brooklands and Weston Co-Operative Society, Ltd., Winnipeg
 Ukrainian Co-Operative Labor Store, Ltd., Portage la Prairie
 Rathwell Co-Operative Society, Ltd., Rathwell

The Produce Dealers' Act - The Produce Dealers' Act of 1919 was passed to regulate the produce dealers in the Province. Prior to the passing of the Act, and according to H.H. McIntyre in a "Report of Operations under the Act" in the departmental report of 1919, "several so-called firms suddenly became extinct, much to the discomfort of their creditors. The mode of procedure in many cases was for two or three men to get together, hang up a sign as produce dealers, and do some newspaper advertising. When they had received a goodly number of consignments, they sold everything on hand and absconded with the proceeds. When the consignors had allowed sufficient time to elapse and had received no returns, they would begin to investigate, only to find that the firm was now non-existent."

The Produce Dealers' Act was designed to regulate the produce business through the licensing of produce dealers who were required to be bonded to the amount of \$3,000. The number of licensed produce dealers in 1919 - the first year of operation - was 17, in 1920 there were 22 firms, and in 1921 there were 25 firms operating as licencees under the Act.

The Farm Implements Act - As recorded in the annual report of the Department of Agriculture and Immigration for 1919,

"The Manitoba Farm Implements Bill was outlined in 1918 and submitted to the Legislature at the last session. Before being made a statute of the province, the bill was brought before several conferences, including the various agricultural interests, the agricultural implement dealers, and finally a combination of both. Few pieces of legislation have been drafted and redrafted with more care, and few have met with more whole-hearted approval from all parties concerned.

"This Act became law on June 2nd, 1919. Under its provisions, vendors of farm implements must file with the Department of Agriculture and Immigration lists of the implements they have for sale, and also lists of repairs, and prices of both machinery and repairs. These lists must be filed on February 1st, annually, and the Department notified of any changes made during the year. The form of contract that must be used is embodied in the Act. The Act provides further that the contract shall be read to the purchaser in a language that he understands."

II. NEW AND ENLARGED ACTIVITIES

The undertaking and development of agricultural education as a major activity by the Department of Agriculture and Immigration, during the 1906-1924 or M.A.C. Sub-Period, may be considered as the greatest service ever rendered to the Province by the Ministry of Agriculture. Not only was this movement far-reaching in its effects on provincial agriculture and on the level of humanistic culture in rural areas, but it was rich in ultimate reward to the Department itself.

This movement, as previously noted,* was conceived during the Pre-M.A.C. Sub-Period (1890-1905), at the close of which legislative steps were taken to establish the Manitoba Agricultural College.

(I) MANITOBA AGRICULTURAL COLLEGE

An historic review of the Manitoba Agricultural College as an activity of the Ministry of Agriculture during the years 1906-1924 may be presented under a number of convenient sub-headings, i.e.:

- (a) Financial support of the Institution by the Department;
- (b) The Board of Directors;
- (c) The Faculty of the Institution; and
- (d) The work of the Institution involving
 - (i) Teaching and student training,
 - (ii) Extension activities,
 - (iii) Services rendered and demands of the public, and
 - (iv) Investigations and initiation of research.

(a) Financial Support of the Institution

The establishment, maintenance and operation of the Manitoba Agricultural College involved both capital expenditures on the part of the Province and the supply vote of two government departments. The initial purchase of land for the first site of the College at Tuxedo, and for the second site in Fort Garry, as well as the major items involved in providing the physical plant on each of these sites, were charged to the capital account of the Province. Moreover, the supervision of construction, and the maintenance and servicing of the College buildings, as is the case with all government institutions, were the responsibility of the Department of Public Works. Thus the funds provided in the yearly supply vote of the Department of Agriculture and Immigration for the Agricultural College, from its inception to 1924, were used exclusively for the activities, functions and work of the institution. Accounts for operation of the College were certified by the Principal, passed by the Board of Directors, and paid directly by the Department of Agriculture.

The annual supply votes provided by the Legislature for the support of the Manitoba Agricultural College are shown in Table 17.** The data thus

* Pages 146 to 149 .

** Page 152 .

presented show that after an initial period of operation on the Tuxedo site, the M.A.C. became, financially, the major activity of the Ministry of Agriculture. The peak point of funds provided in the supply vote of the Department of Agriculture and Immigration for operation of the College was \$355,458 for the fiscal year ending November 30th, 1921. The percentage of the departmental estimates allocated for the support of the M.A.C. for the seven successive years of operation on the Tuxedo site, 1906 to 1912, were: 11.4%; 12.3%; 13.3%; 16.9%; 24.2%; 22.6%; and 20.6% respectively, and for the successive years of operation on the Fort Garry site, 1913 to 1924, were: 25.0%; 28.5%; 26.6%; 37.8%; 31.4%; 33.0%; 34.2%; 36.1%; 34.2%; 32.9%; 38.0%; and 38.0% respectively.

(b) The Board of Directors

The Act which established The Manitoba Agricultural College (3 Edw. VII, Chap. 1, SM) provided for its administration under a Board of Directors whose powers and authority were defined as:

"The Board of Directors shall have authority to regulate the conditions of admission to the College, to fix the fees for tuition, board and lodging; to arrange courses of study in each branch in which instruction is given; to regulate the conduct and work of students; diplomas, certificates of proficiency, scholarships or other awards to be given after examination on each of the subjects; the sessions, terms and vacations in the said college; to appoint a principal and such professors, lecturers, teachers, instructors, officers, assistants and servants as they may deem necessary for the efficient working of the college and the promotion of its usefulness, and to prescribe their respective duties and wages. The Board shall have such other powers and authority as may be necessary or useful in carrying out the purpose and objects of the said college, and shall have power to pass all such by-laws, rules and regulations from time to time as they may deem necessary in the premises."

Provision was made for the Board of Directors to consist of ten members to hold office for three years, and to receive a remuneration of five dollars a day and expenses per member while engaged in College business, and as a body, to submit an annual report to the Legislative Assembly through the Department of Agriculture and Immigration. Over the years that the M.A.C. functioned under a Board of Directors, the Department and the Province were fortunate in being served by successive directorates of devoted public-spirited citizens, mention of whom, and of the outstanding services they rendered, should not be omitted in any historic reference to the M.A.C. as an activity of the Manitoba Ministry of Agriculture.

The first Board of Directors, authorized under The Manitoba Agricultural College Act, met on May 26th, 1904. The personnel consisted of the following members, i.e.:

Representative of the Manitoba Government:
Hon. R.P. Roblin, Minister of Agriculture

Appointed by the Manitoba Government:
Alex Morrison of Homewood
Walter Lynch of Westbourne
Charles G. Caron of St. Charles

Elected by Agricultural Societies:

Walter James of Rosser
Peleg Smith of Indianford
E.A.C. Hosmer of Virden
Hugh Dyer of Minnedosa

Elected by the University Board:

Rev. Principal Patrick of Manitoba College
J.A.M. Aikins, K.C., Winnipeg

At this first meeting, Walter Lynch was elected Chairman and was served by Hugh Keller, of the Department of Agriculture, as secretary. Other persons who acted as secretary at various times included W.J. Black and G.A. Sproule, Professor of English. Most of the members of this first directorate continued to serve through re-election or reappointment until 1914, with the following exceptions:

In 1907, J. Parent of Letellier replaced C. G. Caron, and James Duthie of Hartney replaced E.A.C. Hosmer as a representative of the agricultural societies.

In 1908, following the death of Walter Lynch, E.A.C. Hosmer was appointed to fill the vacancy, and Hugh Dyer was elected Chairman of the Board.

In 1911, Hon. George Lawrence succeeded the Hon. R.P. Roblin as Minister of Agriculture and as the government representative on the Board.

Following the death of Rev. Principal Patrick, C.K. Newcombe, K.C., was appointed to the vacancy in 1912, and in 1914 was elected Vice Chairman (or Chairman pro tem) when Maj. H.M. Dyer resigned to volunteer for active service.

In 1915 a reconstituted Board of ten members was formed consisting of:

Representative of the Manitoba Government:

Hon. Valentine Winkler, Minister of Agriculture

Appointed by Provincial Government:

W. Nichol of Brandon, R.R. No. 2
D. Smith of Gladstone
John Sweet of Thornhill
Mrs. A.V. Thomas of Winnipeg (replaced in 1918-19
by Mrs. S.E. Leslie of Melita)
J.L. Parkinson of Roland

Elected by directors of Grain Growers and Livestock Associations:

Mrs. J.R. Dutton of Gilbert Plains
A.J. MacKay of Macdonald
J. Duthie of Hartney (elected Chairman)
Geo. H. Greig

In 1919-20 the Board was again reconstituted, the personnel of which consisted of:

Representative of the Manitoba Government:

Hon. Valentine Winkler, Minister of Agriculture

Appointed by Order-in-Council:

W. Nichol of Brandon
John Sweet of Thornhill
Mrs. Sarah E. Leslie of Melita
R.M. Matheson of Brandon
D.F. Stewart of Morden

Elected by:

Grain Growers Association - R.J. Avison of Gilbert Plains
Manitoba Agricultural Societies - A.D. McConnell of McConnell
Livestock Associations - John Crawford of Chater
M.A.C. Alumni - R. Milne of Mekiwin

This group continued to serve, with the following exceptions, until 1924 when the M.A.C. was transferred from the Department of Agriculture to the University of Manitoba, with the result that both the Manitoba Agricultural College and its Board of Directors went out of existence. The exceptions referred to involved the Manitoba Government representative which varied with ministerial changes, i.e. Hon. G.H. Malcolm, 1921-22; Hon. J. Williams, 1922-23; and Hon. Neil Cameron, 1923-24. Others involved were W.G. Weir of Roseisle who replaced R.J. Avison in 1922-23, and Kenneth McGregor of Brandon who replaced John Crawford in the same year.

However, although the Board of Directors of the Manitoba Agricultural College went out of existence in 1924 when the Agricultural College ceased to be the direct responsibility of the Department of Agriculture, provision was made in 1925-26 for an advisory council to look after the interests of the College of Agriculture incidental to its transfer to the University.

Five meetings of the first Board of Directors were held in 1904, a landscape gardener was consulted in respect of the location of buildings and the lay-out of grounds on the Tuxedo site, plans of buildings were examined and approved, and steps taken to ensure control of a spur track to facilitate unloading of materials required for the college buildings.

Four meetings of the Board were held in 1905. Final approval was given to building plans and the construction of buildings was commenced under the direction of the Department of Public Works. Regulations also were adopted regarding fees, i.e.:

- (i) for the two-year course in agriculture
 - a resident in Manitoba - \$10.00 per annum
 - a British subject outside of Manitoba - 20.00 per annum
 - a resident of foreign countries - 50.00 per annum
- (ii) for short courses, not exceeding one month, tuition free, and
- (iii) for the Dairy Course (covering 10 weeks)
 - a resident of Manitoba - \$ 2.00 per annum
 - a British subject outside of Manitoba - 6.00 per annum
 - a resident of foreign countries - 12.00 per annum

At the September meeting of the Board in 1905, such buildings as were in course of erection were inspected, sites were chosen for horse and cattle barns, plans were inspected and approved, and a decision made to open the Dairy School as soon as the Dairy Building could be completed. At the December meeting the annual report was prepared, and estimates for the operation of the College in 1906 were submitted to the Minister of Agriculture.

The initial steps in the organization of the College and the policies of the first Board of Directors were in harmony with various conclusions and recommendations contained in the report of the Agricultural Commission that preceded the passage of the Agricultural College Act,* and which may be noted as follows:

"Your Commissioners suggest that there should be at least three principal branches of instruction: agriculture (i.e. field husbandry), animal husbandry, and dairying, and that the professors should be appointed to each of these subjects.

"The professor of agriculture would deal with the different kinds of soil and manures, with tillage, rotation, seeds, pasturage, implements, etc.

"The professor of animal husbandry would deal with the breeds and breeding of horses, cattle, swine, sheep, poultry, the care and feed and management of stock, the rearing of young animals and stock-judging.

"The professor of dairying would deal with dairy stock, the production of milk, the handling of milk and cream, testing, the manufacture of butter and cheese, and might take the oversight of the Provincial creameries, cheese-factories, etc. The existing Dairy School with its staff of instructors, might be transferred to the College and placed under the Professor of Dairying.

"The Commissioners further recommend that, if the funds at the disposal of the Government permit, a branch of instruction in horticulture and forestry should also be established at the very outset. The professor of this subject would deal with the leading principles governing the production of fruits, flowers, and vegetables, as well as those affecting the growth of trees, the production of new varieties, and the management of nurseries.

"They further suggest that besides these professorships, instructors be appointed for the following branches:

1. Farm engineering and blacksmith work;
2. Farm building construction and carpentering;
3. English and Mathematics;

and also that lectures should be given in veterinary science.

"The instruction in English and Mathematics would necessarily be optional, but would prove of service to students of capacity who have not enjoyed the advantage of an early and thorough education."

Further in respect of combining instruction in Home Economics with the College of Agriculture, the report states that:

"Your Commissioners are also of the opinion that while the Province should give to young men the education in agriculture outlined in the report, . . . they should also place within the reach of the girls and young women of our country an education which will make them more expert and competent helpmates for agriculturists, and

* Pages 148 to 149 .

indeed for anybody of whatever occupation. Society depends for its character upon the home, and the home, for its quality and power, upon the competence and culture of the women who have charge of it.

"As your Commissioners think that education in agriculture, for young men from rural districts, should be given by a separate college, that they may not be sidetracked or alienated from the farm, so they think the education in domestic science should be given in such a way that young women may not be alienated from, but may be made more satisfied with life in, the country districts, and therefore recommend that it be given as a branch of instruction in the proposed agricultural college."

In connection with the teaching of home economics, it is of historic interest to note that the Agricultural Commissioners, in their report, refer* to a Winnipeg school of household science currently operated under the patronage of the University of Manitoba, and that the salary of the teacher was paid by Mrs. Massey-Treble, but that "she intends to continue no longer than next year."

A noteworthy suggestion was made by the Agricultural Commission in connection with the use of College farm land.

"It is not suggested that there should be an experimental or model farm, but that the land (100 to 200 acres) should be used in such a way as to further the education and training of the students of the College."

These various suggestions and recommendations of the Agricultural Commission in respect of the College as a teaching institution appear to have been completely acceptable to, and fully implemented by, the Board of Directors; furthermore, it is significant that both the Commission and the Board did not recognize (at least in the initial stages of organization) that experimentation and research would be essential to agricultural teaching carried on at the College level.

(c) The Faculty of the M.A.C.

The task of organizing the Manitoba Agricultural College was entrusted to W.J. Black, who graduated from the Ontario Agricultural College in 1901. After a term as editor-in-chief of the Farmers Advocate, he was appointed Manitoba's Deputy Minister of Agriculture in 1905 and in that capacity acted as secretary to the College Board of Directors. At a meeting of the Board on April 19th, 1905, W.J. Black was appointed Principal of the College and Professor of Animal Husbandry, to commence the duties thereby involved on December 1st, 1905.

Strangely enough, at the May 23rd meeting of the Board of Directors - one month later - W.J. Carson was appointed Professor of Dairying, to commence duties as a member of the College staff on November 1st, 1905 - or one month earlier than the Principal - . Subsequently, as Professor of Dairying and as Superintendent of the Provincial Dairy Branch, Professor Carson conducted a ten weeks dairy school in the newly constructed science building on the Tuxedo site, thus beginning classes on February 6th, 1906,

* Sessional Papers, 1903; Page 500.

nine months before the Agricultural College was formally opened on November 6th by Lieutenant-Governor McMillan.

W.J. Black served as Principal of the Agricultural College from 1905 to 1912, when his title was changed to that of President, in which capacity he continued until 1915, thus directing the institution for over half of the years the College was the responsibility of the Provincial Ministry of Agriculture.

During his incumbency as Principal the College prospered and outgrew the Tuxedo site, and it became imperative that more and larger buildings, and larger acreage, be provided to accommodate the institution.

To meet these requirements the Provincial Government purchased the most northerly river lots in the Parish of St. Norbert and the adjoining most southerly river lots in the Parish of St. Vital, thus obtaining a site of nearly 700 acres in the municipality of Fort Garry. New buildings of red brick were designed and erected on this new site, including a main or administration building; a horticulture and biology building; a chemistry and physics building; an engineering building; a dairy building; a stock-judging pavilion; a poultry building; horse, beef cattle, dairy cattle, sheep and swine barns; poultry houses; a power house with a laundry; and a water works to provide and purify the water required from the Red River. In addition, a residence was provided for the President, and a students' residence with a capacity to house 500 to 600 students was constructed and provided with a dining room, kitchen, sitting rooms, hospital section, two swimming pools and gymnasia, as well as a large auditorium and a committee room for meetings of the Student Self-Government Council.

The Fort Garry site opened for classes in agriculture and home economics in October, 1913, and was opened officially and formally on January 9th, 1914, by Premier R.P. Roblin.

The phenomenal development of the Manitoba Agricultural College from humble beginnings in 1906 to the magnificent institution it became ten years later at the close of President Black's incumbency - an institution referred to by Dean Carlyle of Idaho, in an interview with a Winnipeg newspaper, as "the best plant for agricultural instruction in the world"* - was a notable achievement. This enlarged institution was made possible through a happy combination of circumstances; i.e. the sympathetic support by the Provincial Government of a dedicated Board of Directors, and the devotion, vision, and energy of President Black, assisted by the zealous and efficient staff for which he was responsible.

President Black's forceful personality, strong religious character, highly developed sense of duty and dedication to an ideal; together with the good behaviour and common sense which most of the earlier agricultural students brought to the College from farm homes of that day, also were responsible for the high moral standing and humanistic culture that became specifically characteristic of the Manitoba Agricultural College as a residential institution.

Subsequently, the presidential office was next held by J.B. Reynolds, who came from the position of Professor of English at the Ontario

* Annual Report of Department of Agriculture, 1913; Page 16.

Agricultural College, Guelph, in 1915, to become head of M.A.C., but returned to become President of the O.A.C. after 5 years in Manitoba. He was followed in 1920 by John Bracken, who came from the position of Professor of Field Husbandry at Saskatoon to fill the position of President of M.A.C., which he held for two years until he was called by the Progressive Party, in 1922, to head the Provincial Government.

Subsequently, Professor C.H. Lee, the well-beloved teacher of botany and bacteriology, carried on for two years as Acting President until 1924, when W.C. McKillican, formerly Superintendent of the Brandon Experimental Farm, was appointed head of the College, in consequence of which he became the first Dean of Agriculture following the conveyance of the Agricultural College to the University.

Over the years the Manitoba Agricultural College and the Provincial Ministry of Agriculture were well-served by an efficient staff of professors, associate- and assistant-professors, lecturers and demonstrators who, although few in number in the earlier years, grew in numbers to comprise the larger teams of teachers and associated workers required to carry on the activities of the various departments as the institution developed in size, in scope, and in functional efficiency. A list of the staff of the Agricultural College during the time it functioned as an activity of the Ministry of Agriculture has been compiled for historic record and presented as an appendix.* It includes zealous individuals who, in supreme devotion to a cause supremely worthy, at first in the Agricultural College and later in the Agricultural Faculty of the University, made service to agriculture in Manitoba their life-work. It is inevitable, however, that such a list also includes others whose appointments, due to a variety of circumstances, were of shorter duration or of a temporary nature, and a few with other concepts who used their appointments as stepping stones to other ventures.

(d) The Work and Activities of the Institution

The work and activities of the Agricultural College in the early years of its operation were not only influenced by suggestions and recommendations contained in the report of the Agricultural Commission, and with provisions in the initial Manitoba Agricultural College Act, but they were obviously believed, by the administration, to be in harmony with the concept held by influential farmers and others, i.e., that the purpose of the College was to teach agriculture to young men with farm background.

In this connection it is of interest to note that the initial crest of the Institution approved by the Board (which can still be seen in stone over the eastern entrance to the University administration building on the Fort Garry site) is encircled by the motto "Manitoba Agricultural College for Farmers". With the introduction of classes in home economics, the administration adopted and displayed, on official stationery and publications, a crest with a modified motto emblazoned, "Manitoba Agricultural College, for Farm and Home". Furthermore, the initial prospectus emphasized that the new college

* Appendix II.

planned to cater to the needs of young men from the farm who, after attending the two-year course at the institution, would return to the farm to carry on agriculture as a vocation and to demonstrate that they had been improved by attendance at the College.

Even four years after the College was in operation the report of the Board of Directors (1910) stated,

"No student is admitted who has not spent at least two summers in practical work on a farm."

This regulation, however, was not strictly enforced in later years.

As time went on, two factors played a part in the expansion of activities into other fields than teaching and demonstration. Firstly, contact with the country through extension work led to demands for agricultural services; and secondly, solutions to the increasing number of agricultural problems brought to light through rural contacts, and the demand of students for advanced instruction at the degree level, required something more than a reiteration or enlargement of the teaching material given at the diploma level.

Thus the work and activities of the College expanded, in time, to the four-fold duties of:

- (i) Teaching and student training;
- (ii) Extension activities;
- (iii) Services rendered and demands of the public; and
- (iv) Investigations and initiation of research.

(i) Teaching and Student Training

Teaching at the Manitoba Agricultural College eventually involved so-called "long courses" in agriculture and in home economics; "short courses" in a variety of subjects; and "correspondence courses".

Agricultural Instruction - The initial course of instruction in agriculture was designed as an agricultural diploma course, to be given in two seasons of five months each, extending from October to March. The first diploma course commenced in the fall of 1906 and was the only "long course" given during the sessions of 1906-07 and 1907-08. The first diplomas in agriculture were granted in 1908 by the M.A.C. to the students who successfully completed this two-year course.

Following pressure from students for enlargement of their studies to advanced courses at the university level, an additional course of studies was designed for diploma graduates - to be covered in three additional sessions of five to six months each - which, when completed successfully, qualified students for the degree of Bachelor of Science in Agriculture.

In 1911 the first graduates of this enlarged course, which was inaugurated in 1908-09, were granted the degree of B.S.A. by the University of Manitoba with which the M.A.C. was, at first, affiliated for the conferring of degrees.

The graduating class in agriculture, in 1912, also received degrees from the University of Manitoba. However, in the annual report of the Board of

Directors to the Minister of Agriculture for the year ending November 30th, 1912, the Board joyfully record that:

"At the last session of the Legislature, at the request of the Board of Directors, backed by friends of agricultural education, the College was made an independent educational institution, with authority to outline and control its courses of study, and to confer its own degrees."

Thus in 1913, 1914 and 1915, the graduating classes in agriculture received degrees conferred by the Manitoba Agricultural College.

Despite the jubilation shown in the 1912 report, and after the Board Chairman, Major H.M. Dyer, resigned to serve with the armed forces, the annual report of the President to the Board of Directors for the year ending December 31st, 1915, prepared by J.B. Reynolds shortly after his appointment in October, 1915, records:

"Until February, 1912,* the Agricultural College was affiliated with the University. . . . I am recommending that affiliation be re-established. I believe that the graduates of the college unanimously would prefer to receive their degrees from the university on account of the increased prestige such a degree would afford. . . . The Board is asked to recommend the Government to introduce a measure in the Legislature for this purpose."

This suggestion was implemented, and at a convocation of University of Manitoba held in May, 1916, the degree of Bachelor of Science in Agriculture was conferred on agricultural graduates. This procedure continued in succeeding years.

This "off-again, on-again" affiliation is significant as evidence of two opposing concepts held at that time in respect of education at the Agricultural College. On the one hand, it reflects the fear felt by rural-oriented members of the Board that agricultural college students might be lured away from farm and rural pursuits; and, on the other hand, it reflects an urban-oriented, pedantic (but not necessarily accurate or universally-held) belief by others in some mystical virtue specifically peculiar to an academic degree if conferred by a university.

Both the two-year course and the initial five-year degree course of study, which included the two-year diploma course in agriculture, were modified and improved from time to time. The diploma course was extended in 1913 by adding a third year to the two-year course, and in 1919, the degree classes were separated completely from the first two years in common with the diploma classes, and Grade XI or matriculation was made an entrance requirement for admission to a revised five-year course leading to the degree in agriculture.

Home Economics Instruction - After succeeding in getting the Agricultural College established and in operation for training young men in agriculture, the Board of Directors undertook the further duty of investigating and providing for the training of young women in domestic science.

In 1908, as recorded in the annual report to the Minister, a committee of the Board of Directors "was appointed to visit some of the most

* Report of Department of Agriculture, 1913. The first degrees conferred by the Agricultural College were presented at a convocation held on March 28th, 1913.

important American institutions of household science, and the MacDonald College at Guelph* and to prepare a report."

In 1909 the Board completed arrangements "for the creation of a new department of the College to be known as the Department of Household Science". However, because the buildings and equipment already provided on the College site at Tuxedo, were inadequate for this additional endeavor, it was decided that "the classes for this work will be held during the summer months, when the boys' residence, classrooms, laboratories, and all other equipment of the institution will be available." Hence, provision was made for the first class in home economics to be held from May 3rd, 1910 to about August 19th.

This first course, which was more or less a long "short course" in home economics of three months duration, was undertaken in 1910. "Twenty-one girls registered and took the full three months' work and (19) received diplomas."

In 1911 two more courses in home economics of three months each in duration were given at the College. One course extended from January 3rd to March 31st, in which 17 girls enrolled and a second class of 15 girls was conducted from April 17th to July 14th, making a total enrollment of 32 students in these two classes. Records show that 28 diplomas (or certificates) in Home Economics were given in 1911, after which these initial home economics courses were discontinued and replaced by a two-year home-makers diploma course, parallel both in duration and dates to the two-year diploma course in agriculture.

Thus a revised home economics course was undertaken in 1911, which commenced on October 25th and continued until March 31st, 1912, thereby becoming the first year of the two-year diploma course for which the first diplomas were awarded in the spring of 1913.

A special course for teachers holding First or Second Class Professional Certificates was designed to aid them in developing home economics programs in public and high schools. This course extended from September, 1914, to June, 1915. Five teachers were enrolled and passed successfully, but because plans for extending home economics education in the school system of Manitoba were delayed by war-time conditions, this specific teacher's course was discontinued.

As time went on, a number of the diploma students in home economics became eager to undertake further training and petitioned the College authorities to provide such training at a university degree level. Consequently, in 1915-16 an additional three-year course of instruction was provided and, in 1918, the first class of six young women graduated with the degree of Bachelor of Science in Home Economics.

This five-year degree course in Home Economics continued until 1920 when matriculation was made an entrance requirement for all degree students, subsequent to which the two distinct courses (i.e. the two-year diploma course and the five-year degree course) were continued under the revised program of studies for as long as the College was an activity of the Ministry of Agriculture.

* Obviously a mistaken designation - the girls' residence at O.A.C. Guelph was known as MacDonald Institute.

Short Course Instruction - Short courses in addition to the regular courses were conducted at the College during the years 1906 to 1924. These courses covered a wide variety of subjects and varied in duration from a few days to two months. They included courses in factory and in home dairying; steam and gas engine operation, farm repair shop and farm machinery; farmers short courses in various aspects of field husbandry, soil management, animal husbandry, horticulture, poultry and bee-keeping; courses for weed inspectors and farmers; veterans civil re-establishment courses; courses in co-operation with the Department of Education for teachers-in-training from the Normal School; and special courses for publishers of rural and farm papers and for clergy and rural leaders. In addition, summer school classes were given in home economics for teachers and short courses for others in various aspects of household management and household art. These courses were invariably well attended and much appreciated.

Correspondence Courses - In 1918, in response to what appeared to be a demand, a number of correspondence courses were prepared or were under preparation. These included poultry keeping; building construction drawing; soil management; dairy husbandry; farm accounts and records; weeds and weed control; botany and nature study; horticulture; and home nursing. However, due to insufficient numbers applying for the respective courses, this endeavor was abandoned.

Training other than Academic - An outstanding feature of the M.A.C. - during the years the Fort Garry site was occupied and managed exclusively by the College under the Ministry of Agriculture (1913 to 1924) - was the training obtained and the rich experience enjoyed by students while living in residence and under the cultural environment provided by the M.A.C. as a co-educational institution. The training thus obtained had such far-reaching effects that this distinctive feature should be recorded in somewhat more detail.

The residence first provided for agricultural students at the Tuxedo site (1907 to 1913) - designated as Roblin Hall - had accommodation for only 260 students.* Consequently, with the yearly increase in numbers attending the courses in agriculture, and, subsequent to 1910, the need of living quarters for students in home economics, the residence facilities soon proved quite inadequate, and from 1910 to 1913 many students had to find living accommodation in the city.

However, when the new buildings were erected on the Fort Garry site, the experience gained in administering and operating a residential institution during the formative years at Tuxedo enabled the administration to provide all that was required for the accommodation of 500 to 600 young men and women in residence on the campus.

With adequate living quarters thus provided on a campus more or less isolated from the city, and with the low rate of \$4.50 per week per student for board and room, practically all regular students lived in the College residence after the institution was moved to the new site.

* In the initial year (1906-07) a dormitory had been provided on the top floor of the administration building.

Short course students attending the College during the months of May to September also had the privilege of living in residence, but when the regular students were in attendance, during the months of October to April, only a limited number could be accommodated and the remainder commuted as day students.

The residence building on the Fort Garry campus was unique. It was comprised of a central section with two wings attached. The central section contained a large dining room on the first floor and an assembly hall or auditorium above which occupied the entire section. The west or men's wing, and the east or women's wing, provided living quarters. Each of the wings had four floors of rooms furnished for two students each, arranged on both sides of a central corridor. Each wing was provided with separate sitting rooms, a separate gymnasium in the rear, a separate swimming pool under the dining room, and a hospital section on the fourth floor.

Under a dietitian, a kitchen and dining room staff, and a baker, were provided by the administration. A garden of several acres was maintained by the Horticultural Department which provided all the vegetable food supplies; the meat required was provided by an instructor in meats, either from animals slaughtered and used for student demonstration in the livestock judging pavilion or selected by the instructor from St. Boniface abattoirs; and dairy produce was supplied from the College herd through the Dairy Department.

A system of student self-government was instituted in the first year the College opened and was continued in succeeding years as an essential part of student life. Student government was vested in an Executive Council consisting of a President, elected from the senior year by the student body; the class presidents representing and elected annually by each class year; and the respective presidents of the Literary Society, the Athletic Association, the local Y.M.C.A., and the Fire Brigade.

The Student Executive Council dealt with all extra-curricular activities, it enforced all by-laws of the students self-governing constitution and any decrees in respect of student conduct approved at general meetings of the student body. In this connection the Executive Council had the power to suspend or expel students from residence for violation of such by-laws and decrees or for misconduct. It also served as the means of communication between the College authorities and the students.

The routine in residence was organized, insofar as possible, to foster gracious and wholesome living. The dining room was provided with square tables, white linen tablecloths and napkins. Each table accommodated eight students and each group of four tables was tended by a waitress. The seating accommodation in the dining room was regulated by the Student Executive Council. Class presidents supervised the selection by lot of the personnel in their respective class year. Insofar as the numbers of home economics students permitted, four young women and four young men were seated at each table, and as the allocation was changed every two weeks - the young men one week and the young women in the alternate weeks - the seating combinations changed every week. Meals were served on time at regular hours and dining room etiquette was observed.

At 8 a.m. after the morning meal, the students assembled in the auditorium for "prayers" conducted by a member of the Chapel Committee, and although attendance was not compulsory, very few missed the daily assembly to take part in the singing of a hymn and the alternate reading of a psalm or other selection, to join in the Lord's Prayer, and to note the announcements incidentally read at this gathering. About once a week the College President would attend to present a brief inspirational or advisory talk.

To ensure that conditions were favorable for study, a quiet period after seven o'clock on weekday evenings (except Friday) was strictly enforced in the residence by the Executive Council. Friday evening was reserved for social activities which took many forms, such as mixed parties to theatre presentations in the city, entertainments in the College auditorium including concerts, drama presentations, inter-class and inter-college debates or public speaking competitions sponsored by the Literary Society or other student associations, or the lighter entertainment provided by stunt night and glee club renderings. Outdoor entertainment also was featured in the form of snowshoe, skating and toboggan parties.

The gymnasias were well patronized outside of class and study hours, both for spontaneous and organized physical training. Under the Athletic Association, inter-class and inter-college games of soccer, hockey, and basketball, played a part in stimulating the esprit de corps of the institution; and a covered curling rink, financed by the Student's Co-operative Association (which operated the book store), also provided harmonious personal contact for faculty and students alike.

A notable aspect of student training at the Agricultural College was the curricular and extra-curricular emphasis on public speaking. From the earliest years training in public speaking was fostered in the English Department by G.A. Sproule and, subsequent to 1912, enlarged and expanded by C.R. Hopper. The three Literary Societies conducted by the students of the first, second and degree years as an extra-curricular activity held regular meetings where public speaking and debates gave all students the opportunity to become more proficient in the art of self-expression and communication.

The Literary Society of the student body, subsequent to 1909, entered the Inter-collegiate Debating Union and competed with student debating teams from the colleges affiliated with the University of Manitoba. The debating team from M.A.C. won the Inter-collegiate Championship in 1916 and repeated this success in four out of the succeeding five years. Then as inter-university debates replaced the inter-collegiate series, M.A.C. students took their full share in participation and in the first McGowan Cup debate, three of the four Manitoba debators were students from M.A.C.

Because of the distance of the College residence from the city, church services were arranged by the Chapel Committee and held in the auditorium at 3 p.m. each Sunday, at which Ministers of various denominations, in rotation, welcomed the opportunity to conduct the service of worship. The student choir also welcomed this opportunity to render service and to obtain instruction from a qualified music teacher. On Sunday mornings, optional

bible classes were held in various student's rooms at which a few of the senior students served as class leaders. One of the city's clergy undertook to direct this endeavor by meeting each week with the class leaders to discuss the lesson for the following Sunday.

In case the foregoing references to student life and training at M.A.C. should appear to be superfluous, it may be pointed out that the College came into existence because of a recognized need and that it was designed and administered by rurally-oriented personnel to render timely service to rural Manitoba at a unique period in the development of the Province. At this time (due to the better financial conditions which were the reward for efforts put forth by the initial homesteaders and the incoming settlers of the 1880's and 1890's) pioneer conditions were rapidly disappearing from the farm lands in the prairie and aspen-grove territory.

For many men and women on prairie farms (who despite the material difficulties and privations experienced in the pioneer years had retained their hopeful dreams and a sense of moral rectitude) it was a time of concern with the improvement of their homes and farmsteads, and of securing for themselves, their families and their local districts, a fuller, richer and more satisfying way of life. These people desired and expected that a wholesome environment be provided for the sons and daughters they sent to the College, not merely for technical training but also to benefit from the cultural advantages an institution of higher learning was presupposed to provide. In this they were not disappointed.

The introduction of student self-government in the first year the College opened emanated from familiarity with the aspirations and desires of farm folk on the part of Principal W.J. Black, together with his own idealism and vision, and the backing of a Board of Directors sympathetic to his views. Subsequently, the continuation and enlargement of student responsibility, which came to full fruition when the institution moved to the Fort Garry site, justified Principal Black's faith in the common sense and self-discipline acquired through the responsibilities incident to farm life by the young men and women who came from rural areas at that time. Life in residence thus provided practical training in citizenship and harmonious community living. In addition, the moral fibre of the students was strengthened by association with staff members who, as individuals such as C.H. Lee, the beloved Professor of Bacteriology, inspired a love of learning and made sure the students were familiar with the precept that self-knowledge, self-reverence and self-control, lead life to sovereign power; and who, as a group collectively, demonstrated by precept and example that the privilege of attending the institution at a sacrifice to parents and at cost to the Province, brought with it the responsibility of obtaining "mastery for service" to farm, home and community.

Further in respect of curricular and extra-curricular training, reference may be made to statements included in the annual report of President J.B. Reynolds for 1916.

"What have we a right to expect from young men and women who have spent one, two or more years at the College studying the problems of farm and home and community? A fair measure of success in managing their own affairs? Yes, and

something more than that. We expect public spirit, active citizenship, an enthusiasm in all things that make for a better community life. . . . It is in public service, whether professional or amateur, that the Agricultural College graduate can repay the obligation he owes to the Province for the education received.

"The Agricultural College idea is the idea of a wholesome and satisfactory country life, and we try to inspire our students with that idea. Those who come adequately under the influence of the College do, I believe, accept that idea, and whether they are farmers, homemakers, teachers or preachers, they do, more or less, try to make the gospel of rural life prevail."

Some indication of the homes and families thus influenced directly through the training provided at the M.A.C. by the Ministry of Agriculture, during the years 1906 to 1924, may be obtained from the data in Table 20 which shows the number of students enrolled in the various courses from 1906 to 1924.

(ii) Extension Activities

Although the Agricultural College was designed primarily to be a teaching institution it soon became evident that its teaching activities were not to be confined to instruction on the campus. As early as 1910, the annual report of the Board of Directors to the Minister of Agriculture records that,

"The work of the College naturally divides itself into two distinct divisions, teaching and demonstration work at the institute, and the carrying as far as possible of this instruction to the country under the name of extension work."

and again in the Directors' annual report to the Minister in 1911, that

"All cannot come to the College, but the College must come to all if it is to achieve the greatest possible good. For carrying on this great department of the work there is no regular staff of instructors. . . . We believe the time has come when it is most desirable that this department be organized and fully developed. The department requires a small staff of competent educators who will throw all their energies into this work of carrying agricultural education to the farmer's very door by holding short courses and giving lectures throughout the Province. This is the greatest need of the hour."

Meanwhile, the College staff did its best.

Agricultural Trains - As noted on Page 162, the Provincial Superintendent of Dairying and his staff were not only the first to develop a school for agricultural instruction in Winnipeg but, after becoming the first operational department of the M.A.C., were also the first to carry agricultural education to the country on railway rolling stock. This was done in 1907 by means of a Dairy Special Train, consisting of an engine, a refrigerator car, and a passenger car fitted up for lectures and demonstrations in dairy techniques. The first train was run on the C.N.R. line from Winnipeg via Gladstone to Swan River, in course of which 13 stops were made for meetings and demonstrations. In June, 1910, similar dairy special trains were equipped and operated on the C.N.R. and the C.P.R. lines.

This endeavor proved to be so highly successful that in 1911 the College authorities, with the co-operation of the C.P.R., decided to put the institution on wheels and take the M.A.C. to the country in a big way. In

TABLE 20. STUDENTS ENROLLED AT MANITOBA AGRICULTURAL COLLEGE* - 1906 to 1924

Year	Agriculture		Home Economics		Regular Agricultural and Home Economics Courses	Short Courses	Total Enrolment
	Diploma	Degree	Diploma	Degree			
1906-07	84	—	—	—	84	28	112
1907-08	143	—	—	—	143	49	192
1908-09	162	11**	—	—	173	218	391
1909-10	189	18	21	—	228	447	675
1910-11	205	31	32	—	268	432	700
1911-12	198	52	28	—	278	421	699
1912-13	166	65	59	—	290	249	539
1913-14	209	61	69	—	339	331	670
1914-15	209	70	84	—	363	444	807
1915-16	195	58	96	9**	358	359	717
1916-17	86	37	64	14	201	406	607
1917-18	121	47	73	26	267	458	725
1918-19	109	25	44	20	198	422	620
1919-20	205	58	110	20	393	485	878
1920-21	107	103***	51	68***	329	349	678
1921-22	87	77	33	65	262	191	453
1922-23	68	72	46	64	250	377	627
1923-24	63	72	35	70	240	365	605

- 197 -

* From data made available courtesy of Janet Usher, Faculty of Agriculture, University of Manitoba.
 ** First two years of Degree in common with Diploma Course.
 *** All five years of Degree Course separate from Diploma Course.

1911, a "Manitoba Agricultural College Train" was assembled consisting of an engine, refrigerator car, palace stock-car, and demonstration cars with a sleeping car and a dining car for the accommodation of the staff of lecturers from the various College departments. Lectures and demonstrations were given at 78 points and members of the staff were thus enabled to meet an estimated number of from 20,000 to 25,000 persons.

In 1912, similar "Agricultural Special Trains" of eight cars consisting of refrigerator car, livestock car, baggage car, field crops car, dairy car, home economics car, sleeping and dining cars, were equipped and run on the C.P.R. and C.N.R. lines. The train on the C.P.R. which ran in 1912 from May 28th to June 29th made 87 stops, and the C.N.R. train which ran from June 10th to July 4th made 59 stops. It was estimated that 35,000 persons attended the lectures and demonstrations given at the 146 stations visited in 1912, which gives some indication of the success achieved in this attempt to carry agricultural education to the country.

In 1913 two similar "Better Farming Trains" were operated, one on the C.N.R. which ran from June 10th to June 27th; and one on the C.P.R. which ran from June 3rd to June 27th. The C.P.R. train, in addition, included provision for instruction in agricultural engineering and poultry. The number of persons contacted through this project was estimated as 36,500.

Two "Better Farming Trains" also were fitted up and operated in 1914, each consisting of refrigerator car, livestock car, feed car, baggage cars, field crops car, dairy car, home economics car, information car, sleeping car and dining car. The C.P.R. train, in addition, was equipped with a moving picture car, and made 67 stops; and the C.N.R. train, which was equipped with additional provision for instruction in agricultural engineering, made 55 stops. Some 40,000 persons visited the trains and took advantage of the lectures and demonstrations given at a total of 122 station stops.

In 1914 also, two mixed farming special coaches toured the Province through the continued co-operation of the C.P.R. and the C.N.R. These coaches were specially equipped as classrooms for taking the College to the country. Lectures were given on seed selection, grain judging, crop rotation, feeding dairy cattle, winter feeding of beef cattle, etc., at many places where lecture halls were not available. Ninety stops were made and 8,000 people took advantage of the instruction thus provided.

These methods of carrying agricultural instruction to the country were made possible only through the generous co-operation of the railway companies in providing the necessary rolling stock and in operating the trains free of cost to the Ministry of Agriculture and the College; but, although as an extension project the trains proved to be highly successful, they had to be discontinued for the next five years due to conditions brought about by the 1914-1918 war.

In 1921, however, the three provinces of Manitoba, Saskatchewan and Alberta, together with the Canadian Pacific Railway, co-operated in a campaign against noxious weeds. To launch the campaign an "Inter-provincial Weed Special Train" was operated for six weeks (during the months of January to March) over the southern parts of the three provinces. This train consisted of a demonstration car and two lecture cars. The

speakers represented the Departments of Agriculture for the three provinces, the Agricultural Colleges and the Dominion Experimental Farms. Twenty-five places were visited in Manitoba, twenty-four in Saskatchewan and twenty-four in Alberta.

The next and most ambitious attempt to take the Agricultural College to the country was undertaken in 1923, some twelve years after the first Agricultural College Special Train was put into operation. The trains in 1923 (one on the C.P.R. and one on the C.N.R. lines) consisted of 26 cars, including exhibit, lecture and moving picture cars, and cars for the accommodation of the staff and attendants. A special feature of these trains was an exhibit car designed by the Field Husbandry Department to demonstrate the forage and fodder crops that could be grown in Manitoba. This exhibit was used in conjunction with the lectures given in the accompanying lecture car to interest farm operators in the more extensive production of feed crops. To ensure that interest would result in action, seeds of grasses, clovers, alfalfa, millet, sunflower, corn, and other farm feed crops were carried in a baggage car and sold after each lecture to those whose interest was aroused. This venture was highly successful and resulted in the introduction of alfalfa and other crops into districts where such crops had not been grown before, and may be credited with initiating the growing of alfalfa for seed in a number of districts in the Interlake area.

The "Livestock Improvement Trains" of 1923 were the last attempts to carry the College 'en bloc' on wheels to the country. However, the forage crop cars introduced as part of the 1923 project were so gratifying that the Field Husbandry Department repeated the effort in 1924 by arranging with each of the two railway companies for the use of a passenger coach equipped as an exhibition-lecture car, a baggage car to carry forage crop seeds, and a caboose for the accommodation of the lecturer and his assistant.* These "Forage Crop Cars" were hauled from one station stop by regular local passenger trains and dropped off at the next scheduled stop, and were operated for six weeks in the early spring of 1924. This project was the means of spreading interest in, and increasing the acreage of, forage crops in the Province, and was so successful that, in subsequent years, the Department of Agriculture carried on with the operation of Forage Crop Cars, as a departmental activity, on the railways for some years after the College was transferred to the University.

Alternative Methods of Contact - Although contact of the College staff with the country by means of special trains was interrupted from 1915 to 1921, three new extension ventures were undertaken in an attempt to continue instructional contacts with rural areas.

In 1915, members of the College staff and of the Department of Agriculture formed six groups of instructors, each group consisting of three agricultural lecturers and two instructors in home economics. Each group travelled by automobile on separate circuits, during the early summer, to

* Professors T.J. Harrison and C.R. Hopper on one line and J.H. Ellis and W.H. Shafer on the other.

hold a total of 171 meetings at points some distance back from the railways where contacts were made with some 30,000 rural people. Difficulties were encountered on account of wet weather and bad roads, but each arranged meeting was made on schedule. Nevertheless, although these meetings were successful, automobile tours on this scale were discontinued because of the difficulties of transportation over earth roads at that period of highway development.

The next attempt to contact rural people on a large scale was the preparation of, and attendance at, exhibits displayed at the Brandon Summer Fair. The first effort of this kind was undertaken in 1916 and was of a relatively modest nature, but in subsequent years the Agricultural College exhibit at the Brandon Fair became a highly successful feature.

During the years of the M.A.C. Sub-Period, the College exhibits at the Brandon Fair were displayed throughout "fair week" in one-half of the eight-sided Crystal Palace Building, in which the inner wall of each side provided a 40-foot background. The individual educational exhibits were 10 feet in depth and either 20 or 40 feet in width. The background of the exhibits was 11 feet in height continued along a total length of 200 feet. Each exhibit was attended by a member of the department that designed it, but the co-ordinated background displays and the expenses of the project were financed by the Department of Agriculture. A shorter section near the entrance door was fitted up as an information booth and rest room, where agricultural literature and College calendars were distributed, and the more personal contacts were made with interested visitors from rural areas who were attending the fair.

The third venture in attempting to maintain extensive rural contact was undertaken in 1921 as a joint project in which the Agricultural Extension Service, the Extension Division of the University of Manitoba, and the Social Service Council co-operated in a new line of endeavor designated as Agricultural Chautauqs. Under this scheme, afternoon and evening meetings were held for two days at 62 rural points. The speakers were changed each day. The afternoon lectures were devoted to agricultural subjects, and in the evening, motion pictures dealing with agriculture, education, travel and humor were used while the audience was assembling, after which one, and frequently two, popular lectures were given. University staff members who delivered lectures were Dr. Kingston, Dr. Shipley and Professors Buller, Jolliffe, O'Donaghue, Clarke and Burwash. The lecturers from the Agricultural College included President Reynolds and Professor Jackson, and extension lecturers J.H. Kitely, J.E. Bergey, F.F. Parkinson, J.D. Mayer, R. Muckle and A.C. Heise. This third venture, however, like the automobile tours, was not a continuing activity, whereas the combined exhibit of the M.A.C. and the Department of Agriculture at the Brandon Summer Fair was continued as an annual event for many years.

Development of Extension Service - Although the taking of the Agricultural College on the "wheels of railway trains" was an early spectacular and effective agricultural extension project, it was made possible only through the co-operation of, and at expense to, the railway companies. Moreover, though successful as a means of contacting a large number of

people, the continuation of this method of approach would no doubt, in time, have lost novelty and public appeal.

However, other less ambitious projects were initiated during the M.A.C. Sub-Period, some of which, though somewhat modest in the earlier years, were much more personal and grew to be major agricultural extension projects.

Notwithstanding the fact that, prior to the M.A.C. Sub-Period, the Ministry of Agriculture must be credited with undertaking preliminary and intermittent activities in connection with the support of farmers institutes, the combating of weeds, grasshopper control, travelling dairy schools, the publication of information in the form of occasional bulletins and annual reports of agricultural societies, livestock associations, etc.,* the development of the Agricultural Extension Service appears to have commenced with the extension activities initiated by the Agricultural College about the year 1910.

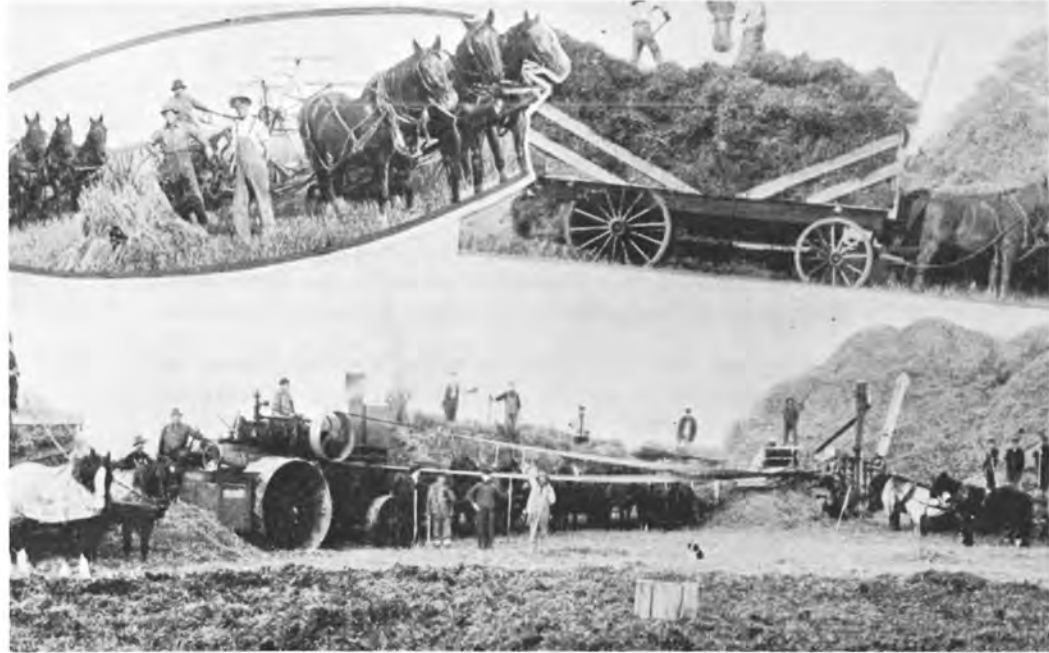
In that year, and in addition to the references made to the extension work of the College in the annual report of the M.A.C. Board of Directors, the President of the College submitted an annual report to the Minister of Agriculture and Immigration which he signed as W.J. Black, Managing Director, Agricultural Societies.

The College Board of Directors report for 1910 stated that "while the professors were not actively engaged in teaching they were occupied in some form of college extension work in the country"; and "the work of the agricultural societies is directed from the College and considerable of the time of some of the professors is occupied in judging at the summer and fall fairs, winter seed grain fairs, and at the good farming competitions, all of which are held under the auspices of the agricultural societies."

The organization and direction of agricultural extension work in Manitoba, from 1910 to 1923-24, appears to have alternated between the College and the Department of Agriculture, but in each year the work was financed by the Department, and the annual reports on agricultural extension, prepared by the various directors, were addressed to the Minister of Agriculture and Immigration.

W.J. Black continued as "Managing Director, Agricultural Societies and College Extension" from 1910 until he resigned as President of the College in 1915. In 1911, E. Ward Jones was appointed as assistant to the Managing Director, and in that capacity became responsible for most of the duties in connection with the Agricultural Extension office. In 1913 he prepared and submitted to the President of the College the annual report on agricultural extension which he signed as "Superintendent, College Extension and Agricultural Societies". In the following year, however, he was appointed Professor of Animal Husbandry and the annual report of Agricultural Societies and College Extension work, for 1914, was submitted by W.J. Black as Managing Director.

* Pages 146 to 148 .



19. Cutting, stacking and threshing scenes in Manitoba around 1910

PIONEER DEVELOPMENTS

20. Harvesting grain in Manitoba - 1915.



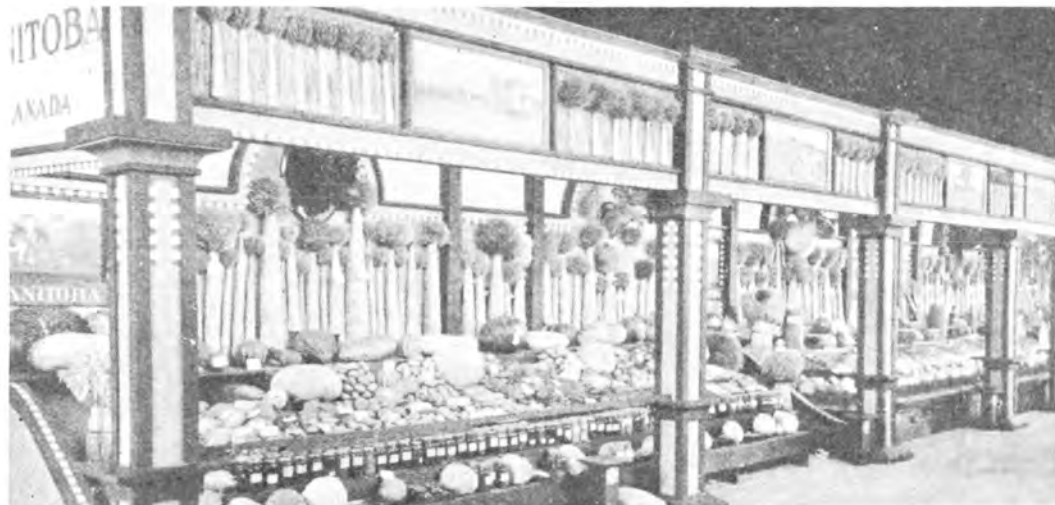


21. The days of the harvester excursions, - 1903 - A Winnipeg stopover at CPR station on the way to the wheat fields (Courtesy of Manitoba Archives)



22. Manitoba Department of Agriculture Immigration and Colonization Office,
St. Paul, Minnesota, U.S.A. - 1916
(Courtesy of Manitoba Archives)

23. Manitoba Department of Agriculture Exhibit at
International Soil Products Exhibition
Kansas City - 1918-1919





24. Pioneering with apples - Orchard of A.P. Stevenson, Morden, Manitoba - 1915



25. Demonstration plot of raspberries on reclaimed land in Pasquia Land Settlement Project



26. Staff and students of Manitoba Department of Agriculture Dairy School - March, 1895

FIRST STEPS IN AGRICULTURAL EDUCATION AND RESEARCH

27. First Experimental Plots at Manitoba Agricultural College - 1914





28. Agricultural College - Tuxedo Site
1906-07 to 1912-13

29. Manitoba Agricultural College - Fort Garry Site
just after construction



MANITOBA AGRICULTURAL COLLEGE 1913

Fort Garry Site



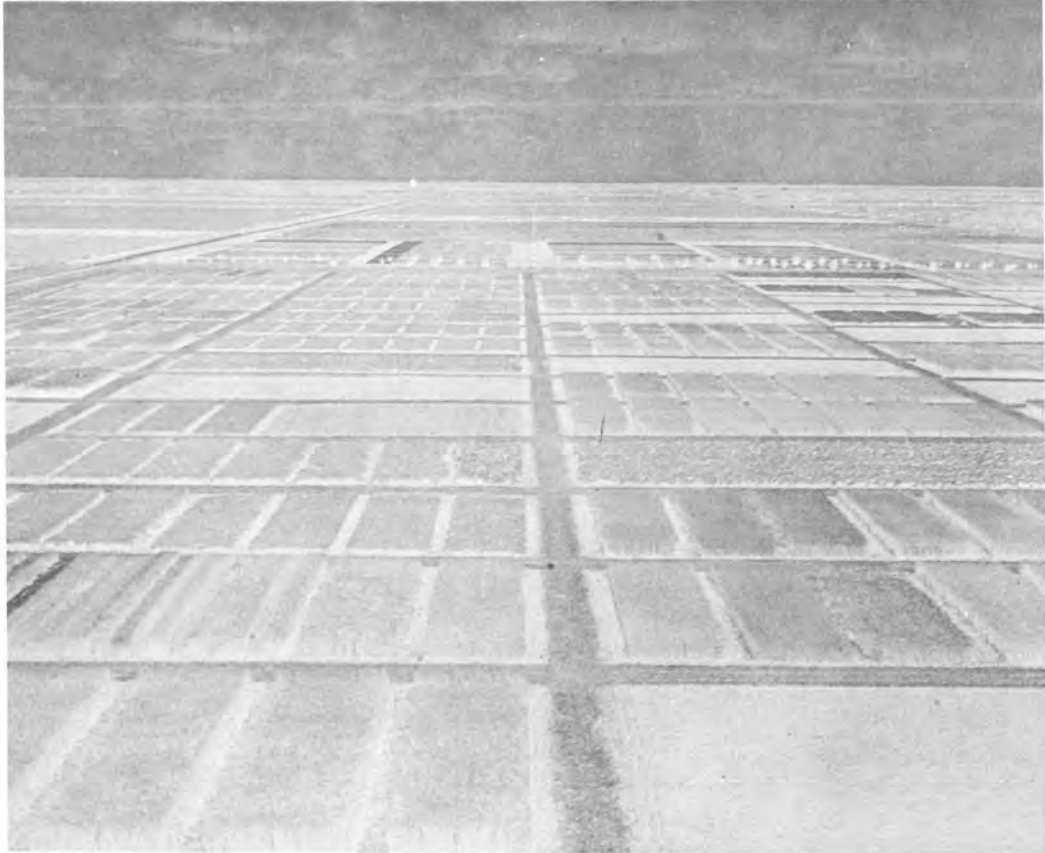
JUST AFTER CONSTRUCTION

Auditorium and Dining Hall

Students' Residence

Agricultural Engineering

Physics and Chemistry Building



30. Experimental Plots at Manitoba Agricultural College - 1917

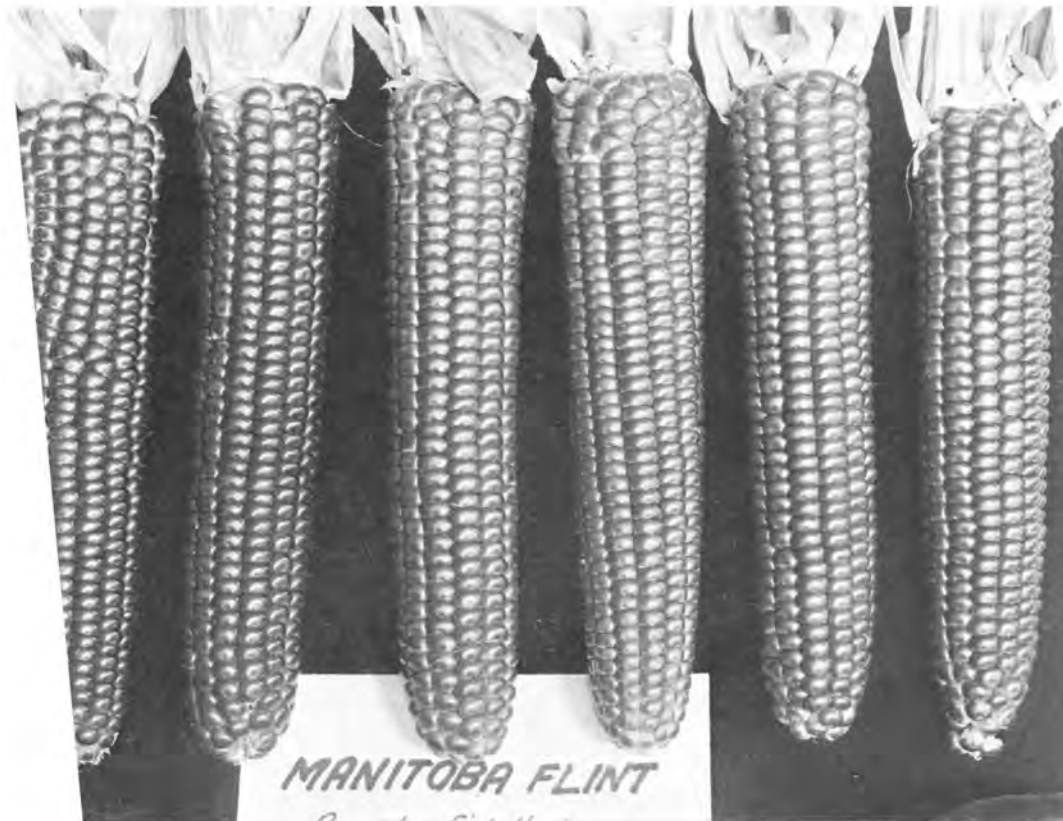
31. Pasture crop substitutes for summerfallow experiment
Manitoba Agricultural College Fertility Field - 1921





32. Forage Crop Breeding Plots, Manitoba Agricultural College - Circa 1922
White Dutch Clover and selected varieties of farm grasses

33. Manitoba Flint Corn developed by Professor W. Southworth,
Manitoba Agricultural College - 1924



In 1915, W.J. Black resigned as President of the College and S.T. Newton (with a school teacher background) was appointed Superintendent of Extension Service. In that capacity he prepared and, until 1921, continued to submit the annual report on agricultural extension under various titles. In 1916, it was under the title of Superintendent of Agricultural Extension, Manitoba Agricultural College, but in 1917, when J.B. Reynolds was the incumbent President of the College, the Agricultural Extension offices were moved from the campus to the Legislative Building, Winnipeg, and the annual report on agricultural extension for that year was submitted by the "Superintendent of Agricultural Extension, Parliament Buildings". Subsequently, the annual reports of S.T. Newton were signed as "Director of Extension Service", thereby indicating that Agricultural Extension had become established as an administrative branch of the Department of Agriculture and Immigration.

Following the installation of John Bracken as President of the Agricultural College, an Agricultural Extension Council was organized to maintain close co-operation in agricultural extension activities. The personnel in the first year consisted of:

President, John Bracken (Chairman);
J.H. Evans, Deputy Minister of Agriculture;
R. Fletcher, Deputy Minister of Education;
R.B. Vaughan, Director of Technical Education;
Miss M.L. Kelso, Director of Home Economics, M.A.C.;
Mrs. D. Watt, President of Women's Institutes;
S.T. Newton, Superintendent of Extension Service.

This Council was enlarged in 1921 by the addition of Mrs. J.S. Wood, President of Women's Institutes; and of Dr. R.C. Wallace and Dr. W.T. Allison of the University of Manitoba.

During the tenure of John Bracken as President of the M.A.C., this Council met monthly to review the extension work in progress and to make recommendations for future activities.

On January 1st, 1921, N.C. MacKay was appointed Assistant Director of Extension and on the resignation of S.T. Newton was appointed Director. As such, he submitted his first annual report for the year 1923-24, in which he records that "On September 1st, 1923, the office of Extension Service was transferred from the Parliament (Legislative) Buildings to Room 206, Administrative Building, Manitoba Agricultural College." Two years and eight months later, the Extension Service was again moved back to the Legislative Building (May 13th, 1926) and continued thereafter as a Branch of the Department of Agriculture and Immigration.

Agricultural Societies - One of the earliest extension activities undertaken by the M.A.C. was the direction of agricultural societies. These societies, as first established under the provincial Act of 1872, appear to have originated spontaneously in country districts and electoral divisions as the result of the initiative of individuals and groups with a general or a specific interest in various aspects of agricultural development, and to have been directed primarily by the elected officers of the respective societies.

Furthermore, although the Ministry of Agriculture prior to 1910 supported the societies by grants for buildings, prize money, matching membership fees, and financing or supplying speakers at "farm institute" meetings, etc.,* the varying degrees of activity of the respective societies, and the pressure on the Department for support, appear to have depended largely on local inspiration and leadership.

With the assumption of the management of agricultural societies by the President of the Agricultural College in 1910, the M.A.C. undertook to give direction and leadership to these societies, as College extension activities, and from this time forward the number and activities of agricultural societies were greatly increased and enlarged.

The number of agricultural societies and the total membership by years during the M.A.C. Sub-Period may be tabulated from data presented in the various annual reports of the College and the Department of Agriculture as follows:

Fiscal Year Ending	Number of		Fiscal Year Ending	Number of	
	Societies	Members		Societies	Members
Dec. 31, 1906	50	—	Nov. 30, 1916	70	8,882
" 1907	52	—	" 1917	70	8,840
" 1908	56	6,174	" 1918	67	8,904
" 1909	58	6,555	" 1919	72	—
" 1910	62	7,462	" 1920	No record	—
" 1911	64	7,210	" 1921	73	10,416
Nov. 30, 1912	65	8,262	Aug. 31, 1922	No record	—
" 1913	67	8,530	" 1923	78	10,064
" 1914	68	8,779	" 1924	80	11,297
" 1915	68	8,185			

Activities of Agricultural Societies - When the Agricultural College first undertook extension work in rural areas, summer and fall fairs were the chief and most common activity carried on by agricultural societies; and it was through serving as judges that certain members of the College staff made contact with officers of these societies and with the prominent stockmen who exhibited or acted as judges at these fairs.

The number of summer and fall agricultural fairs held during the M.A.C. Sub-Period showed an increase with the increasing number of agricultural societies from 1906 to 1923-24.

In addition to summer and fall fairs held by the agricultural societies, larger fairs were held each year from 1906 to 1914 by the following five organizations, i.e. the Canadian Industrial Exhibition, Winnipeg; the Portage Industrial Exhibition Association; and the Agricultural and Arts Associations at Brandon, Killarney and Neepawa. Commencing in 1915, the Winnipeg Exhibition was discontinued, but the other larger exhibitions, with the

* See Pages 117 to 121.

Fiscal Year Ending	No. of Fairs	Fiscal Year Ending	No. of Fairs	Fiscal Year Ending	No. of Fairs
Dec. 31, 1906	46	Nov. 30, 1913	65	Nov. 30, 1919	71
" 1907	51	" 1914	67	" 1920	55
" 1908	56	" 1915	68	" 1921	70
" 1909	56	" 1916	64	Aug. 31, 1922	No Record
" 1910	61	" 1917	68	" 1923	77
" 1911	54	" 1918	67	" 1924	77
Nov. 30, 1912	64				

exception of Brandon which became known as the Provincial Exhibition, were gradually included and listed in the Extension Service reports as agricultural society fairs.

Seed Fairs - In addition to the summer and fall fairs which generally featured livestock, agricultural products and domestic arts, seed fairs also were encouraged by the M.A.C. Extension Service. Poultry shows were sometimes held in conjunction with this special type of exhibition. Seed fairs held as local shows and in connection with the larger livestock exhibitions were successful for a number of years after 1910, but did not retain the support of exhibitors in the early 1920's, due in part to the difficulty of obtaining good samples of grain because of the prevalence of wheat rust, and due in part to farm labor shortage. Thirty-five seed grain fairs were held in 1911, but after increasing to 44 fairs in 1921, the number of seed grain fairs decreased to 15 in 1923-24.

On the other hand, the Provincial Soil Products Exhibition, which was generally held in February in conjunction with the annual convention at the Agricultural College, grew in importance under the management of the Field Husbandry Department and with the co-operation of active seed growers. So much interest was aroused by this endeavor that the T. Eaton Company at various times used the Soil Products Exhibition as a feature attraction in their Winnipeg store during Bonspiel Week.

Standing Grain Crop Competitions - Standing grain crop competitions were introduced in 1910 in connection with efforts to encourage good farming. This competition was undertaken by four agricultural societies in 1911. In 1921, the number of these competitions increased to 29 when 409 farm fields were entered in this competition; but in 1923-24 the number of societies holding this competition fell to 13. In some cases, classes were provided at seed grain fairs for grain threshed from fields entered in Standing Grain Crop competitions.

Good Farming Competitions - Good farming competitions were initiated with high hopes, but after being supported over an eight-year period were apparently discontinued as an agricultural society project. The number of societies holding this competition, together with the number of competing farms recorded by years in the reports of the Extension Service, are as follows: 1910, (6) - 39 entries; 1911, (13) - 94 entries; 1912, (8) - 79 entries; 1913, (5) - 69 entries; 1915, (5); and 1917, (3).

Summerfallow Competitions - Summerfallow competitions were undertaken by 12 agricultural societies in 1917, 32 in 1918, 17 in 1919, and 20 in 1921, but decreased to 6 in 1923-24. In this competition certain difficulties arose in respect of agreement as to what constituted a good and satisfactory summerfallow in different districts and hence this project was discontinued for some years but later revived.

Plowing Matches - Prior to 1911, few agricultural societies took advantage of a clause in "The Agricultural Societies Act" providing for special grants for plowing matches.* However, from 1911 to 1923-24, plowing matches became important events in various districts. The growth of this project and the interest taken by agricultural societies is indicated by the number of plowing matches held each year from 1911 to 1923-24.

Year	No. of Plowing Matches Held	Year	No. of Plowing Matches Held
1911	3	1918	19
1912	8	1919	24
1913	21	1920	25
1914	25	1921	30
1915	17	1922	No Record
1916	11	1922-23	21
1917	21	1923-24	15

Agricultural Society Meetings and Short Courses - In May, 1910, President W.J. Black, as director of College extension work, sent a circular letter to all of these societies offering to supply speakers on agricultural topics to all societies that had not held meetings since the beginning of the year. A similar letter was issued on December 1st to all societies not holding seed fairs, and also to several societies which had held seed fairs early in the season. Thus the groundwork was laid which resulted in from 200 to 370 extension meetings and agricultural short courses which were held annually under the auspices of the agricultural societies.

Horticultural Societies - As early as 1872 the Manitoba Legislature passed an Act for the Establishment of Agricultural and Arboricultural Societies (Vict. 35, Chap. 15), but reference to an established horticultural society can not be traced in available records of the Ministry of Agriculture prior to 1898. Nevertheless, throughout the years the directors of practically all agricultural societies had sufficient interest in garden and orchard crops, and in ornamentals, to provide and list exhibition classes and prizes for vegetables, fruits and flowers in the catalogues of their respective summer or fall fairs. Moreover, members of the agricultural societies were exposed from time to time to lectures on horticultural subjects given at local society meetings by visiting extension horticulturists. Thus it is apparent that in the

* Plowing matches were held at Stonewall in 1883 and at Portage la Prairie in 1885.

first three decades of Manitoba as a province, few rural districts had sufficient local enthusiasts to organize horticultural societies separate from, and independent of, local agricultural societies. On the other hand, it seems apparent that the horticultural societies appealed more to enthusiasts mainly resident in the city and in towns where people were more intimately concerned with gardens and lawns, and with house plants and the beautification of urban home surroundings, than with the production of field crops and livestock.

In the detailed supply vote of the Department of Agriculture for 1898, an item of \$100.00 was earmarked for "Horticultural Society". This item was raised to \$200.00 for each of the years 1899, 1900 and 1901. The first report of the organization designated as the Western Horticultural Society to appear in the annual reports of the Ministry of Agriculture records an annual meeting held on March 14th, 1901, and the election of the following officers:

President	-	Rev. Professor Baird, Winnipeg
Vice Presidents	-	S.A. Bedford, Brandon; A.P. Stevenson, Nelson; John Caldwell, Virden; Angus McKay, Indian Head; Richard Alston, Winnipeg; W.H. Tomlin, Kildonan
Secretary	-	Melvin Bartlett, Winnipeg
Treasurer	-	W.G. Scott, Winnipeg
Councillors	-	G.H. Greig, Winnipeg; Richard Waugh, Winnipeg; Ald. R. Barclay, Winnipeg

The addresses and papers given at this meeting were embodied in the annual report presented to the Department of Agriculture for publication. This report also records that a summer convention was held on August 1st and an exhibit of apples and plums was held in Winnipeg on the 29th, 30th and 31st of August, 1901.

During the legislative session of 1902 an Act was passed incorporating the Western Horticultural Society, and on August 28th to 30th, 1902, the first Provincial Horticultural Exhibition was held, at which the largest individual prize was awarded to the Birtle Agricultural Society for a collection of vegetables grown by society members. From 1902 to 1909 the supply vote of the Department of Agriculture provided each year for a grant of \$200.00 to the Western Horticultural Society and a grant of \$100.00 to the Brandon Horticultural and Forestry Society. In 1910, under an amended Act, the name of the former society was changed to Manitoba Horticultural and Forestry Association to give the organization power to affiliate local societies. The annual grant to the Manitoba Horticultural and Forestry Association was increased to \$500.00 in 1912, and in 1913 and subsequent years, an inclusive larger grant was provided for horticultural societies in general. Consequently, two official horticultural societies were in receipt of government aid in Manitoba prior to 1913, but in that year new societies at Pilot Mound and Stonewall increased the number to four. Two additional societies, i.e. Neepawa and Dauphin, brought the total to six in 1914. By 1921 the number of horticultural societies had increased by the addition of

Charleswood, Elmwood, Morden, Morse Place, Souris, and St. James, and by 1923-24 the total number had risen to 17.

It is of interest to note that prior to the establishment of the Agricultural College, the Western Horticultural Society with headquarters in Winnipeg, and the Brandon Horticultural and Forestry Society, were the only two such organizations recorded in Manitoba.

The Western Horticultural Society, though centred in Winnipeg, was more or less a provincial society and was served by Melvin Bartlett as secretary from 1901 to 1903, and by George Batho in the same capacity from 1904 to 1906. However, after the opening of the Agricultural College in 1906, F.W. Brodrick, Professor of Horticulture, was elected secretary of the Western Horticultural Society and, as secretary treasurer under its changed designation as the Manitoba Horticultural and Forestry Association, continued to be the main executive officer of the society from 1907 throughout the era in which the provincial extension work was carried on as an activity of the Agricultural College.

At the 1906 convention of the Western Horticultural Society, a list of trees, shrubs, and fruits suitable for planting in Manitoba was prepared and printed in pamphlet form. This list was copied by leading papers in the West and given wide publicity. In co-operation with the Ministry of Agriculture, plant recommendations were revised from time to time as new information was forthcoming, and these horticultural recommendations became a feature contribution of the society.

Selected hardy plant specimens also were provided as premiums to paid-up society members. This practice also continued in ensuing years with the object of demonstrating the adaptability of the selected shrubs and perennials to local conditions.

Following the appointment of F.W. Brodrick as secretary treasurer of the Western Horticultural Society in 1907, the activities of the society greatly increased. In 1908, in addition to holding the annual meeting at the College in February, an annual horticultural exhibition was held on September 3rd to 5th in Manitoba Hall, Portage Avenue, Winnipeg, in conjunction with the Winnipeg Florists Association. In 1909, the society offered prizes for the best kept school grounds in each inspectorial district in the Province and, again in conjunction with the Winnipeg Florists Association, held the society's annual fair in the new Horse Show Amphitheatre, Osborne and Colony Street, Winnipeg. In the same year, the society undertook experimental work in respect of the adaptation of varieties of trees, shrubs, perennials and fruit plants in different parts of the Province. Four persons were supplied with the plants to be tested, i.e. Mrs. Hodgson, Foxwarren; J.R. Ring, Fairfax; W.H. Holland, Swan Lake; and A.K. Baird, Giroux. Subsequently, reports on the results of these experiments were included in the annual proceedings of the society.

In 1914, a new monthly publication entitled "The Manitoba Horticulturist" was inaugurated. This effort was made possible "through the generosity of the Department of Agriculture."

The Manitoba Horticultural and Forestry Association continued activities along these same lines with the co-operation and financial

assistance of the Ministry of Agriculture, and with the technical assistance of the College Department of Horticulture and Forestry. In 1915 the College provided an assistant to Professor Brodrick to carry on work in horticulture and entomology as a College extension activity. However, with the transfer of the Extension Service to the Legislative Building, the horticultural work of the Ministry of Agriculture was directed eventually from the Broadway site, and in May, 1921, J.R. Almey was appointed to the Extension Service staff as Provincial Horticultural Specialist.

Farmer's Week - During the years that the Extension Service was directed from the Agricultural College, a feature event was developed at the M.A.C. which became known as Farmer's Week. This event usually occurred late in January or early in February when delegates from the agricultural and horticultural societies met for their respective annual conventions. At this time sessions were held by the College for the delegates and for visiting farmers and their wives, at which demonstrations were given and addresses presented by the College staff and by invited speakers. For these sessions student classes were cancelled and the whole institution held open house and undertook the task of playing host to the visitors. The week's activities usually closed with a banquet in the College dining hall by courtesy of the Department of Agriculture, followed by an entertainment in the auditorium provided by the students.

Farmer's Week at the Agricultural College was discontinued when the Extension Service was transferred to the Legislative Building, nevertheless, the College continued to extend an invitation to the delegates at the agricultural society convention to come to the institution for a day of discussion of farm and home problems.

Home Economics Societies and Women's Institutes - Records of home economics extension activities in Manitoba do not appear in reports of the Ministry of Agriculture until President W.J. Black, M.A.C., as Managing Director of Agricultural Societies, recorded in 1910, that:

"In September a circular letter was issued to all societies in the Province offering to supply speakers for a meeting of women and asking all societies desirous of holding such meetings to communicate with the Managing Director before October 1st."

Thus, although the first Home Economics staff of the College (consisting of Miss A.B. Juniper, Miss M. Kennedy, and Miss M.S. MacDonald) was only appointed in 1910, twenty-two extension meetings for women were held at rural points while at the same time the staff members were involved in developing the initial courses in household science at the institution. The results of this extension work were so successful that by the end of the year, 1910, 14 household science associations were formed, and three women's organizations joined the movement so that 17 home economics societies were established in this initial year.

Following the much regretted resignation of Miss Juniper, the College extension work in home economics was directed by Mrs. E. Charlton-Salisbury who was appointed Professor of Household Science at M.A.C. in 1912. To assist in home economics work, the Ministry of Agriculture appointed Miss Hattie Gowsell to the Extension staff of the

College, but as she was not able to assume duties until 1913, Miss Jessie D. Ross of Grimsby, Ontario, was secured, on a temporary basis, to carry on the work in connection with the women's societies in the interim.

Mrs. E. Charlton-Salisbury supervised the extension work in home economics from 1912 to 1915. She was succeeded by Miss Ethel M. Eadie as Professor of Household Science, who held that position from 1915 to 1918, and together with Miss M. Kennedy, Professor of Household Arts from 1910 to 1918, directed the home economics extension work until the Extension Service was moved from the M.A.C. to the Legislative Building in 1917, and the home economics extension work became nominally under the direction of S.T. Newton as Superintendent, and later as Director, of the Agricultural Extension Service.

Commencing with the year 1914, home economics extension was financed from a grant to the Manitoba Department of Agriculture under the Dominion "Agricultural Instruction Act". This grant was withdrawn in 1923 and as a result the home economics extension activities were, for the time being, drastically curtailed.

During the years 1917 to 1923, when the Extension Service was transferred to the Legislative Building, home economics extension work was carried out by a separate personnel. At that time, and indeed throughout its subsequent history, there were frequent changes in the personnel of the household science extension staff. Such frequent changes were, and still remain, more or less inevitable due to the careers of personally attractive young women graduates, in possession of professional homemaking skills, being interrupted by marriage.

Between 1918 and 1923, a number of specialists in dressmaking, millinery, home nursing, canning, cookery, etc., were engaged in extension work for varying lengths of time, including: Margaret Smith, Caroline Senior, Lilian Clarke, Agnes Campbell, Elizabeth Blackburn, Elizabeth Whitwell, Margaret Speechly, Bertha M. Price, E. Gray, and W. Beach, under Miss Helen MacDougall as Supervisor, 1918; Miss Gertrude Dutton as Supervisor, 1920; and Miss Myrtle Hayward, Director of Home Economics Extension, 1921.

An additional venture in the field of home economics extension work was initiated in the years when the first class of students in the Home Economics degree course were in training, which ultimately led to the establishment of Home Demonstration Agents in rural areas of Manitoba. Before graduating in Home Economics at M.A.C. in 1918, Miss Esther Thompson, as an undergraduate, undertook during the summer months, and with conspicuous success, the task of community worker or home advisor and instructor to women in the new Canadian settlements of southeastern Manitoba. Later, Miss T. Thordason, who also had worked with the Extension Service as an undergraduate, was appointed on graduation, in 1921, to the first post of provincial Home Demonstration Agent and assigned to the Roland, Miami, Rosebank, Pomeroy and Tobacco Creek district.

In 1923, S.T. Newton was succeeded by N.C. MacKay as Director of Extension Service, and on September 1st, 1923, the Extension office and

staff were transferred from the Legislative Building back to the Manitoba Agricultural College and located in Room 206, Administrative Building. On October 15th, 1923, Miss Esther Thompson (who after graduation had served as Assistant Director of Women's Extension Staff at the University of Saskatchewan) was appointed as Director of Home Economics extension work in Manitoba and Superintendent of Women's Institutes.

In the report for the year 1923-24, Miss Thompson records the temporary setback in connection with women's extension work as she found it on her appointment. The withdrawal of the Dominion grant for "Agricultural Instruction", which had supported the women's extension work in Manitoba, had disorganized the work; lecturers in dressmaking, foods, and cookery had left the service; and the Director was perforce obliged, for the time being, to carry on alone with the help of a stenographer. The successful re-establishment of extension activity in home economics in subsequent years is a tribute to Miss Thompson's efficiency and dedication.

The home economics extension activities of the M.A.C. and the Ministry of Agriculture were associated closely with the organization and development of home economics societies and women's institutes. In response to the circular letter sent by President W.J. Black to the agricultural societies in September, 1910, meetings for women were arranged at 23 points which were addressed by Miss A.B. Juniper and Miss M. Kennedy of the M.A.C. Home Economics staff during the months of November and December in the same year. As a result, local household science associations were organized by the end of 1910 at the following 17 points:

Morris, Emerson, Russell, Birtle, Minnedosa,
Deloraine, Cartwright, Manitou, Morden, Miami,
Carman, Virden, Valley River, Headingly,
Stonewall, Swan Lake and Hamiota.

The remaining points visited, i.e. Strathclair, Gretna, Roland, Dauphin, Dugald, and Bird's Hill, had not completed organization in time to be included in the first year's list of local associations. The 17 local associations formed in 1910 involved three existing women's organizations which joined the movement, including: "The Ladies Mutual Benefit Society" of Valley River, organized by local women with Mrs. Alice Jones, President, in February, 1910; and the locally instigated "Women's Institute" at Morris, organized in August, 1910, with Mrs. J. Lewis, President; Mrs. M. MacKenzie, Vice President; and Mrs. A. Chisholm, Secretary.* This local organization was later issued Charter No. 1 by Hon. George Lawrence, Minister of Agriculture.

On February 14th and 15th, 1911, the first annual convention of "not more than five delegates from each Household Science Association" was held at the M.A.C. on the Tuxedo site, at which Mrs. A. Chisholm was elected as

* Speechly, Mrs. H.M. - "A Story of The Women's Institutes of Manitoba; 1934; Pages 10-11.

the first Provincial President, with an executive of two, Mrs. R.W. McCharles of Manitou, and Mrs. Alice M. Jones of Valley River. At this convention it was decided to adopt the name "Home Economics Society" instead of the original designation of "Household Science Association". Strong feeling was expressed in favor of Women's Institute, "but this was not pressed owing to a desire not to hamper progress at this early and experimental stage."*

Until 1915, the administration of home economics societies was under the direction of the "Managing Director of Agricultural Societies and College Extension", but on February 18th, 1915, President W.J. Black convened the presidents of the various local home economics societies which met at the M.A.C. on the Fort Garry site to consider the establishment of a Home Economics Society Advisory Board.

The decision reached led to a provincial Act passed in 1916 (Chap. 55) - later re-enacted as Chap. 28, 1921, when the designation of the society was changed to Women's Institutes - which provided that

"the Superintendent of Extension Service shall be assisted in the general direction of the Institutes by an Advisory Council of the Institutes consisting of the President of the Manitoba Agricultural College, four women elected by representatives of the Women's Institutes at the annual convention of delegates . . . and two women appointed by the Minister."**

Under the governing Act the Advisory Council was authorized to elect from its own number a chairman, who ipso facto became president of the Women's Institutes.

In referring to the first Advisory Council elected at the 1915 meeting, Mrs. H.M. Speechly records*** "In the absence of all records for the period it is only possible to give from memory the names of those elected in 1915 to serve on the first Advisory Board, viz: Mrs. H.W. Dayton of Virden, Mrs. David Watt of Birtle, Mrs. H.M. Speechly of Pilot Mound, Mrs. M. Cooper of Minnedosa, and Mrs. M. Hunt of Benito." Although not so stated in available records it may be assumed, on the basis of subsequent procedure, that the additional member appointed by the Minister of Agriculture was the head of the Home Economics staff at the M.A.C.

In 1916 also, district conventions were started for the benefit of those who could not attend the provincial convention. In the 1919 report of the Director of Extension it is recorded that the Province was divided into 13 districts for convention purposes; and in the 1921 report of Myrtle Hayward, Director of Home Economics Extension work and of Women's Institutes, it is recorded that 15 district conventions were held in the month of June and that "each district nominated a member to the Advisory Board, the members of which will be elected at the annual convention."

The growth of Women's Institutes in Manitoba from the initial 17 Home Economics Societies formed in 1910 to the close of the M.A.C. Sub-Period in 1924 may be tabulated from annual reports as follows:

* Ibid, Page 16.

** Chap. 84, Revised Statutes of Manitoba, 1924.

*** Speechly, Mrs. H. M. - "A Story of The Women's Institutes of Manitoba"; 1934; Page 17.

Fiscal Year Ending	Number of Societies	Members	Fiscal Year Ending	Number of Societies or Institutes	Members
Dec.31, 1910	17	500	Nov.30, 1919	127	—
" 1911	18	660	" 1920	No Record	—
Nov.30, 1912	21	1,100		Women's Institutes	
" 1913	25	—			
" 1914	34	1,675	Nov.30, 1921	119	3,628
" 1915	68	2,824	Aug.31, 1922	No Record	—
" 1916	100	3,381	" 1923	137	3,138 +
" 1917	98	3,950	" 1924	134	4,020
" 1918	112	4,124			

In this connection tribute must be paid to the women's institutes which developed from or in co-operation with the women's extension activities initiated at the M.A.C. in 1910, and which in succeeding years filled a definite social and cultural need in the rural areas and towns of Manitoba. Not only did these organizations provide a medium through which extension workers could carry out educational and inspirational programs, but they provided local organizations through which the members, on their own initiative and as need arose, rendered meritorious and unselfish service to their respective communities.

This is reflected in the activities carried on by the various institutes. A composite list of all activities of women's institutes as a whole would be lengthy, but the specific activities of any one institute, during the years in question, varied of necessity with variation in the individual initiative of its members and with the needs and limitations of the local community.

The following projects may be noted as examples of specific activities of various women's institutes, i.e.:

the sponsoring of short courses, public and travelling libraries, and magazine circles;

the holding of sewing classes for girls, assisting with boys' and girls' clubs, and at summer fairs;

providing hot lunches for school children, equipping children's and school playgrounds, giving financial aid to the Social Service League and the Children's Aid Society, assisting city girls to find a home in the country, welcoming new settlers, and maintaining child welfare centres;

sponsoring rest rooms in villages and towns, street lighting in rural towns, the improvement of cemeteries, the furnishing of community halls, and the erection of war memorials; and

in addition, and during the war years, the institutes also included and featured activities in connection with Red Cross work, and the supplying of knitted articles and hospital supplies.

The women who served as Provincial Presidents of the Home Economics Society and, after the 1921 change in name, the Women's Institutes, during the M.A.C. Sub-Period were:

1911	-	Mrs. A. Chisholm, Morris
1912	-	Mrs. R.W. McCharles, Manitou
1913-1919	-	Mrs. H.W. Dayton, Virden
1920-1923	-	Mrs. David Watt, Birtle
1924	-	Mrs. T.A. Cohoe, Pilot Mound

The members of the M.A.C. staff and of the Extension Service who served the Women's Institute in the capacity of Secretary, Supervisor or Director during the same period were:

1910	-	Miss A.B. Juniper
1912	-	Mrs. E. Charlton-Salisbury
1916	-	Mr. S.T. Newton
1918	-	Miss Helen J. MacDougall
1920	-	Miss Gertrude Dutton (Acting)
1921	-	Miss Myrtle Hayward
1922	-	Miss Gertrude Dutton (Acting)
1924	-	Miss Esther Thompson

Boys' and Girls' Clubs - Boys' and girls' clubs were first introduced as an extension activity early in the history of extension work at the Manitoba Agricultural College. In the report of "Agricultural Society and Extension Work" for the year 1913, E. Ward Jones, as Superintendent of College Extension and assistant to President W.J. Black, records that eight branches of Manitoba boys' and girls' clubs were formed, one at each of the following points, i.e.: Roland (including the town school and all the rural schools in the municipality), Starbuck, Warren, Darlingford and Manitou (consolidated schools), Stonewall Collegiate, and Oak Lake and Neepawa schools.

Each of these clubs held a most successful fair, where chickens, potatoes, and corn produced by the members were exhibited. The report of 1913 notes:

"At present there are 472 very enthusiastic club members, and it is certain that they have gained much practical agricultural knowledge from their summer club work. To those who have been closely associated it is very evident that this club is a power for good among the boys and girls, and we believe that the Agricultural College staff is pre-eminently fitted to assist in this undertaking. We consider that this work should be greatly enlarged, and enlarged upon the correct foundation upon which it now rests."

The number of boys' and girls' clubs increased in 1914 to 28, and in 1915 to 68, and in 1915, in addition to supplying club members with bred-to-lay strain poultry eggs, seed potatoes and three varieties of fodder corn, the College Extension Service supplied 1/4 lb. of peas and beans to foster an interest in growing and canning vegetables on the farm.

During 1915, W.J. Black resigned as President of the College and Director of College Extension, and the report of agricultural extension work for that year was submitted by the newly appointed "Superintendent of Extension Service", S.T. Newton.

The current Extension Superintendent's obsession with boys' and girls' club projects over the next few years, rather than with adult agricultural extension activities, is reflected in the Extension Service report of 1916 which stated:

"The most effective way of teaching agriculture and home economics seems to be through the boys' and girls' club method. . . . In Manitoba there are over 100 central clubs with 800 branch clubs and a membership of 1,300. On account of so many of the district representatives enlisting, the problem of making boys' and girls' work a success has fallen on the teachers, inspectors, and a large number of public-spirited citizens who recognize in this plan the most effective means of interesting the boys and girls in the work of the farm and home."

and further,

"The short courses this year have been planned specially for the boys between 15 and 18 years of age, as all over this age who can be spared have already responded to the call of the nation."

In 1917, following the removal of the Extension Service from the College to the Legislative Building, the annual report of the "Superintendent of Agricultural Extension" contains the following significant statement:

"The boys' and girls' club movement is having a greater influence than any other developed in recent years. In Manitoba we are very fortunate in having a definite arrangement whereby the Departments of Agriculture and Education are working in unison, and there is, as a consequence, no overlapping, and the combined resources of the two departments are at the disposal of the boys and girls. In fact there is scarcely an organized body in the Province which is not lending assistance in promoting the work of boys' and girls' clubs."

The popular appeal of boys' and girls' clubs, together with the large participation by the Department of Education in the movement, resulted in the club membership increasing to 15,000 in 1917, to 25,000 in 1918, and to 30,000 in 1919.

The plan of organization of club activities at this time was that the respective school inspectoral divisions were taken as units and each school inspector was accepted as the natural club leader in his division. Plans for the year's work were fully discussed at a meeting of representatives of school inspectors and of the Extension Service, and a program for the year outlined. The program was then submitted for approval first to the Inspectors Committee, and later to the officials of the Department of Agriculture and the Department of Education. It was then printed, and a copy sent to each teacher in the Province, and as soon as reorganization reports were received, copies were sent to all club officers, namely, the managers of the local clubs which included bankers, clergy, storekeepers, farmers, school trustees and teachers.

Under this regime the Extension Service was so organized that the entire Extension staff (of 13 in 1919) was available for club work at the busy seasons,* notably at planting time in the spring and when the club fairs were held in the fall.

Arrangements also were made with various members of the Agricultural College staff to act as judges of the agricultural and home economics classes at the boys' and girls' fall fairs, while the school inspectors judged the school work exhibits. The Department of Agriculture at first provided 33 1/3 percent of the prize money but raised the grant to 50 percent of the money

* 1919 Annual Report of the Agricultural Extension Service.

paid out as prizes in 1919 (provided that the total grant for school work did not amount to more than 15 percent of the total grants).

In 1918, twelve major contests for club members were sponsored, i.e.: pig-raising, calf-raising, poultry-raising, seed grain growing, gardening, weed eradication, garment-making, cooking, canning, wood-working, dairying, and essay writing. Monthly bulletins were prepared and distributed to teachers and club leaders, and record cards were provided for the club members to document the information pertaining to the respective projects.

A feature of the club's competitions at this time was an annual trip to Winnipeg for Provincial Club Champions, provided under the auspices of the T. Eaton Company, the Bank of Commerce and the Department of Agriculture. The Club Champions were the winning teams of three members from each of fifteen areas of two inspectoral divisions, or a total of 45 winners who were boarded at the Agricultural College for a week. Not only were the teams entertained by commercial concerns, but they also gave demonstrations at the T. Eaton store, the Winnipeg Garden Show, etc. Later, other commercial concerns such as the Western Canada Flour Mills, the Lake of the Woods Milling Company, the DeLaval Company, etc., also co-operated in sponsoring Team Demonstration Competitions and in entertaining an increasing number of winning teams.

In 1919, H.E. Wood, a 1918 graduate of the M.A.C., who following graduation first served as lecturer on livestock at extension schools, was appointed in charge of boys' and girls' club work, and was assisted by Elizabeth Whitwell, in charge of Demonstration work; and by Margaret Speechly in charge of Junior Home Economics, until 1920, when Edith Gray took charge of the girls' club activities.

At the close of the M.A.C. Sub-Period it may be noted that, in connection with the junior livestock activities, the first annual Farm Boys' Camp* was held at the Brandon Summer Exhibition July 1st to 3rd, 1924.** Seventeen teams of three members each, from local organizations such as agricultural societies, boys' and girls' clubs, U.F.M. locals, etc., availed themselves of the opportunity of competing in stock-judging competitions and of living in an encampment on the Fair Grounds where the expenses of the camp were borne by the Brandon Exhibition Board. H.E. Wood was in charge of the camp, and was assisted by Wray Youmans, physical instructor at the Manitoba Agricultural College.

A definite change in the relationship of boys' and girls' club work to agricultural extension work in general took place in 1923 when N.C. MacKay, who since January 1st, 1921, had served as Assistant Director, replaced S.T. Newton as Director of the Extension Service, and took direct charge of the work in connection with agricultural, horticultural, poultry and kindred societies; while at the same time H.E. Wood was appointed Assistant Director in charge of short courses and junior livestock activities including boys' and girls' clubs. At this time also, due to the withdrawal of the Dominion Government grant for Agricultural Instruction, the girls' work

* Annual report of Director of Extension, 1923-24.

** Stock-judging competitions for boys' club teams and students had been featured in former years.

was handicapped because the services of the women workers on the Extension staff had to be discontinued due to financial stringency.

Agricultural Representatives - A new movement in connection with agricultural extension work was undertaken in 1915 when a first attempt was made to establish agricultural representatives in Manitoba. Seven recent graduates in agriculture were appointed as agricultural representatives in 1915. These representatives and districts to which they were appointed were: L.V. Lohr, Neepawa; N.S. Smith, Killarney; H.F. Danielsson, Arborg; W.T.G. Wiener, Morris; J.R. Sirrett, Roblin; E.K. Gordon, Dauphin; and W.J. Stone, Swan River.

The report of the Department of Agriculture for 1915, which records this new endeavor, states that the agricultural representatives appointed represented "both the Department of Agriculture and the Agricultural College", and that they were to work "under the general direction of the Extension Service"; and further, that they were "all graduates in agriculture" and "in close touch with the various departments of the College, and as a consequence" were "able to take to the country the latest results and most approved methods as shown by experiments and study of the various departments of the College and the experimental farms."

In 1916 plans were made to enlarge the number of agricultural representatives by the appointment of ten graduates of the Manitoba Agricultural College to carry on this work. Nine of these graduates were assigned to various districts and one, F.F. Parkinson, was appointed and served for a short time as Assistant Superintendent of Extension. However, enlistments after appointment prevented this proposed expansion, and by the end of the year only four agricultural representatives remained. Consequently, little progress was made in establishing agricultural representatives at country points until after the war.

Little information in respect of activities by agricultural representatives is given in the 1917 and 1918 annual reports of the Extension Service, but the current Director in 1918 outlined organization plans which provided that a member of the Extension staff should be responsible for agricultural representative work; that units to be served by a representative should consist of areas approximately 25 to 30 miles square; and that a local Board of Agriculture should be appointed in each district so served consisting of: "(1) Community committees each composed of a chairman and four or five members, each member representing some particular interest of the district; and (2) an Agricultural Council composed of the chairman of each community committee, and a representative appointed by each of the local organizations such as: Grain Growers Association, Trustees Association, Agricultural Society, Municipal Teachers Association, Board of Trade, Retail Merchants Association, Home Economics Society, and any other organization that there may be in the district."

In 1919, after the war, J.R. Bell, who had initiated agricultural representative activities at Portage la Prairie in 1916, was designated in charge of the agricultural representatives who, at that time, were listed as:

C.A. Weir, Brandon; E.R. Hall, Morden;
W.E. Watson, Virden; C. Murray, Dauphin;
F.H. Newcombe, Selkirk; T.A. Johnson,
Deloraine; J.H. Hudson, Swan River; and
E.G. Wood, Portage la Prairie.

In 1920, C.A. Weir, W.E. Watson, C. Murray and J.H. Hudson resigned to accept other positions so that at the end of the year the staff of agricultural representatives was reduced to E.R. Hall, Morden; F.H. Newcombe, Selkirk; T.A. Johnson, Deloraine; E.G. Wood, who was transferred to Hamiota; and J.R. Bell who continued as the representative at Portage la Prairie, and Secretary of the Portage Exhibition.

On January 1st, 1921, N.C. MacKay, who for the previous nine years had been Agricultural Representative for Bruce County, Ontario, was appointed as Assistant Superintendent of the Extension Service and as Director of Agricultural Representatives in Manitoba. A new Agricultural Representative office was opened at Melita where George H. Jones was placed in charge; and it also was planned to organize two more districts and to increase agricultural representative activity in the following year. However, provincial financial stringency prevented expansion and with the withdrawal of the Dominion grant for Agricultural Instruction in 1923, which for nine years had been used in Manitoba to finance this and certain other phases of extension activity, the agricultural representative work was abandoned at the end of the 1922-23 fiscal year.

In commenting on this action, the report for 1922-23 notes that:

"Financial conditions prevented the extending of this service and it was felt that until such time as the Province was in better condition this money was required for other purposes. . . . The work begun by the agricultural representatives in Manitoba, although discontinued for a time, will not be lost, and it is hoped that the return of (better) financial conditions will permit Manitoba . . . re-establishing a system of agricultural representatives."

Nevertheless, because of the lack of financial support by legislative grant, it was some time after the close of the M.A.C. Sub-Period before this hope was realized.

The Extension Service at the Close of the M.A.C. Sub-Period - From the foregoing sections, it is obvious that the agricultural extension activities, which were initiated and carried on as an activity of the Manitoba Agricultural College during the regime of President W.J. Black, 1906 to 1915, were brought more and more under the supervision and direction of Department of Agriculture officials after the appointment, in 1915, of S.T. Newton as Superintendent of Extension and of J.B. Reynolds as President of the M.A.C.

This change in supervision and direction of agricultural extension activities also was coincident with financial grants made to the provinces under the Dominion "Agricultural Instruction Act" of 1914.

In the case of Manitoba, the annual grants under this Act ranged in total from \$62,075.25 in 1915 to \$92,788.57 in 1919. It was these grants that provided the Provincial Ministry of Agriculture with the means whereby

it was able to undertake the Extension Service as a Branch activity during the years 1915 to 1923.

Until 1915, the instructional, educational, and demonstration activities in connection with agricultural extension in Manitoba were carried out by personnel from the various departments of the College, and the routine administration tasks were taken care of by clerical personnel in the office of the Superintendent of College Extension.

However, commencing in 1915, but to a larger degree following the transfer of the Extension office to the Legislative Building in 1917, an agricultural extension organization separate from the Agricultural College was built up as an Extension Branch of the Provincial Department of Agriculture, although in effect it was financed largely from the Dominion grants and closely linked with elementary and high school work under the Department of Education.

Nevertheless, although under this Extension Service set-up the Manitoba Agricultural College staff, as a whole, was not called upon to participate in, or to direct, extension activities to the same extent as formerly, individual members of the College staff still continued to be closely associated with various activities of the Ministry of Agriculture and with the Extension Service.

This first attempt to operate an agricultural extension service from the Legislative Building faced collapse in 1923 when the Dominion grant on which its operation so largely depended was withdrawn at a time when the Province was facing financial difficulties. Hence, reorganization and reduction in staff became imperative. N.C. MacKay was promoted to the position of Director of Extension, but was faced with the task of carrying on this Branch of the Ministry of Agriculture with a staff reduced from over 30 full time and temporary lecturers, demonstrators, etc., to four professional assistants and a supporting stenographic personnel. On September 1st, 1923, the Provincial Extension Service was moved back to the Administrative Building at the Manitoba Agricultural College with a staff consisting of:

N.C. MacKay	-	Director, taking charge of agricultural, horticultural, poultry and kindred associations;
H.E. Wood	-	Assistant Director, in charge of short courses and junior livestock activities;
J.A. McGregor	-	Agronomist
L.T. Floyd	-	Provincial Apiarist;
J.R. Almey	-	Horticultural Specialist

and after October 15th, 1923,

Miss Esther Thompson	-	Director of Women's Extension work.
----------------------	---	-------------------------------------

Although the Extension Service was moved back to the College Campus on September 1st, 1923, it continued to be financed as a branch of the Department of Agriculture, and was accepted on the Campus as though it were a department of the College. Moreover, the Director served as a

member of the Faculty. The closer association thus re-established enabled the new Director to arrange with members of the College staff to carry on activities that otherwise would have been abandoned or more drastically curtailed.

The following is a brief review of the three agricultural extension positions the incumbents of which returned with the Director and Assistant Director of Extension when it moved back to the College Campus in 1923.

Agronomist - In 1914, J.A. McGregor was appointed to the position of Extension Officer on the staff of the Field Husbandry Department of the Manitoba Agricultural College to serve part-time as field crops demonstrator in connection with diploma students at the College, and to be an extension man in the Department who would carry out field crop inspections, seed certification, and other field crop activities in connection with Department of Agriculture projects and College extension commitments. After 1915, J.A. McGregor was transferred from the Field Husbandry staff to full time with the Extension Service as Field Crops Specialist. From 1917 to 1921, J.H. Kiteley, a former school teacher, was added to the Extension Service as Field Crops Specialist, chiefly in connection with boys' and girls' club work, but also as general extension Entomologist. Subsequently, J.A. McGregor carried on field crops extension activities as Extension Agronomist with assistance, as required from time to time, from members of the Field Husbandry staff of the College and of the Experimental Farms.

Provincial Apiarist - As early as 1914, R.M. Muckle was employed as a senior student during the summer months to take charge of the apiary at the Agricultural College. After graduation in 1915 he was appointed Provincial Apiarist, attached to the Extension Service, and assigned to the problems of combating foul brood and of developing bee-keeping in Manitoba. In 1916, Muckle submitted the first annual report of the Provincial Apiarist to the Minister, and in succeeding reports up to 1918 outlined the experimental and extension work carried on in connection with bee-keeping in the Province.

This work was then discontinued for two years until, in 1921, L.T. Floyd was appointed Provincial Apiarist for Manitoba after serving in the same capacity for three years in New Brunswick. As Provincial Apiarist in Manitoba, L.T. Floyd was attached to the Extension Service and moved with N.C. MacKay to the College Campus in 1923.

Provincial Horticulturist - From the time the Manitoba Agricultural College commenced active extension work, until 1916 and 1917 when J.A. Neilson was appointed and served as extension specialist in horticulture and entomology, extension activities in connection with horticulture and entomology were carried out by Professor Brodrick of the College Department of Horticulture, in close co-operation with the Manitoba Horticultural and Forestry Association.

In the interim (1918-1921) that followed Neilson's resignation, the entomology extension work was added to the duties of J.H. Kiteley, who at that time was serving as Field Crops Specialist with boys' and girls' clubs, and dependence was again placed on the College Horticultural Department for horticultural assistance.

In 1921, J.R. Almey was appointed Horticultural Specialist. In that capacity he worked closely with commercial vegetable growers, home gardeners and horticultural societies, and continued as one of the three professional agricultural workers that were fortunate enough to be left with the Director of the Extension Service in 1923.

Thus when the decimated Extension Service returned to the Campus, the agricultural and home economics staff of the College was again involved in the support of provincial extension activities and in carrying on work formerly performed by provincial extension lecturers and demonstrators in poultry, gas engines, agricultural engineering, cookery, canning, dressmaking, millinery, and home nursing, etc. These, as well as the Agricultural Representatives, had been eliminated due to the financial difficulties which faced the Provincial Government in 1922 and 1923.

(iii) Services Rendered and Demands of the Public

In the operation of the Manitoba Agricultural College it soon became evident that, in addition to "Teaching" and "Extension", the institution and its staff were called upon both by the public and by the Ministry to render many forms of "Service".

Rural and urban people alike, faced with farm and home problems, asked questions which (as a Provincial Government institution supported by public funds) they expected the College to answer. In addition, certain services were undertaken by various individuals and departments as contributions to agricultural improvement, or in the interests of good public relationship, or in response to what may be classed as "demands of the public".

To answer the questions referred to the College through the mails, all departments were more or less involved, and the extent of this involvement in the case of the main agricultural departments is indicated by noting that, in 1919, the Field Husbandry Department alone dispatched some 15,000 letters. Numerous telephone calls and personal visits for consultation also were made by persons with problems, and occasional press articles were written or information supplied in response to requests from newspapers and farm periodicals.

Some of the more specific public services rendered by the respective College departments included:

- the testing of farm seeds for germination and purity involving over 3,000 samples per year (this service was later taken over by the Dominion Seed Branch);

- the maintenance of a seed exchange service to put farmers in touch with growers of registered and certified farm seeds;

- the preparation and distribution of nitro-culture for alfalfa, clovers, peas and beans at the nominal cost of 25 cents per container and postage;

- the bacteriological study of water, and of spoilage in canned foods submitted for examination;

the veterinary examination of animal and poultry specimens for diagnosis of animal diseases;

the production and distribution at nominal cost of bred-to-lay poultry eggs and breeding birds;

assistance in culling flocks and selecting good laying hens;

the identification of native plants and weeds sent in by individuals, weed inspectors and school teachers;

the identification of insects sent in for information in respect of crop or plant damage;

testing milk, cream and other dairy products;

routine determinations and recording in connection with cow-testing for record of performance;

chemical testing of domestic and stock waters, insecticides, fungicides, fertilizers and feeds;

testing incubator and dairy thermometers for accuracy;

supplying plans for houses, barns and other farm buildings;

advising in respect of laying out farmsteads and grounds;

the holding of field days and conducting inspection tours for agricultural and other societies or groups; and

the supplying, by the College Librarian, of books, package libraries, and other information in response to enquiries from individuals, farm and home groups, and schools.

These services, with a few exceptions as noted, were free of charge to the recipients.

To meet the demand for more detailed information, bulletins and circulars were prepared by members of the Agricultural College staff, and published by the Department of Agriculture and Immigration, which led to an important forward step in the activities of the Ministry of Agriculture.

Prior to 1910, the Department of Agriculture had undertaken the preparation, publication and distribution of publications to encourage immigration; to render public service through collecting, compiling, and publishing agricultural statistics in the form of regular crop bulletins; to render service to agriculture in connection with the publication of annual proceedings of agricultural associations; and in issuing occasional bulletins or circulars of instruction in connection with specific agricultural problems with which the Department was confronted from time to time.

However, subsequent to 1910, the issuing, by the Department, of the educational and instructional bulletins and circulars prepared by members of the Agricultural College staff led, in 1913, to the creation of a Publications Branch within the Department of Agriculture, through which, direction, education and leadership were more widely extended to farms and homes in Manitoba; and through which a close association was maintained between the Ministry of Agriculture and members of the College staff long after the College - through becoming a Faculty of the University - ceased, officially, to be an integral part of the Department of Agriculture and Immigration.

The services of various members of the College staff also were used by the Ministry of Agriculture in respect of:

- provincial programs in connection with the control of insects and pests, plant diseases and animal epidemics;
- in designing and setting up agricultural exhibits for immigration and educational purposes;
- in answering queries from other countries in respect of agriculture in Manitoba;
- in operating a first-class meteorological observation station and supplying the Ministry with data obtained in respect of precipitation, air temperature, humidity, hours of sunshine, wind velocity, evaporation, and of soil temperature to a depth of 15 feet;
- in providing accommodation for conventions of agricultural, horticultural, livestock, poultry, and kindred societies and women's institutes; and
- in landscaping and planting trees, shrubs, etc., on the grounds of the Legislative Building.

The services of certain members of the teaching staff were required also in connection with the routine operation of the College as a more or less self-contained community:

The gas produced for use in the various laboratories was provided from a gas plant operated under the supervision of the Chemistry Department.

The operations carried out in the water-works - where water from the Red River was treated, filtered, and purified before being stored in the water tower for use throughout the institution - also were supervised by the Chemistry Department and both the Chemistry and Bacteriology departments carried out the routine tests and checks required at different stages in the filtration process.

In addition, the supplies of vegetables, meat, dairy and poultry products used in the kitchen and dining room of the College residence were grown or produced, respectively, by the Horticultural, Animal Husbandry, Dairy and Poultry departments. The Horticultural Department also, gradually as funds and time permitted, improved the campus grounds and maintained greenhouses, perennial borders, lawns, and a football field which was used in the summer time for picnics by farm groups and other organizations.

No reference to the services rendered by the Horticultural Department during the time the M.A.C. continued as an institution on the Fort Garry site would be complete without mention of four men who, under Professor Brodrick, contributed so much to the goodwill engendered in those who visited the campus, and in arousing the admiration of commercial vegetable growers and inspiring home gardeners who attended the horticultural field days at the institution, i.e.:

Thomas Jackson, an old country gardener in charge of the greenhouses who loved plants and people, and brightened the platform of the auditorium with tastefully arranged flowers and ferns on the occasion of public gatherings, and whose cheerful, gentle manner won the goodwill of all visitors to the greenhouses, and especially of the members of the women's institutes by providing them with cuttings of house plants which became one means whereby the name of the M.A.C. was carried into many rural homes.

Charlie Speed, another knowledgeable old country man, but of the hard-working uncut diamond type, whose skill in growing vegetables with the occasional help of two "trusties" not only supplied all the vegetables except potatoes required in the students' residence, but kept several acres of vegetable garden that was a show place and an inspiration to all vegetable growers who visited the College in the growing season.

A.E. Theobald, the grounds foreman, who learned horticulture as a gardener at Kew Gardens in England, and carried out the initial laborious task of converting the rough debris-covered area left by the contractors into campus grounds worthy of the College buildings.

John de Jong, a keen efficient gardener from Holland, who succeeded Jackson and Theobald and continued the work of maintaining the greenhouses and grounds, and the experimental orchard. However, in later years, with the change in administration, the various areas thus developed underwent a change in use; the garden was first taken over as a military parade square, and later the grounds were converted into sites for university buildings and parking lots.

Nevertheless, in their day, these men, with Professor Brodrick, made notable contributions to horticulture in Manitoba, not the least of which was through the publicity given by an extensive collection of photographs of their achievements, which for many months provided a different full page picture-cover each month for the Nor'West Farmer and thereby found access to many farm homes.

In 1918 the Agronomy Department was instructed by the Board of Directors to undertake a further service, namely, the management of the College farm which since the College had been on the Fort Garry location had been operated by the Animal Husbandry Department.

In the same year, as a war measure to increase production, Professor Harrison was instructed, in addition to his other duties, to undertake the cropping of 700 acres of unbroken land immediately west of the College farm which was obtained on a three-year agreement from the Frank E. Sprague Company. The agreement provided that this land be plowed and cropped for two years to wheat and left seeded down to grass at the end of the third year; and that all profits over and above production costs were to be given to some patriotic fund. In 1918 this area was prepared for cropping by the Agricultural Engineering Department, which had been detailed to obtain the necessary equipment required to break and backset the virgin

grassland involved. For the next two years (1919-1920) Professor Harrison, with the assistance, as farm foreman at different times, of Thom. Lloyd and J.C. Noble, had the responsibility of operating this extended area for grain production in addition to managing the College farm for production of fodder and forage to support the livestock in the Animal Husbandry Department.

(iv) **Investigations and Initiation of Research***

Not only was it necessary to undertake "services" together with "teaching" and "extension" as activities of the M.A.C., but it also was inevitable that, apart from and in addition to the initiation of research projects by individual staff members "of inquiring mind", certain other members of the College staff also found it necessary to undertake investigations and research projects in order:

to cope with problems revealed as extension activities brought the College in closer contact with rural areas;

to furnish answers to questions referred to the institution by the public and by the Ministry of Agriculture for which the textbooks of that day had no solution; and

to provide material for teaching the advanced courses at the degree level.

The inclusion of a statement in the report of the Agricultural Commission, in 1903 - which preceded the passage of the Agricultural College Act** - to the effect that an experimental or model farm is not suggested but that the College farm should be used in such a way as to further the education and training of the students of the College, was obviously accepted without challenge by the Legislature and the earliest Board of Directors of the College. This statement appears to have been prompted by a mistaken belief on the part of the Commissioners that the Dominion Experimental Farm at Brandon (which had been in operation in the Assiniboine Valley on portions of Sections 22 and 27, Township 10, Range 19W, since 1888) would serve as the agricultural research station in all fields for all Manitoba, and that there was no need for the Agricultural College to undertake experimental activities.

It is also of significance to note that the few professors first appointed had, as their first duty, to organize programs of study and to instruct diploma classes on a campus associated with a small acreage of farm land which was insufficient to maintain the livestock required for instructional purposes. Moreover, W.J. Rutherford, as Professor of Agriculture and instructor in Field Husbandry during the first year of operation, had the task of breaking the land on the College farm and preparing it for crop, but in the

* To avoid misunderstanding in the use of the term research, which in some circles is given a very restricted meaning, the term research, as here used, is the simple dictionary definition, i.e. "diligent inquiry or examination in seeking facts or principles; laborious or continued search after truth."

** Pages 185 to 186

second year of operation he was appointed Professor of Animal Husbandry and farm manager when President Black, who had acted as Professor of Animal Husbandry during the first year of operation, vacated that position to develop the duties of Director of College Extension. It is easy to understand, therefore, why the limited farm acreage of Tuxedo was used exclusively for the support of the College livestock.

In the third year of operation, 1908-1909, S.A. Bedford, who had started the Dominion Experimental Farm at Brandon twenty years previously, was appointed Professor of Field Husbandry. Fortified by nearly twenty years of experimental data acquired as Superintendent of the Brandon Experimental Farm and by wide experience in agriculture in previous years, Professor Bedford was provided with a wealth of facts and principles to pass on to the diploma students. However, to obtain material for classroom identification, Professor Bedford required and secured a small plot of land on the College farm on which specimens of different crop varieties were grown, but no agronomic experimental projects were undertaken as long as the College occupied the Tuxedo site.

Field crop experimentation and research in respect of agronomic problems by the College and the Department of Agriculture were preceded, during the Bedford regime, by field demonstration projects.

In 1911, T.J. Harrison graduated as a member of the first degree class in agriculture at the M.A.C. and was appointed assistant in Field Husbandry. During the summer of 1911, T.J. Harrison was put in charge of clearing bush and breaking the land on the new site in Fort Garry; while Professor Bedford, in addition to carrying on instruction on the Better Farming Train as Professor of Field Husbandry, organized and laid down a series of alfalfa demonstration plots of one acre each at ten points, i.e.: Stonewall, Morris, Manitou, Killarney, Melita, Virden, Cypress River, Carman, Portage la Prairie and Hamiota. Nine of these plots of alfalfa (which at that time was a little known crop in Manitoba) yielded an average of three tons per acre in 1912. After his appointment as Deputy Minister of Agriculture in 1912, Professor Bedford carried on the alfalfa demonstration plots as a project of the Ministry of Agriculture, and in 1913, alfalfa plots also were established at seven locations, i.e.: Dugald, St. Pierre Jolys, Sandy Lake, Binscarth, Grandview, Swan River and Roblin.

In addition to extending the demonstration plots of alfalfa in 1913, Professor Bedford, as the newly appointed Deputy Minister, with the assistance on graduation of George H. Jones, introduced a more elaborate field demonstration project to direct attention to the advantages of systematic crop rotations. Twelve farms were selected, one at each of the following locations, i.e.: Warren, Carberry, Virden, Baldur, Harding, Boissevain, Portage la Prairie, Souris, Deloraine, Melita, Somerset and St. Pierre Jolys; and arrangements were made with the owners for the use of approximately 40 acres on each farm to be fenced and laid down as crop rotation demonstration areas. Seven of these areas were fenced in 1913 and the remainder in 1914. In the latter year four additional sites were selected, i.e.: Elkhorn, Rose Hill, Arborg, and the Manitoba Agricultural College.

This crop rotation project inaugurated by Deputy Minister Bedford was an activity of the Department of Agriculture, and following the change in Provincial Government in 1915, these demonstrational areas were discontinued. The point of interest, however, in connection with this project is that it was conceived by Professor Bedford and put into operation when, as Deputy Minister, he was able to procure the necessary funds, and also that the establishment of the Bedford demonstration crop rotation area on the new farm of the M.A.C. at Fort Garry coincided with the inauguration in 1914 of the first experimental work undertaken in agronomy by the Field Husbandry Department.

Following the appointment of Professor Bedford as Deputy Minister of Agriculture, the position of Professor of Field Husbandry at M.A.C. was filled by L.A. Moorhouse during the years 1912-13 and 1913-14, that is, the last year the College occupied the restricted farm area at Tuxedo and the first year after it was moved to the larger acreage site in Fort Garry.

After supervising the clearing of the overburden of woods and breaking the land on the Fort Garry site, T.J. Harrison resigned as assistant in Field Husbandry to become Superintendent of the Dominion Experimental Farm at Indian Head, and the management of the new College farm was taken over by the Animal Husbandry Department, except for an area located immediately west of the Chemistry and Physics building and north of the main roadway.* This reserved area was retained in 1914 by Professor Moorhouse for field experiments.

The first experimental plots were laid down and worked by J.H. Ellis as a student assistant who had previous experience in plot work on the Brandon Experimental Farm. This project was a modest effort both in respect of type of project and area involved. Nevertheless, these plots played an important historic role, not only as the first agronomic investigational work at M.A.C., but because the appearance presented, the interest aroused, and the results obtained, convinced the administration, the Board of Directors, and the Ministry of Agriculture, that such investigations were a necessary activity of the Agricultural College.

The type of field investigation thus introduced by Professor Moorhouse in 1914 may be classed as simple crop adaptation and variety trials.

As this project was the first attempt to undertake field crop experimentation at M.A.C., an outline of this endeavor is of historic interest. The area involved consisted of 10½ acres laid out in five ranges of 24 plots of 1/20 acre each (16' x 136') and one range of 24 plots of 1/40 acre each (16' x 68'). Eight varieties of wheat and eight varieties of oats were grown on triplicate plots; eight varieties of barley were grown in duplicate plots; and a number of varieties of cereal crops, of which only a small amount of seed was available, were sown in single plots. Nine varieties or types of millet also were sown. Twelve varieties of corn were grown in continuous rows on duplicate plots and seven varieties of corn were grown in hills. Thirteen varieties of turnips, seven varieties of mangels, three varieties of sugarbeets,

* Designated fifty years later as Matheson Drive.

and four varieties of potatoes also were grown. In addition, a large number of various types and species of crops were grown in rows to provide material for demonstration, classroom study and student identification; and grasses, clovers and alfalfa plots were seeded down for subsequent observation.

The results of the cereal, corn and root trials were reported in full in the annual report of the Manitoba Agricultural College for 1914.

In addition, a block of land immediately west of Regina Crescent and north of the main roadway was laid down as one of the Bedford crop rotation demonstrations and operated in conjunction with the experimental plots. The crop rotation area involved was divided into seven plots, two chains by five chains each, six of which were under a rotation of: 1st Year - Fallow and seed to red clover; 2nd Year - Clover, hay and break; 3rd Year - Wheat; 4th Year - Oats and manure in fall at 10 tons per acre; 5th Year - Corn; 6th Year - Wheat and skim-plowed in the fall; and the seventh plot seeded semi-permanently to alfalfa.

Professor Moorhouse resigned during the 1914-15 session and T.J. Harrison was invited from Indian Head to head the Department of Field Husbandry. The change in concept in respect of land on the College farm, on the part of the administration, as the result of the experimental plots in 1914, resulted in the ready acquiescence of the administration to the stipulation made by T.J. Harrison that he would accept the position only if permitted to undertake and expand experimental work in agronomy.

The appointment of Professor T.J. Harrison as head of the Field Husbandry Department marked the beginning of a new era during which the College served as the investigational and research branch of the Ministry of Agriculture, and as such, in a very few years, became known from coast to coast across Canada for the outstanding and extensive work carried on in agronomic research.

In connection with the site of the M.A.C. experimental fields, it should be noted - although it was not fully realized until the fact was established by the Manitoba Soil Survey at a later date - that the Fort Garry site is located in the Central Lacustrine Landscape Area, on blackearth, grey-black and meadow-prairie soils, in the heart of the Manitoba Lowlands Region. Consequently, the fields involved were comparable* in respect of soils and climate over a larger area of Manitoba than are those of any other experimental farm established in the Province, and were especially favorably situated to serve the eastern portion of the Blackearth Soil Zone.

In 1915, the land lying between the College buildings and Regina Crescent was allocated to Professor Harrison for field experimental work, but the area involved soon expanded until, in a few years, all the farm land north of the main roadway, plus 30 acres south of the main roadway, plus half the park field east of the campus and the horticultural gardens, were under investigational and experimental projects of the Field Husbandry Department. These activities, subsequent to 1917, were organized by Professor Harrison under three divisions, i.e.: Forage Crop Improvement, Cereal Crop Improvement, and Soil and Crop Management.

* Some four decades later, under the University regime, the soils in the area involved were destroyed when the area was converted into playing fields and track and field stadium.

Forage Crop Improvement - Forage crop improvement was first undertaken at M.A.C. by Professor W. Southworth in 1916. This work consisted in selecting and breeding improved varieties of alfalfa, red clover, white and yellow sweet clover, grasses, corn, sudan grass, sainfoin, yellow trefoil, vetches, soybeans, and the establishment of an extensive grass and clover nursery of plants produced from seeds obtained from experimental stations in many countries, and of native grasses collected from explorations over the western prairies as far away as the Peace River. Some of the notable successes achieved by Professor Southworth that were increased and distributed to Manitoba farmers may be noted as:

Macsel alfalfa (obtained from a cross between alfalfa and Black Medick to get better self-tripping flowers and increased seed set); also an alfalfa with creeping root habit, specimens of which were supplied to plant breeding stations in western Canada; Manhardy Red Clover, selected from a hardy, high-yielding, wild escape plant, the progeny of which lived through five winters in the park field, and seed of which was distributed to farmers in the Swan River Valley; Scout and Nyom Sweet Clover, and a sweet clover of low cumarin content; sturdy Meadow Fescue; and Dural Timothy.

Introductions also were made of crested wheat grass, a non-creeping brome grass, orchard grass, slender wheat grass, and meadow foxtail.

A notable achievement was the production of Manitoba Flint, a hardy, early-maturing yellow flint corn; a low temperature tolerant North Western Dent; Manitoba Amber, a hybrid corn from a North Western Dent and Manitoba Flint cross; Manalta, a very early-maturing flint corn for late summer and fall pasture; sudan grass; and a sorghum-sudan grass hybrid.

In breeding and selecting soybeans for earliness, a brown variety was produced and named Manitoba Brown, and several promising white soybean hybrids were produced and grown under number but were not named during Professor Southworth's years of service.

Progress also was made in developing more leafy strains of grasses for pasture, and in securing hardy types of sainfoin, winter vetches and an annual sweet clover.

Cereal Improvement - The cereal work at M.A.C. was first placed in charge of J.H. Bridge in 1915, but who left in 1916 to operate his own farm. A.R. Judson carried on this work in 1916. However, in 1917, W.T.G. Wiener was appointed as Cerealist and carried on this section of the departmental work as long as the M.A.C. remained an activity of the Ministry of Agriculture.

The initial objective of this section was to test all new strains and varieties of wheat, oats, barley, rye, flax and buckwheat distributed by seed houses and others. In 1918, 74 varieties of cereals, flax and buckwheat were under test and 200 varieties in 1919, many of which were discarded as inferior.

The severe and unexpected epidemic of wheat rust in 1916 and in the following years caused a change in the cereal improvement program, and in addition to selection and variety testing, hybridization was undertaken. Propagation of pure lines was first required to provide material for hybridization and for general distribution of Elite pure seed to seed growers for the production of registered seed. By 1919, 500 pure line selections were provided for distribution to farmers. It was found, however, that the problem of producing rust-resistant wheat required teamwork by cereal breeders and plant pathologists over many years before the solution was in sight.

In the meantime, two cereal contributions were made which contributed much in tiding over the interval before rust-resistant varieties of wheat were available. These were purified M.A.C. strains of the Mindum variety of durum wheat and of O.A.C.21 barley. This high quality M.A.C. Mindum was grown extensively in southwestern Manitoba for some years, and being more drought-tolerant than common wheat served as a useful stop-gap. For some thirty years this selection of Mindum remained the standard variety of durum wheat in Manitoba. The M.A.C. strain of O.A.C.21 barley was distributed to barley seed growers in the Miami and other districts and became for a number of years, a cash crop substitute for wheat in many parts of the Province. The blue aleurone selection of O.A.C.21 made by Professor Wiener established the standard for malting quality, and this strain continued to be the standard in western Canada for almost 40 years.

A further achievement was a selection made from a variety of fibre flax sent as a war-time measure from Britain, to be grown in Canada for seed which would be shipped to Ireland where it was to be grown for the production of linen fibre for aeroplanes. This selection of fibre flax made by W.T.G. Wiener produced ten inches more stem at M.A.C. than the variety from which it was selected. The selection was propagated, and although there was no interest by Manitoba farmers in the production of fibre flax, a Dutchman, who worked with Professor Wiener on the cereal plots, sent a quantity of the seed to Holland under the name of "Toba" where it was welcomed as an outstanding contribution from Manitoba to fibre production in the Netherlands.

Soil and Crop Management - The soil and crop management projects were conducted by J.H. Ellis. The first of these projects were designed by Professor T.J. Harrison, in 1915, to answer the questions farmers were then asking in regard to the management of soils and crops, and were limited to 32 of the 40 acres assigned to the Field Husbandry Department at that time. In 1918, at the insistence of the Board of Directors, the entire College farm was put under the management of the Field Husbandry Department, now designated as the Department of Agronomy. In 1919, more land was allocated to experimental work in agronomy and the soil and crop management investigations were revised.

From 1919 onward a change in emphasis took place in the soil and crop management section of the Agronomy Department. The spade work in crop management was gradually discontinued, but the soil fertility and soil

management projects were extended and enlarged by J.H. Ellis, who, in 1918, was appointed "Experimentalist" in charge of this section of the department.

Some of the simple crop investigations were carried on for a few years and discarded when they had served their purpose, other experiments were continued for longer periods to permit more reliable conclusions to be drawn from the results. On the other hand, it was intended that the fertility field, on which the revised fertility and soil management projects were laid down in 1919, would be continued along the line of the long-time classical experimental fields at the Rothamsted Experimental Station in England.

The various field experiments under investigation by the soil and crop management section of the Agronomy Department during the 1915-1924 period can be grouped into five categories, i.e.: Cereal Crop Management, Perennial Forage Crop Management, Annual Forage Crop Management, Intertilled Crop Management, and Soil Management and Fertility Experiments.

Cereal Crop Management

Investigations with Wheat:

Varieties of wheat; seed selection; treatment for smut; dates, rates, methods and depth of seeding; methods of seeding winter wheat; harrowing the growing grain; stage of maturity at which to harvest; electro-treatment of seeds; and loss in storage of grain.

Investigations with Oats:

Varieties of oats; dates, rates and methods of seeding; and harrowing the growing grain.

Investigations with Barley:

Varieties of barley; dates and rates of seeding; and harrowing the growing grain.

Investigations with Rye:

Dates, rates and methods of seeding winter rye; and methods of pasturing winter rye.

Perennial Forage Crop Management

Grasses:

Rates and dates of seeding; sowing with and without nurse crops after various previous treatments; methods of seeding grasses; stage of maturity when harvested; methods of breaking grasses and clovers.

Clovers and Alfalfa:

Date of seeding sweet clover; rates and dates of seeding clover and alfalfa; inoculation of alfalfa; methods of seeding alfalfa; stage of maturity to harvest alfalfa; methods of curing; and persistency of alfalfa.

Grass, Clover and Alfalfa Mixtures:

Grasses, clovers and alfalfa, and mixtures for hay and for pasture.

Annual Forage Crop Management

Annual crops for soiling and ensilage; annual crops for fodder and pasture; carrying capacity of annual and biennial forage crops; and making silage in experimental silos.

Intertilled Crop Management

Varieties of corn for fodder and grain; source of seed corn; dates, methods and depth of planting corn; methods of cultivating corn.

Varieties of turnips, mangel-wurzels, sugarbeets, and carrots; dates and methods of planting turnips and sugarbeets; dates and methods of planting potatoes; kind of potato sets; dates of harvesting sugarbeets.

Varieties of sunflowers; dates of seeding sunflowers; method and distance apart of planting sunflowers; stage of maturity of harvesting corn and sunflowers; and

Varieties of tobacco.

Miscellaneous Crops:

Hemp - Varieties; dates and methods of seeding hemp; and a comparison of dew-retting and tank-retting on fibre quality.

Exotic Crops - Trials also were made of crops not normally considered adapted such as sorghum, Kaffir corn, Milo maize, etc.

Soil Management and Fertility Experiments

Frequency of fallow; methods of summerfallow, including plowless fallow; dates of plowing fallow; summerfallow substitutes; stubble treatment methods; depth of plowing.

Applying manure to different crops; methods and rates of applying manure; frequency of applying manure; place in rotation of applying manure; wheat continuous with and without manure and fertilizers; green manures; commercial fertilizers; and the effect of cropping on fertility.

These experiments involved some 2,000 plots, in the operation of which the Experimentalist was fortunate in having the assistance of a devoted plot foreman in the person of Dick Maddock, and the services of a series of agricultural students who worked on the plots as teamsters and plot-men during their summer vacations.

Two types of field experiments also were initiated at country points away from the institution. In 1916, Professor T.J. Harrison started a scheme

whereby farmers in different parts of the Province could try out, on their own farms, the varieties of crops which had proved satisfactory on the experimental fields at M.A.C. The participants were designated as the Field Husbandry Association. In 1917, sixty-five farmers, mostly diploma graduates, were supplied by the Department with seed to carry out variety field trials with one or more of the following crops, i.e.: wheat, oats, barley, corn or flax; grass and legume species for pasture; grass and legume mixtures; sugarbeets; and the growing of winter rye as a weed control crop. In 1918, D.W. Robertson was engaged to supervise and enlarge this project, but after a short time he left to undertake graduate studies and, as it became impossible to continue this work due to temporary lack of funds and personnel at that time, the project had to be abandoned.

A second type of outside investigation was conducted by the Experimentalist of the Soil and Crop Management Division in co-operation with a farmer in the Balmoral district to obtain information in respect of grass adaptation and fertilizer requirement for peat land in that district. This type of investigation was enlarged some years later.

Although the results obtained from the investigations carried out by the respective divisions of the Agronomy Department were only published as annual reports for the few years the Manitoba Agricultural College reports were issued in printed form as Provincial Department of Agriculture publications, the conducting of these investigations built up a backlog of data that not only enabled the Department to supply reliable answers to farmer inquiries, but provided the necessary experience and specific information of regional application required in conjunction with the general information in textbooks for student instruction in the field of agronomy.

A further form of dissemination of information was through farmer inspection of the projects on Field Days held during the growing season. At such times groups of farmer visitors were transported on wagon racks, provided with seats and drawn by the experimental farm teams, to inspect the various projects, accompanied by a staff member who would outline the nature of the various investigations and the results obtained.

Some of the field husbandry investigations on the experimental fields involved other departments in co-operative action.

In connection with the pasturing of crops grown on the experimental plots as pasture substitutes for fallow, and the carrying capacity of grasses, legumes and mixtures, the Animal Husbandry Department was invited to co-operate by providing the necessary number of sheep and by being responsible for data in respect of the animals involved.

The Chemistry Department worked in close co-operation with the Agronomy Department in a number of research projects. The Chemistry Department analyzed the sugarbeets for sugar content and purity of juice, and carried out numerous analyses of silage, of feed crops, of hay cut at different stages of maturity, and of the feed value of rusted straw grown on the experimental plots. Towards the end of the M.A.C. Sub-Period, milling and baking equipment were obtained by Professor T.J. Harrison and installed in the Chemistry Department, where, under Dr. W.F. Geddes, close liaison and co-operation were maintained between the two departments in testing

the milling and baking qualities of wheat varieties and hybrids.* This type of cereal investigational work was later extended by Dr. W.F. Geddes to the study of carotene in durum wheat and of the quality of macaroni produced from various durum varieties.

Commencing in 1924, Professor T.J. Harrison began the organization in the Agronomy Department of the first experimental malting equipment in Canada. This malting laboratory was equipped at first to test the barley varieties grown by the Cereal Division of the Department, but as the equipment was improved and technicians gained experience, the activities of the laboratory were extended to the testing of barley samples submitted by plant breeders at other stations. For some years the malting laboratory continued as an activity of the Department of Agronomy, but after Professor Harrison resigned to become Assistant Grain Commissioner in 1928, the laboratory was lost to the M.A.C., and although it continued at the College for a time by virtue of funds provided by the Dominion Experimental Farm, Ottawa, and under the direction of a national committee of federal and provincial plant breeders and cereal chemists, it was transferred eventually to the Grain Exchange Building where after reorganization it finally became "The Brewing and Malting Barley Research Institute".

When the Manitoba Agricultural College was first organized, it was vaguely recognized that soils were the medium in which plants grow, but it had not yet been established, in Canada, that soils were dynamic natural objects, the study of which would develop into a scientific discipline. Consequently, the administration made no provision for inclusion in 1906 of an organized department of soils in the College faculty, and throughout the 1906-1924 sub-period both the teaching and the investigation of soils were limited to fractional efforts on the part of individuals in several separate departments until, eventually, teaching and research work in soils were co-ordinated in a Soils Department that gradually evolved in a later period.

Nevertheless, from an historic standpoint, reference should be made here to individual efforts in respect of the elementary soil investigations carried out, during the 1906-1924 sub-period, that may be considered as the forerunner of research activities carried out in later years by the College and the Department of Agriculture.

In 1908, a Department of Soil Physics and Mathematics under Professor F.G. Churchill (formerly of Iowa) was added to the staff at M.A.C. Instruction in mechanical analysis and physical properties of soils and in soil drainage was given in this new department, but only a limited amount of soil investigational work was undertaken at that time.

During the tours of the Better Farming Special Trains in the summers of 1912 and 1913, soil and subsoil samples were collected at points where the trains stopped to hold meetings and demonstrations. The soil samples thus obtained were subjected to mechanical analyses in the Soil Physics Laboratory.

In 1913 the Soil Physics Department was divided. Professor Churchill retained the soils work in the Department of Soil Physics and a new

* The milling and baking investigations carried out at M.A.C. were taken to the laboratories of the Board of Grain Commissioners of Canada, in 1933, when Dr. Geddes left the Agricultural Faculty to become the Commission's Chief Chemist.

Department of Applied Physics and Mathematics was formed under Professor S.C. Lee. This left Professor Churchill full time to devote to work with soils.

When the Agricultural College was transferred to the Fort Garry site, it was apparent that surface waters accumulated aperiodically in the micro-relief areas on the flat topography of the newly broken clay-textured land of the College farm. Under Professor F.G. Churchill's direction, several thousand feet of tile drains were installed and financed by the Department of Agriculture.* Although these installations were primarily a service project, they were in part demonstrational and in part investigational, in that observations were made of the effect of winter frost on tile, on the use of gravel as a substitute for tiles, and on the minimum depth and distance apart of tile drains when used in the fine clay-textured soil on which the tile drains were placed.

As a result of this work, it was concluded that, at present in Manitoba, tile drainage would prove profitable where required for the drainage of gardens, but that drainage for field crops in general should be by open drains.

In 1915 a project was designed and installation commenced to provide a main tile drain, with man-holes of brick at intervals along the centre of the College farm, which discharged into the Red River. This installation, which was financed by the Department of Agriculture, was intended to provide an outlet for drainage waters on all the land on the College farm lying between the College buildings and Pembina Highway. This work led to the preparation of M.A.C. Bulletin No. 19, entitled "Soil Drainage", which was published by the Ministry of Agriculture, and to the offer of technical help to farmers in the solution of farm drainage problems. A tile drainage system also was installed on the demonstration field area at St. Pierre.

A series of meteorological observations was initiated by Professor F.G. Churchill. Records were taken at the College of maximum and minimum daily temperatures, hours of sunshine, rainfall, etc., which were included as monthly records in the annual Crop Report of the Department of Agriculture and Immigration. In addition, soil temperatures were determined at 4", 12", 18" and 36" depths at a site located on campus grounds.

Unfortunately, the soils investigational work initiated by Professor Churchill in the Department of Soil Physics was discontinued after he resigned and returned to Iowa in the winter of 1915-16. The equipment which had been gathered together by Professor Churchill was fractionated; the soil physics laboratory equipment and meteorological apparatus were assigned to the Department of Applied Physics and Mathematics; and the field drainage equipment was taken over by the Agricultural Engineering Department to be used subsequently for teaching and service purposes only.

A new concept of soils was introduced to M.A.C. by A.J. Galbraith who was appointed Associate Professor of Chemistry in the fall of 1915. Having had experience in soil survey and soil analysis with the Department of

* Department of Agriculture Annual Reports - 1914, Pages 8 and 9; and 1915, Pages 82-87.

Chemistry at the Ontario Agricultural College, Guelph, Ontario, he commenced a preliminary study of soils in the Arborg district, and in the College report of 1916 Professor Galbraith, now promoted as head of the M.A.C. Department of Chemistry, recommended that a soil survey should be undertaken to ascertain the soil types which prevailed in the Province, and that this be followed up by conducting experimental work on the main soil types.

Professor Galbraith was able to persuade the Provincial Minister of Agriculture that studies should be made of Manitoba soils, and in the summer of 1917 and 1918, financed by the Manitoba Department of Agriculture, he undertook, as a lone endeavor, to carry out road traverses by car to examine soils in the southern portion of the Province. Unfortunately, Professor Galbraith's duties as head of the Chemistry Department under war-time conditions, and as Commander of the "C" Company* of the University C.O.T.C., together with lack of any assistant in the soil survey work undertaken, made it impossible for him to put his findings in the form of permanent records before his untimely death in the influenza epidemic of 1918. Nevertheless, to Professor A.J. Galbraith must go the credit of introducing the concept of a provincial soil survey, as well as credit for the inspiration he gave and for the interest in soils that he aroused in at least one of his students which bore fruit at a later date, and for the enlarged vision the M.A.C. staff acquired from association with him.

Dr. W.J. Shipley succeeded Professor Galbraith as head of the Chemistry Department at M.A.C. in 1919, who was, in turn, succeeded by Dr. C.B. Clevenger from Illinois in 1920, but no attempt was made to follow up the soil investigational work initiated in the Chemistry Department by Professor Galbraith until, in 1921, an agricultural survey was undertaken by the College staff at the instigation of John Bracken shortly after his appointment as President of the M.A.C.

In connection with this phase of the agricultural survey, Dr. C.B. Clevenger, assisted at various times by W.F. Geddes and W.J. Parker, was assigned to report on the soils of certain municipalities. During the summers of 1921 and 1922, he examined the soils and made municipal maps showing the soil textures occurring in the municipalities of Hamiota, Argyle, Portage la Prairie, Stanley, North Cypress, and the south half of Arthur and Brenda. The Physics Department co-operated in making mechanical analyses of representative soil samples as a check on the field observations of soil textural class, while the Chemistry Department carried out the chemical analyses of the soil samples collected, thus acquiring information concerning the soils analyzed in respect of total nitrogen, phosphorus, potassium, and calcium. The chemical data thus obtained were preserved and later filed for reference in the records of the Manitoba Soil Survey.

However, with the completion of the Agricultural Survey of 1921-1922, funds for further work were not forthcoming; the soil survey work was discontinued, and with the resignation of Dr. Clevenger, the newly appointed head of the Chemistry Department at M.A.C., in 1924, became

* Composed of Agricultural College students.

interested in research into the milling and baking of bread wheats and into the quality of macaroni wheat, and ceased to have any further interest in the study of Manitoba soils.

Thus except for the soil management and soil fertility investigations which were continued in the Department of Agronomy, there was no further development in soil research at M.A.C. until the Soils Division was developed by J.H. Ellis in the Post-M.A.C. Sub-Period.

During the years 1913 to 1924, two notable contributions were made in the field of Biology by Professor V.W. Jackson. The first of these was the building up of an extensive herbarium of Manitoba plants collected during numerous botanical excursions and supplemented with rare specimens sent to the Botany Department for identification. The second achievement was the development of a biological museum and an arboretum. In 1914 a biological camp was established on the Winnipeg River between Eight-foot Falls and Slave Falls for the purpose of observing bird migration, forest flora and fauna, and for collecting specimens for the College museum. At this time the Department of Agriculture was still responsible for wildlife administration. Two taxidermists were in camp, from April to July, mounting the specimens as they were collected. Specimens obtained from this source, together with annual additions, resulted in the building up of an excellent collection of bird and animal life and of the woods of Manitoba, which was exhibited in a well-lighted room in the Horticultural Building.

This museum not only delighted naturalists, school children, and other visitors, but was of such educational value that it, together with the herbarium, was eagerly appropriated, by the University departments of Botany and Zoology, when the University moved, in a later period, to the Fort Garry campus. Moreover, during the years 1913 to 1924, the biological studies of Professor Jackson provided material for a considerable number of publications that were issued as a service by the Ministry of Agriculture.

Agricultural Survey of 1921-1922 - An extensive and unique investigation of agricultural conditions in Manitoba was carried out in the field by the staff of the Manitoba Agricultural College during the summer of 1921, and continued as an office study in succeeding months. This project was conceived by President John Bracken shortly after his appointment, in 1920, as head of the M.A.C.; it was financed by the Department of Agriculture and involved, more or less, the entire academic staff of the Agricultural Faculty. The object of this investigation was to bring to light the existing conditions on Manitoba farms, to familiarize the staff with these conditions, and to ascertain the services that should be rendered and the problems that required investigation by the College and the Ministry of Agriculture.

The work consisted of compiling and bringing together data relating to provincial agriculture which were already available, but which were, in many cases, hidden in various "blue books", and in conducting detailed and intensive investigations of farm conditions through "farm to farm" survey of selected townships in representative municipalities. In this farm to farm survey, approximately one thousand farmers were visited on their respective farms and questionnaires were filled with answers dealing with every phase

of farm activity. By this means the staff of the College was brought into touch with approximately one farmer in fifty in the Province.

To carry out the "farm to farm" survey, the College staff was divided into three groups - designated as Eastern, South Western and North Western-. Each group contained a specialist in field husbandry and in animal husbandry, and three additional members selected from the various other departments of the faculty. In addition, Dr. C.B. Clevenger and associates in the Chemistry Department* were detailed to conduct a soil survey of the municipalities selected for study. In 1921, fourteen municipalities were selected for agricultural survey as representative of regional areas, i.e.: Whitemouth, Morris, Stanley, Portage la Prairie and Eriksdale; Swan River, Gilbert Plains, Russell, Ste. Rose and Rosedale; North Cypress, Glenwood, Argyle, and the southern half of the three adjoining municipalities of Edward, Arthur and Brenda. In addition, Hamiota was added as a municipality to be covered by soil survey.

In each of the 14 selected municipalities, a township was selected as nearly representative of the respective municipality as possible, and a complete record was made of each farm in selected townships. Random selections also were made of farms in the municipal area surrounding the selected townships to ascertain if the selected townships were reasonably representative of the selected municipality.

In the winter of 1921-22, a booklet in the form of charts and maps was prepared and submitted to the Hon. George H. Malcolm. A limited number of copies were made and submitted to the Legislature by the Minister as a progress report accompanying the departmental estimates. The material thus compiled as charts or maps included:

Physical features - altitudes, natural drainage systems, and drainage districts;

Meteorological records from observation stations in Manitoba, including yearly, monthly and seasonal precipitation and frost-free periods;

Population distribution by municipalities, the growth of total, urban and rural population by years, and racial extraction and distribution of population over the Province;

Number of farms by municipalities, number of tenants and acres of rented land;

Distribution of farm labor by months;

Land utilization - acreage of land in farms and acreage of fallow, wheat, oats, barley, rye, corn and grasses by municipalities;

Average yields of spring wheat, durum wheat, oats, barley and rye by municipalities;

Grades of wheat, oats, barley, rye and flax shipped by rail from municipalities during 1918-19-20;

Elevator capacity by municipalities, and prices and grades of wheat, oats, barley, rye and flax;

* Page 243.

Frosted and smutty carloads of wheat shipped from municipalities;
Precipitation and wheat yields by years (1884 to 1920) in South
Western Manitoba;
Ten year average yields of wheat by Crop Reporting Districts;
Grasshopper infestation, 1919-20-21, and Sawfly infestation, 1921;
Number of cattle, swine and sheep on Manitoba farms, and shipments
of cattle, swine and sheep in 1920; and
Chemical analyses of certain soils and six municipal soil maps in color.

The data obtained through the exhaustive questionnaires used in the farm to farm visitations in respect of farm families, farm houses and buildings, fences, wells and water supply, farm and home equipment, field and livestock management, gardens, windbreaks, education, services available, community facilities and problems, specific individual problems, financial standing, and various items of economic information, etc., were tabulated, summarized, filed, and used by the teaching staff.

The progress report submitted to the Minister with the booklet of charts was not published for two reasons: firstly, certain members of the Legislature objected to the bad publicity they claimed would follow the publication of the low yields of grain current in certain municipalities in southwestern Manitoba as the result of damage by wheat rust and drought; and secondly, the Norris Government was defeated and a new government of Progressives was elected in 1922 whereupon, being without a leader and facing financial difficulties, the newly elected members called President John Bracken, who was persuaded to leave the College and head the Government as Provincial Premier. Consequently, except for a brochure entitled "Agronomic Conditions in Manitoba as Revealed by the Agricultural Survey of 1921" reprinted as a report presented by J.H. Ellis to the Western Canadian Society of Agronomy, 1922, further publication of the findings of the agricultural survey were held in abeyance until they were dusted off and included in the published report of a subsequent government inquiry into the "Unused Lands of Manitoba" (1926).

Organization of Manitoba Agronomists - In the second decade of the M.A.C. Sub-Period, an important movement was started by the head of the Agronomy Department which, although not a research project, was the means of:

bringing together, annually, the results of investigations carried out by all Provincial and Dominion workers within the Province in the field of agronomy;
securing the co-operation of agronomic workers in the various government institutions in initiating and carrying out necessary investigations into agronomic problems; and
providing the Department of Agriculture with information on which agricultural policies and farm practice recommendations could be based.

This movement commenced with a conference called by Professor T.J. Harrison in an attempt to bring some order out of the discord in agronomic extension, and to ease the agricultural apprehension, which prevailed in Manitoba following the epidemic of wheat rust in 1916 and subsequent years.

By this time, grain growing had become established on prairie farms, not only as a commercial enterprise on which the economy of Manitoba was largely based, but it also had become a way of life for the majority of farmers and the only way of life with which many of those born on prairie farms were familiar.

A shock to this way of life and to the fallow-grain system of agriculture came in 1916. Red Fife wheat (which at that time was the standard variety grown on Manitoba farms and which, under the name of Scotch Fife, had established the reputation of prairie grown "Manitoba Hard" wheat in the homestead days) together with lesser important varieties, and the newly developed Marquis variety which had raised high hopes by its phenomenal performance in the record crop of 1915, were all affected by an epidemic of "black rust" of a severity never before experienced in this Province. The continued appearance of "rust" on wheat in the Manitoba Lowlands in the years following 1916, and its sporadic occurrence with lesser severity in the Western Uplands, threatened to put wheat-growing out of business on Manitoba farms, and led many whose business depended on agriculture to enter the field of agricultural extension, even though some had no information or more misinformation than information to extend. Business firms, banks, departmental stores, implement companies, loan companies, boards of trade, experimental farms, seed branch, and college extension services, etc., independently undertook unco-ordinated and in many cases conflicting programs of agricultural extension and of giving advice to Manitoba farmers in respect of field crop production. The inevitable happened, confusion reigned. The results in terms of agricultural extension were tragic and remedial action was essential. The lead was taken by Professor T.J. Harrison, and at his invitation 29 persons attended this first general agronomic conference in the Board Room at the M.A.C. on November 5th and 6th, 1920. With the exception of one member from the agricultural press, and two farm operators present by invitation, all who attended this initial conference were staff members respectively of the Dominion and Provincial Departments of Agriculture and of the Manitoba Agricultural College.

The minutes of this first Conference of Manitoba Agronomists record the purpose of the meeting as:

"The purpose for which the conference was called was that all divisions represented might co-operate and arrive at something definite as to advice to be given to farmers in the different districts of the Province in regard to crops and varieties to grow, cultivation practices, rotations, etc."^{*}

This purpose received the wholehearted approval of the meeting and, in addition to drafting recommendations in respect of agronomic extension

* Ellis, J.H. - "Historical Summary of Conferences Held by Manitoba Agronomists from Inaugural Meeting Initiated by Professor T.J. Harrison in 1920"; Man. Department of Agriculture and Conservation; 1961.

programs for different crop districts, it was agreed unanimously that a similar meeting be held each year to review agronomic conditions, to pool experimental results, and to revise field crop recommendations in the light of results obtained from current investigations and research.

Thus was initiated an informal organization, designated as the Manitoba Agronomists, involving research and extension workers in various aspects of agronomy such as: field crops, plant breeding, plant pathology, crop pests and weed control, seed inspection, soils and fertilizers, etc., which continued successfully, with the blessing of the Department of Agriculture, to meet annually (except for the years 1923 and 1924) without constitution or by-laws, and without dues or fees.

In the earlier years, the agronomist conferences were not only informal but they were carried on without an executive. A committee was appointed at each annual meeting to arrange for the next conference. Later, a modification was introduced and the conference organized to the extent of electing annually a president, a secretary, and two executive members, together with the chairman of each of the standing committees into which the membership was grouped according to their specific professional interest or field of action (i.e. Cereals, Forage Crops, Plant Diseases, Weeds, Insects and Rodents, Soils and Fertilizers, etc.).

Initially, the proceedings of the conference were mimeographed, by the departmental staff of the current chairman or secretary, and distributed free to those who attended the respective meetings. In later years, as more information was forthcoming, an abstract of the papers presented was processed by the Publications Branch of the Provincial Department of Agriculture for distribution to the agricultural representatives and departmental extension workers. Still later, the proceedings of the Manitoba Agronomist Conferences were printed by the Publications Branch as a uniform series of annual reports. In addition, printed folders of "Field Crop Recommendations" for each ensuing year were eventually produced, in quantity, by the Publications Branch of the Ministry of Agriculture for distribution to farmers and others who required such information.

Thus the confusion that arose, in the second decade of the 20th century, from the well-meaning but ill-informed non-professionals attempting to give advice to Manitoba farm operators ultimately disappeared, or became of little significance, as the Ministry of Agriculture was enabled to give leadership in agronomic extension through the mutually agreed recommendations of Manitoba agronomists, based on the co-ordinated experiences of Provincial and Dominion research and extension agronomists, working voluntarily in harmony, at the various institutions within the Province.

Initiation and Early Development of Plant Pathological Research on the Campus of the Manitoba Agricultural College

The damage to the 1916 grain crop in western Canada caused by the widespread epidemic of black stem-rust of wheat (*Puccinia graminis tritici*) had national repercussions which led to the involvement of the Botany Division, Central Experimental Farm, Ottawa, working in close co-operation

with agronomists at the three agricultural institutions in the West, in seeking a solution to the "rust" problem.

The first move in this connection was a survey of the 1916 rust epidemic by plant pathologists of the Botany Division of the Central Experimental Farm. The report of H.T. Gussow, Dominion Botanist for the year 1916-17 records:

"A thorough investigation of the severe grain rust epidemic was carried on during the year. As a result, two field laboratories were established, one at Brandon and one at Indian Head, in charge of trained specialists who will devote their time to comprehensive study of the grain rust and related problems affecting the yield of our grain crops. During the year, a colored poster describing the nature of grain rust, together with a popular account of this disease, in bulletin form, was prepared."

Thus a study of grain rust by the Dominion Experimental Farms was begun with a plant disease survey in the spring of 1917. However, in August, 1917, an historic meeting was held in the Board Room of the Manitoba Agricultural College which was attended by J.H. Grisdale, Director of Dominion Experimental Farms (who also was acting temporarily as Dominion Botanist in 1917); Dr. Chas. E. Saunders, Dominion Cerealist; and the heads of the Agronomy and Biology departments of the Manitoba Agricultural College and of the universities of Saskatchewan and Alberta; together with a few additional associates from the respective departments of the institutions represented.

At this meeting the situation in respect of cereal diseases and the investigations underway at the different western institutions in respect of wheat rust were reviewed, and plans were made for co-operation by federal and provincial research workers with a view to securing a co-ordinated approach in combating the problem of cereal rust diseases.

The next year (1918) the Botany Division, Ottawa, appointed Dr. Margaret Newton as Plant Pathologist to work with and in the Botany Department of the M.A.C. where she carried out greenhouse cultures of cereal rust. In addition, the personnel of the field laboratory at Brandon undertook a survey in an attempt to locate and destroy barberry bushes which might serve as alternate hosts for wheat rust in Manitoba; and under Dr. W.P. Fraser, life history studies were undertaken in respect of barberry bushes and various grasses as alternate hosts of black stem-rust of wheat.

In 1919, Dr. Margaret Newton continued work in the Botany Department at M.A.C., the barberry survey work was extended, and plant pathology research work was enlarged. Dr. E.S. Archibald, who had succeeded Dr. J.H. Grisdale as Director of Dominion Experimental Farms, and was acting temporarily as Dominion Botanist, recorded in the annual report for the year ending March 31st, 1920, that in 1919, headquarters for the Dominion plant disease studies had been established under Dr. W.P. Fraser, working in co-operation with Dr. J.S. Thomson of the University of Saskatchewan, and with field stations at Brandon and Indian Head. Reference also was made to experiments that were started at Indian Head similar to those conducted at M.A.C. to ascertain the effect of cutting rusted wheat at varying stages of maturity.

In 1920, Dr. G.R. Bisby was appointed as Plant Pathologist in the M.A.C. Department of Biology. He worked specifically with fungi and carried on research in connection with cereal and potato diseases. In 1921, the annual report of H.T. Gussow, Dominion Botanist, records the appointment, in August, of P.M. Simmonds as assistant to Dr. W.P. Fraser at Saskatoon, and the growing of specified varieties of common, durum, club and winter wheats, and of emmer, by the Field Husbandry departments of Manitoba, Saskatchewan and Alberta, as well as by the branch experimental farms at Brandon, Morden, Indian Head, Rosthern, Scott, Vermilion and Lacombe. These uniform variety plots provided widely distributed material for field study by the plant pathologists.

The report of the Dominion Botanist for 1922 shows that the Dominion Field Laboratory of Plant Pathology was a continuing activity at Saskatoon, with greenhouse facilities provided by the University of Saskatchewan; that P.M. Simmonds had been made permanent assistant to Dr. W.P. Fraser; that J.H. Craigie and C.E. Maguire were engaged as temporary assistants during the summer; and that no plant pathologists were now stationed at Indian Head. The survey and destruction of barberry bushes was continued in Manitoba and in Saskatchewan, and uniform variety plots of wheat, for study by plant pathologists, were grown by agronomists at the same institutions as in 1921.

In 1923 a Dominion Field Laboratory of Plant Pathology was established and housed in the Manitoba Agricultural College. In April, 1923, Dr. D.L. Bailey was appointed officer-in-charge of this laboratory and, in his annual report for that year, referred to co-operation by Dr. G.R. Bisby of the M.A.C. Biology Department in connection with cereal smut investigations, and to co-operation by the M.A.C. Agronomy Department in placing the numerous soil and crop management plots at the disposal of his assistant, F.J. Greaney, who at this time commenced extensive studies of the fungus flora of wheat on the College experimental plots.

In July, 1923, I.L. Connors was put in charge of the plant pathological laboratory at Brandon, and during the summer of 1923, field surveys were continued to locate and destroy barberry and buckthorn bushes as alternate hosts of cereal rusts.

It is of significance that in 1923 L.H. Newman was appointed to the position of Dominion Cerealists at Ottawa to succeed Dr. Chas. E. Saunders, who on June 1st, 1922, resigned due to ill health.

In the following year, H.T. Gussow recorded that

"There is to be erected a rust research laboratory as well as greenhouses with up-to-date equipment on grounds placed at the disposal of the Dominion Government by the Manitoba Agricultural College, Winnipeg."

In this connection, further expansion of federal activity, to include cereal breeding as well as research in the field of plant pathology, is indicated in the report of L.H. Newman for the year 1924.*

* Report of Cereal Division, Dominion Experimental Farms, for the year 1924 (Page 6).

"The enormous losses which have resulted from epidemic of wheat stem-rust during certain years have indicated the imperative need for concerted action on the part of Canadian scientists. Obviously, this pest is feared most in the wheat-growing areas of western Canada where its spread may assume ruinous proportions.

"During the past season (1924) the Federal Department of Agriculture co-operated with the National Council of Scientific and Industrial Research in calling a meeting of leading experts at Winnipeg to discuss the whole situation and to define a comprehensive plan of attack. As a result of this conference, an arrangement was entered into between the federal department and the Agricultural College at Winnipeg whereby the former agreed to erect a laboratory and suitable greenhouse accommodation on land set aside for the purpose by the College, and to carry on intensive work with a view to producing varieties of wheat capable of coping with the rust menace. In this undertaking the Cereal Division and Botanical Division will co-operate as the problem involves the consideration both of the plant pathologist and of the plant breeder. Provincial institutions doing plant breeding work in the three Prairie Provinces also are co-operating in this important project and are undertaking to conduct work along certain lines as agreed upon by a committee of which they are members. Financial assistance is being granted the above by the Council of Scientific and Industrial Research.

"A rust nursery in connection with the laboratory will be operated at Winnipeg wherein will be grown a large number of different varieties and selections, all of which will be subjected, when necessary, to artificial inoculation with spores from the various biological forms of the disease found in Western Canada."

In pursuance of the arrangements referred to in the above extract from the Report of the Dominion Cerealists, 1924, and to extend the co-operation between the M.A.C. Agronomy Department and the Dominion rust research workers on the College campus, a consultation took place between Professor T.J. Harrison and L.H. Newman. This resulted in a thirty-acre field, under pasture experiments on the College farm, being transferred from the Soil and Crop Division to the Dominion Cerealists, to be used in connection with cereal breeding work which L.H. Newman proposed the Dominion Experimental Farms should undertake and carry on together with the rust nursery work of the plant pathologists. It was agreed, however, that the plant breeders to be added to the staff of the Dominion Rust Research Laboratory should be responsible for plant breeding work in connection with rust-resistant spring wheat and oats, and that the M.A.C. Agronomy Department would continue the plant breeding work with barley, flax, and durum wheat, and with forage crops.

Thus the first phase of rust research on the College campus - consisting of close co-operation between plant pathologists of the Division of Botany, Dominion Experimental Farms, and the M.A.C. (as well as with the University of Saskatchewan), which was carried out harmoniously for eight years, by virtue of the personnel involved - came to an end in 1924. A second phase began in the year following the transfer of the College from the Provincial Department of Agriculture to the University when, in 1925, the Dominion Rust Research Laboratory, with Dr. D.L. Bailey as officer-in-charge,* was established on the campus as a separate institution

* Report of Dominion Botanist for 1925 (Pages 5 and 67).

under the control of the Dominion Department of Agriculture, and when, in addition to the Plant Pathological Laboratory, a Cereal Breeding Laboratory was added as an associated phase of rust control work under Dr. C.H. Goulden.

(2) PROVINCIAL DEMONSTRATION FARMS

The acre demonstration plots of alfalfa initiated by S.A. Bedford in 1911 (while he was serving as Professor of Field Husbandry at the M.A.C.), followed by 40 acre blocks laid out at various locations in the Province as crop rotation demonstrations in 1913 (when S.A. Bedford was Deputy Minister of Agriculture), may be considered as early attempts on the part of the Ministry of Agriculture to sponsor agronomic demonstrations on farmers' fields.* These activities were dependent on, and carried out with, farmer co-operation.

However, in 1914 (the last year in which Hon. George Lawrence and S.A. Bedford were Minister and Deputy Minister of Agriculture respectively), the first of two provincial demonstration farms was inaugurated as a specific departmental venture.

This venture (undertaken one year before the Dominion Department of Agriculture purchased the Morden farm for development as an horticulture experimental station) began with the purchase of an area of 74.84 acres in the N.E. of Section 34-2-17W, to be operated as a provincial demonstration fruit farm. The area involved lies adjacent to, and immediately south of, the east arm of Killarney Lake, approximately half a mile south of the town of Killarney. The purchase price of \$3,875.00 and \$10,702.68 for equipment, expenses, wages, etc., were appropriated from the grant of \$43,920.00 made to Manitoba in 1914 under the Dominion Agricultural Instruction Act. The annual expenditures for the operation of the Killarney Demonstration Farm also were financed from the same source until 1923 when grants under this Act were discontinued, after which provision was made in the annual supply vote of the Ministry for maintenance until the Killarney farm was discontinued in 1947.

During its existence, the Killarney Demonstration Farm was operated or supervised successively by Nelson S. Smith, 1915 to 1916; Harry E. Walker, 1917 to 1920; E.S. Hayter, 1920 to 1927; and again by Harry E. Walker, 1927 to 1947. These men, in turn, served in the dual capacity of farm superintendent and of district agricultural representative operating from an office provided at the Demonstration Farm.

The first annual report of the Killarney Demonstration Farm now available was published in the annual report of the Department of Agriculture and Immigration for 1916. It was addressed by Nelson S. Smith, as Farm Manager, to S.A. Bedford, Demonstration Farm Superintendent, who re-submitted it to the Minister. It is apparent, therefore, that S.A. Bedford, after completing three years as Deputy Minister, continued to supervise provincial demonstration farm activities in 1916 in addition to serving as Chairman of the Provincial Weeds Commission.**

* Pages 233 to 234 .

** Page 171.

This report shows that some 500 fruit trees and shrubs, etc., had been planted, including: standard apples, crabapples, plums, cherries, gooseberries, raspberries, and Beta grapes; but it is obvious that in the initial years the farm was not devoted exclusively to fruit production, because reference is made to the development of grade milking Shorthorns and to the purchase of a Shorthorn bull, as well as to the growing of fodder corn, feed crops and grain.

The next available report for the Killarney Demonstration Farm was submitted by H.E. Walker to the Demonstration Farm Board in 1918, and re-submitted to the Minister by J.H. Evans, Chairman of the Board and Deputy Minister of Agriculture.

The 1918 report shows that under the management of H.E. Walker the primary activities on the Killarney Demonstration Farm were concerned with fruit and horticultural crops. Ornamental materials, including herbaceous perennials, had been introduced; caragana hedges were planted to provide (in later years) protection for horticultural areas in addition to tree fruits and shrubs; testing was being carried on with varieties of garden vegetables and Swede turnips; and work with potatoes, involving varieties, dates of seeding, kind of sets, cultural methods, and cost of production, was underway. In addition, however, variety plots of wheat, oats, barley, grasses and alfalfa were grown as experimental and demonstrational projects.

Unfortunately, the 1918 season was one of a series of unfavorable years in southwestern Manitoba. On the demonstration farm, spring frosts ruined the blossoms of tree fruits and damaged garden crops, so that three re-seedings were required, and vegetables as well as fruits were more or less a failure. Drought and soil drifting damaged the newly planted hedges, and the wheat and the grass plots were either blown out or half-smothered with soil drift. Nevertheless, the average yield per acre of the potato trials on the demonstration farm in 1918 was 243 bushels; of the turnip trials, 25.4 tons; of the oat plots, 52 bushels; and of the barley plots, 36 bushels where sown after corn and 24 bushels where sown on fall plowed stubble.

In this connection it is also of importance to note that because of the adverse conditions (i.e. grain rust, frost, drought, soil drifting, and grasshoppers) which prevailed in the South Western Crop Reporting District during the two years prior to 1918, in 1918, and in the two succeeding years, the overall average yields per acre were subnormal for the five consecutive years 1916 to 1920. Thus although the limited reports available in respect of the Killarney Demonstration Farm may appear unsatisfactory during its early years of operation, nevertheless, the results achieved must be considered against the background of abnormally unfavorable conditions which for a few years in succession afflicted farm lands in southwestern Manitoba.

Subsequently, when the groundwork begun by Nelson S. Smith and H.E. Walker was further developed by E.S. Hayter to the point where the farm was making locally appreciated contributions to the district, the Dominion agricultural instruction grant (from which the Killarney farm was financed) was withdrawn at a time when the Provincial Government was under financial stress. Nevertheless, the specific item in the annual supply

vote (first provided in 1918 for a demonstration farm at Birtle) was increased, thereby permitting the continuation of the Killarney farm until 1947; subsequent to which the policy of operating demonstration farms as a provincial enterprise was discontinued.

A second provincial demonstration farm was established with a somewhat different purpose. In 1915, the Executive of the Western Canada Live Stock Union was responsible for a submission to the "recently appointed Agricultural Economic Commission" including a statement "emphasizing the need for half-section demonstration farms . . . selected for average soil conditions and used more particularly to demonstrate to neighboring farmers how prevailing difficulties may be overcome, while the farm is operated on the same basis, showing annual balance sheets of receipts and expenditures."* This brief no doubt influenced the Ministry of Agriculture to enlarge its demonstration farm activities. A three man Demonstration Farm Board was appointed in 1917, composed of J.H. Evans, Chairman; R. Milne; and Professor T.J. Harrison, Secretary; and a half-section of land was purchased in the Birtle district to be operated as a provincial demonstration farm. No report of the Demonstration Farm Board was printed in 1917, but in the 1917 annual report of the Deputy Minister to the Minister it was noted:

"The establishment of the half-section demonstration farm in the province of Manitoba is intended to supply more accurate information on farm management and ascertain the actual cost of the production of farm produce under average conditions. This farm is not an experimental farm, but rather a demonstration farm, and is managed by a working foreman, who is supervised by three men who comprise the Demonstration Farm Board. While there are farmers who keep accurate data covering some phases of their farm management, the farmers who keep complete records are few and far between. It is to be hoped that information will be forthcoming, as a result of this venture, which will set forth the possibilities of a half-section farm in the province of Manitoba."

In 1918 the Chairman of the Demonstration Farm Board received and passed on to the Minister a report of the Manager of the Killarney Demonstration Farm which was printed in the annual report of the Department of Agriculture and Immigration. However, no reference was made to the Birtle farm in the annual departmental reports for the years 1918 and 1919, but the itemized supply votes of the Ministry of Agriculture show that the Birtle Demonstration Farm was in operation throughout the years from 1918 to 1934 inclusive.

In 1920 a report of the Demonstration Farm Board was submitted by the Secretary to the Minister. This submission outlined the purpose of the Killarney Demonstration Farm to be that of demonstrating fruit growing and vegetable gardening, and the purpose of the Birtle Demonstration Farm to be the development of a typical half-section Manitoba farm on mixed farming lines. The Manager of the Birtle farm, William Pierce, was under instructions from J.H. Evans in respect of livestock; from R. Milne in respect of engineering; and T.J. Harrison in respect of field crops.

* Department of Agriculture and Immigration Report for 1915; Page 95.

The half-section Birtle farm was operated under a six year rotation of: 1st Year - Break and fallow; 2nd Year - Wheat; 3rd Year - Wheat; 4th Year - Oats and barley seeded with grass-alfalfa mixture; 5th Year - Hay; and 6th Year - Pasture. In addition to a few pure-bred Shorthorn cows and the horses kept for farm work, the "grading-up" of livestock was undertaken using grade cows with a Shorthorn bull; grade ewes with an Oxford ram; and brood sows with a Yorkshire boar. Two breeds of poultry, i.e. Barred Plymouth Rocks and White Wyandottes, also were included in the livestock inventory.

The report of the M.A.C. Agronomy Department for 1922 shows that Professor T.J. Harrison arranged for a block of land on both the Birtle and the Killarney demonstration farms to be used as regional sites for field crop experiments and demonstrations. The experiments thus initiated included 1/10th acre plots of ten varieties of wheat, oats and barley; eight intertilled crops; ten grasses and legumes; and eight fertilizer treatments.

The Public Accounts of Manitoba show that the Birtle Demonstration Farm was operated as a provincial project with William Pierce as farm manager, assisted by a resident stockman (i.e. C. Twose until 1929 and J. Blackhall until 1933). However, in 1934 the Birtle farm was discontinued as a project of the Department of Agriculture but was operated for some years under rental to the former farm manager, and finally disposed of in 1947-48.

III. APERIODIC AND SPECIAL ACTIVITIES

In addition to carrying out duties that were more or less of a continuing nature, and to undertaking new and enlarged activities, the Department of Agriculture and Immigration found it necessary, during the 1906-1924 or M.A.C. Sub-Period, to assume a variety of activities in order to cope with agricultural problems that were more or less aperiodic, and also to undertake other duties that were of a special or temporary nature.

Some of these special activities, though undertaken primarily to aid agriculture, involved financial or administrative aspects under the jurisdiction of government departments other than the Ministry of Agriculture, and, as such, involved the Treasury Department in the case of financial transactions; the Department of Public Works in the case of structures and property; and the Department of Municipal Affairs and local municipal councils in the case of projects involving municipal participation.

Special agricultural problems also arose due to war-time conditions which were of national concern, so that both Dominion and Provincial Governments were involved.

(1) JOINT DOMINION-PROVINCIAL ACTIVITIES

By 1918 shortage of farm labor had become acute due to enlistments and to enforcement of the Military Service Act. "Early in the year the Canada Food Board appointed a sub-committee to organize Canada for increased food production. One of the methods adopted by this Board for accomplishing this was the purchase of a thousand 'Fordson' farm tractors,

and the selling of these to bona fide farmers at cost. The arrangement was that the orders for these tractors should be received by the provincial governments of the respective provinces. One hundred and fifty-five of these tractors were distributed in Manitoba.”*

As the war progressed the production of hogs dropped off considerably and a hog production campaign was instituted. “A conference was held in Ottawa for the purpose of evolving a plan to increase the production of hogs in order to supply pork and bacon to the Army and civil population in the war-stricken areas and Great Britain. . . . after being apprised of the seriousness of the food situation in the countries mentioned, it was unanimously decided that a campaign be organized in each of the western provinces. A conference was immediately called in the Legislative Chamber, Winnipeg, with over one hundred delegates present representing the following organizations: municipal councils, grain growers’ associations, agricultural societies, dairymen’s associations, boys’ and girls’ clubs, and graduates of the Manitoba Agricultural College. Both the Livestock Commissioner and Western Food Controller were present, and, after a thorough discussion, the whole province was organized on the basis of a municipality as a unit, with an organizer in each. A series of forty conferences was held. Too much cannot be said in favor of the hearty response made by the farmers on this occasion. . . . Lists of young sows and boars suitable for breeding purposes, and offered for sale, were kept to enable the buyer and seller to satisfy each other’s needs. Owing to the extreme scarcity of mill feed, the high price of grain and, to some extent, shortage of labor, the net results of the campaign were somewhat minimized. Nevertheless, the campaign was effective and resulted in a large increase of hogs in Manitoba.”**

A further step in federal and provincial co-operation in agriculture was made in 1921 when “a conference was held in Ottawa where deputy ministers of the various provinces met to discuss co-ordination of effort made by Dominion Department of Agriculture and the various provincial departments. A better understanding of the various activities engaged in by each was one of the results of this gathering.”***

(2) SPECIAL PROVINCIAL ACTIVITIES

Although the 1906-1924 sub-period was one in which the Provincial Ministry of Agriculture grew to full stature as the result of assuming leadership in agricultural production and development, it was also one in which the Government of Manitoba was pressured by farmers and farmer groups into undertaking various endeavors in respect of (a) grain marketing; (b) livestock marketing; and (c) economic relief.

(a) Grain Marketing

In the early years of the 1906-1924 sub-period, the Manitoba Government was pressured into the business of acquiring, building and

* Provincial Department of Agriculture Annual Report (1918); Page 8.

** Ibid, (1918).

*** Ibid, (1921); Page 14.

operating grain elevators at country points, as a service to the producers of grain on Manitoba farms.

During the six decades of the Red River Settlement and the first decade of the Province of Manitoba, the lack of access to markets - beyond local or domestic requirements - restricted or retarded the expansion of grain acreage on Manitoba farm lands. However, with the discovery that the high quality of wheat produced on prairie soils was an exportable commodity; together with the easy acquisition of land under the disposition policies of the Dominion Government, and the means of transportation in process of development through the building of railways; the expansion of agriculture and the production of grain proceeded rapidly year by year as shown in Tables 11 and 14. With increasing expansion in grain growing under pioneer conditions, it was inevitable that the grain trade also had to pass through a pioneer period in marketing, handling, and transporting grain, as the trade developed under the expanding rural economy.

In the late 1870's a number of Winnipeg general merchants, as well as certain milling companies, undertook the buying of grain, but as the years progressed, the grain business grew until it was the largest commercial enterprise in the Province. The general merchants who, outside of the Hudson's Bay Company, appear to have been the first grain buyers, purchased grain and stored it in sacks in their warehouses, but by the end of the initial period, 1870-1883, the grain trade had grown to the point where some merchants devoted full time to the grain business and developed facilities for the storage and handling of grain.

At first flat warehouses were constructed, but later, grain elevators were designed and constructed at stopping points alongside the railway tracks. The "flat warehouses" contained bins into which the grain, hauled from the farm in two-bushel bags, was dumped after being weighed on the buyers' scales, and later was transferred from the bins to railway boxcars by hand labor. As the flat warehouses were replaced by grain elevators, many of them were retained and used as coal sheds.

In 1887 a meeting of grain merchants was held which led to the formation of "The Winnipeg Grain and Produce Exchange" under a provincial statute that was amended from time to time. In the 1890's, as the grain trade continued to increase in volume, Line Elevator Companies (so-called) were formed through the combining of smaller grain dealers into fewer and larger organizations, which while favoring efficiency in operation gave rise to accusations by grain producers of monopolistic control.

The railway companies were especially interested in having grain elevators built along the railway track at country points because of the greater speed and convenience in handling the boxcars loaded with grain from the elevators, in contrast to loading from "flat warehouses" or to loading over loading platforms by farmer shippers. The "Grain Growers Record" records* that to encourage the construction of grain elevators on railway property, the railways "made an agreement with private grain

* "Grain Growers Record, 1906 to 1943"; Page 2; United Grain Growers Limited, Winnipeg; 1944.

companies to the effect that if they (the grain companies) would build and operate country elevators the railway companies would furnish cars only to elevators for the shipment of grain."

By the closing decade of the 19th century, farmers were complaining bitterly of the dockage, weights, and grades obtained for grain shipped through the elevators; of monopoly in the handling and transportation of grain; of the exclusive right allegedly given to elevators in the handling of grain; and of the lack of alternative methods of shipping and grain marketing.

A Royal Commission was appointed by the Federal Government in 1899 to investigate these complaints. This Commission reported that farmers had great difficulty getting their grain properly stored, handled and marketed in the early days of railway construction (1883 to 1887) but that marked improvement had followed the action taken by the Canadian Pacific Railway in encouraging the building of elevators alongside the railway tracks. The Commission concluded that the grievances of which the farmers at that time complained arose largely from the protection offered to the elevator owners by the railway companies. It was recommended by the Commissioners that railway companies be compelled by law to furnish cars to farmers, and that loading platforms be provided so that farmers could load their own grain into boxcars instead of being forced to put it through the local elevators. To implement these recommendations the Federal Government passed "The Manitoba Grain Act" in 1900. This Act was revised and amended from time to time and, following a further report of a Royal Commission appointed in 1905-1906, was superseded by the Canada Grain Act of 1912, administered by a Board of Grain Commissioners, under which the inspection, grading, weighing, storage and transportation of grain was subsequently controlled.

Towards the close of the 1906-1924 sub-period the Provincial Legislature passed an Act requiring all grain dealers to operate under licence (13 Geo. V, Chap. 16, 1923). Under this Act grain dealers' licences for which a charge of \$10.00 was required, and grain soliciting licences for which a \$5.00 fee was required, were issued under the Act by the Minister of Agriculture and Immigration.

However, before harmonious relationships were established under the controls provided by the Canada Grain Act, grain farmers in the west remained disappointed and dissatisfied, and a number of farmer organizations were organized in attempts to secure some measure of relief.* Some of these farmer organizations were short-lived and ceased to exist due to radical and unwise leadership, or to other causes, but out of the activities of a few inspired public-spirited and devoted citizens, who "realizing that individual and unco-ordinated efforts to improve grain marketing were not meeting with success", began to organize grain growers associations which grew rapidly in numbers and strength.

* The story of how farmers were organized under this movement is recorded by Hopkins Moorhouse in "Deep Furrows", published by Geo. J. McLeod Limited, Winnipeg and Toronto, 1918; and in "The Grain Growers Record", published by United Grain Growers Limited, Winnipeg, 1944. See also "A Short History of Prairie Agriculture" by H.G.L. Strange, published by Searle Grain Company Limited, Winnipeg, 1954 (Pages 67 to 75).

The first (Territorial) grain growers association was formed at Indian Head, Saskatchewan, in 1901, and the first local of the Manitoba Grain Growers Association was formed at Virden in January, 1903. At the third annual convention at Brandon in 1905 a proposal that the Manitoba Grain Growers Association undertake a grain handling business was submitted and approved, and a committee was appointed to work with a committee of the Territorial Grain Growers to implement this endeavor. The joint committee submitted a definite proposal for the organization of a Grain Growers Company to a mass meeting at Sintaluta, Saskatchewan, on January 27th, 1906, and to the Manitoba Grain Growers Convention at Brandon on February 28th, 1906.

This proposal was accepted by both conventions and the committee was authorized to raise \$250,000 of capital stock by selling \$25.00 shares to farmers. However, when an application for a charter was presented to the Dominion Government, the request was refused on the grounds that under the Dominion Companies Act, at that time, shares in a company with a capital of \$250,000 could not be less than \$100.00 each. Application was then made to the Government of Manitoba and in a relatively short time arrangements for a provincial charter were complete.

It was announced in the Manitoba Gazette, Vol. XXXV, 1906, Page 99, that

"letters patent have been issued under the great seal of the Province bearing the date of twentieth of July, A.D. 1906, incorporating . . . (by law under The Manitoba Joint Stock Companies Act) . . . the Grain Growers Grain Company Limited, as a body corporate and politic, for the purpose and with the object of buying, receiving, handling, dealing in and selling all kinds of grain and seeds", etc.

Additional letters patent (21st August, 1906) provided that stock in the Company

"shall not be subscribed for or issued or allotted to any person who is not a bona fide farmer."

The Grain Growers Grain Company thus incorporated undertook to handle grain on commission for its members and, to compete with the private grain companies, a business office was opened on September 5th, 1906. A seat on the Winnipeg Grain Exchange also was purchased and held in the name of the president of the company.

After commencing operations the company officials sent out a circular, in which it was proposed that profits over and above operating expenses be paid as dividends to the individual shareholders based on the amount of each shareholder's patronage. The Council of the Exchange, however, interpreted the paying of dividends by the company as a practice of splitting the commission with the shipper, and as such was in violation of the rules of the Exchange. On October 25th, notice was posted to all Exchange members that any of them found dealing with the farmers' company would be penalized,* and "on November 8th, 1906, the trading privileges of the company on the Exchange were annulled."**

* Moorhouse, Hopkins - "Deep Furrows"; Geo. J. McLeod, Winnipeg; 1918; Pages 100-101.
** "Grain Growers Record"; Page 7.

In their dilemma, the company officers appealed to the Cabinet of the Manitoba Government, and this body referred the question to the Agricultural Committee of the Legislature for study. The Government arranged a conference of representatives of the company, the Grain Exchange, the Government, the reeves of the rural municipalities, the railroads, and the banks, for discussion of everything pertaining to the handling of wheat, including amendments to the Grain Exchange Charter,* and also issued an ultimatum to the Exchange setting a time limit within which it had the option of removing the ban against the farmers' company or of losing its provincial charter.

In the meantime, the company discovered that the idea of distributing profits as dividends, on the co-operative principle, was contrary to the provisions of The Manitoba Joint Stock Companies Act under which the company received its charter. Consequently, the Board of Directors passed a resolution on December 22nd, 1906, cancelling the patronage proposal. This resolution was confirmed at a meeting of the shareholders on February 5th, 1907.

The Manitoba Grain Growers Association then urged the Government to assist in restoring the company to the rights of the seat for which it had paid, and in response the Minister of Public Works, in the absence of the Premier, is reported in the Winnipeg Telegram of April 4th, 1907, to have stated

"The action of the Council of the Winnipeg Grain Exchange in refusing trading privileges to the Grain Growers Grain Company is regarded by the Government as an arbitrary exercise of the powers conferred upon them (the Exchange) through their charter from the Legislative Assembly of Manitoba, and unless remedied by the Exchange, the Government will call the Legislature together during the present month for the purpose of remedying the conditions by legislative amendments."

On April 15th, 1907, the company was re-admitted to the full privileges to which it was entitled by virtue of its seat in the Grain Exchange. Finally, in 1908, the Manitoba Legislature passed an Act (7-8 Edw. VII, Chap. 79) amending the "Act to Incorporate the Winnipeg Grain and Produce Exchange" (54 Vict., Chap. 31, 1891). Under the amended Act the Exchange was required - amongst other provisions - "not to make any limitation in the number of its members" and "to submit all by-laws to the prothonotary of the King's Bench for approval." In respect of admission and expulsion of members, the amended Act provided for the right of appeal, to the Court of the King's Bench, by persons refused membership; and the right to appeal against refusal, suspension, or cancellation of trading privilege.

The dissatisfaction engendered because of the difficulties experienced by farmers in competing with grain elevator companies for boxcars in which to ship grain, and the consequent dependence of grain growers on the private or line company elevators at country points, led to a demand by the organized farmers for Provincial Government ownership of country elevators and Dominion Government monopoly of terminal elevators.

The Manitoba Government was apparently the first to respond to this demand. At the annual convention of the Manitoba Grain Growers

* "Deep Furrows"; Page 119.

Association held at Brandon in December, 1909, a Cabinet Minister, on behalf of the Manitoba Government, announced that the Government had adopted the policy of establishing a line of country elevators as a public utility. This was implemented during the session of 1910 when an Act was passed by the Legislature (10 Edw. VII, Chap. 27) designated as "The Manitoba Grain Elevator Act". This Act empowered the Manitoba Government to purchase, lease, construct and operate grain elevators at any place or places in the Province. It also provided the Government with power to sell any elevator and property at any time, and to lease to any municipality in the Province. These government grain elevators were deemed to be a public utility under the Minister of Public Works; provision was made for administration under three commissioners, and before any elevator was acquired a petition of sixty percent of the local grain growers was required.

The Manitoba Government elevators thus initiated commenced operation in 1910, and by the end of the year 163 elevators had been purchased and ten new ones constructed. Under the Commission, the Government elevators did not buy grain, but the farmers had the privilege of delivering grain to the elevators and of consigning, for sale, carlots of grain to any firm they wished.

The Grain Growers Grain Company, however, established an Elevator Department and put buyers at Government elevators where farmers requested that a Grain Growers Agent be placed. These buyers attempted to get farmers to consign carlots of grain to the Grain Growers Grain Company, and to purchase "on street" small lots of grain to be made up as carload lots. The competition thus engendered resulted in the private and line elevator companies adopting tactics to meet the competition, with the result that not all farmers remained loyal to the elevator system set up by the Government in response to farmer demand.

After two years, the patronage of the Government elevators was not sufficient to justify their continuance, hence, the Manitoba Government approached the Grain Growers Grain Company with an offer to lease its elevator system. A lease was signed on July 20th, 1912, under which the company rented 135 of the Government elevators on the basis of six percent on the capital investment of \$1,160,000, with taxes and repairs assumed by the Government.* Later, the company began to purchase the elevators from the Government, a few at a time, until by 1927 all had been sold either to the company or to some other firms, and the Manitoba Government ceased to be associated with the commercial business of handling grain as a service to the producers of grain on Manitoba farms. Nevertheless, it is obvious that the support given to the Grain Growers Grain Company by the Manitoba Government made it possible for the farmers' company to stay in business during its formative years.

(b) Livestock Marketing

Prior to the M.A.C. Sub-Period the commercial marketing of livestock was imperfectly organized on a more or less personal contact of buyer and seller. Livestock buyers and drovers went from farm to farm purchasing and

* "The Grain Growers Record"; Page 16.

collecting livestock. As early as 1885, the Canadian Pacific Railway stockyards were constructed and provided a collection point for livestock shipped in by the drovers and livestock buyers, many of whom also operated butcher shops in country towns. In 1893 the J.Y. Griffin and Company pork packing plant was built on the banks of the Red River in the Elmwood district, and in 1898 the Gordon Ironsides and Fares Packing Plant was established off Logan Avenue. Buyers, drovers and some producers delivered directly to these plants. In 1905 the Swift Canadian Packing Company bought out and enlarged the J.Y. Griffin Packing Plant.*

Towards the beginning of the 1906-1924 sub-period there was a change in the marketing of livestock. Packers, exporters, speculators and commission agencies gradually centralized the business and operated a livestock exchange, a procedure which tended to eliminate the local butchers and meat vendors from competitive buying. To regulate the sale and marketing of livestock the Manitoba Legislature passed, in 1911, "An Act to Incorporate a Public Livestock Markets Board" (1 Geo. V, Chap. 45), under Section 1 of which "The Public Markets, Limited" was constituted with a capital of \$1,000,000 made up of 10,000 shares of \$100.00 each.

In 1912 a further Act to amend the Act incorporating "The Public Markets, Limited" was passed (2 Geo. V, Chap. 62) containing a preamble stating in part that:

"the Lieutenant-Governor-in-Council has induced the Canadian Pacific Railway Company, the Canadian Northern Railway Company, and the Canadian Grand Trunk Pacific Railway Company to become parties to and interested in the establishment and operation of a public market and railway facilities for properly unloading and caring for livestock until disposed of, and has entered into an agreement with said railway companies and The Public Markets, Limited, with respect to same.

Therefore, it is enacted that:

Section 1. The agreement . . . and all things done and to be done under said agreement for the purpose of carrying the same into effect are hereby ratified and confirmed."

The agreement sets forth that the Government allots 3,334 shares capital stock of the corporation to C.P.R., 3,333 shares to C.N.R., and 3,333 shares to G.T.P.R.; that land was to be purchased in St. Boniface; and that the corporation was to establish modern and commodious stockyards and the necessary services. A further Act (2 Geo. V, Chap. 63) confirmed an agreement between the City of St. Boniface and The Public Markets, Limited. As a result, the Union Stock Yards were built and officially opened by the Provincial Premier on August 14th, 1913, thus providing for the orderly marketing of livestock in Manitoba in subsequent years.

(c) Economic Relief

In addition to supporting farmers in the field of grain and livestock marketing, the Manitoba Government made an effort, during the 1906-1924 sub-period, to foster and encourage agricultural development through

* Bell, J.R., Watkins, E., and Wood, G.W. - "The Livestock Industry of Manitoba"; Economic Survey Board, Province of Manitoba; 1939.

economic relief by providing loans upon farm mortgages at reduced rates of interest, by providing for the formation of rural credit societies, and by making provision for seed and feed assistance.

(i) Manitoba Farm Loans

A "Manitoba Farm Loans Act" (7 Geo. V, Chap. 33) was passed in 1917 and revised in subsequent years. Under this Act provision was made for Farm Loans Associations to be formed and administered under a Manitoba Farm Loans Board of five members appointed by the Lieutenant-Governor-in-Council, one of whom was to be known as Commissioner of Manitoba Farm Loans, one was to be nominated by the Union of Municipalities, and one was to be nominated by the Manitoba Grain Growers Association.

Under this Act the Board was authorized to raise funds up to \$9,000,000. Initially, capital stock to the amount of \$1,000,000 - comprising shares of \$5.00 each - was authorized, of which 50 percent could be subscribed by the Province; but in 1921 share capital was reduced to 110,000 shares of \$5.00 each. Loans were issued for clearing land, for buildings, or for the purchase of livestock and equipment to a limit of not more than \$10,000 per person. All loans were issued on a 30 year amortization basis, and borrowers were required to subscribe an amount equal to five percent of a desired loan. At first the interest rate was not to exceed six percent, but later this was raised, by amendment, first to six and one-half percent, and again in 1921 to seven percent, at which rate it continued until 1930 when lending activities under this Act were discontinued.

However, coincident with the general economic depression of 1929 and the agricultural depression in southwestern Manitoba in the years which followed, the Manitoba Farm Loans Board also experienced disaster. After making approximately 4,200 loans, it was found necessary, in 1930, to discontinue loaning activities; to foreclose about 45 percent of the mortgages; to take title to approximately 1,600 farms; and to reduce the interest on outstanding loans to five percent.

In 1930-31 a new Board of Directors was appointed and assigned the duties of administering the Farm Loans Association, together with the supervision of rural credit schemes and the collecting of payments due under various provincial cattle schemes.

In 1951 the administration of the Farm Loans Association was transferred to the Department of Mines and Natural Resources, and the administration duties in connection with winding up the affairs of the Association were assigned to members of the Lands Branch staff.* Ultimately, the members of the Manitoba Land Utilization Board were appointed directors or members of the Manitoba Farm Loans Board to deal with the disposition of the foreclosed properties.

* Private communications from Lands Branch, Department of Mines and Natural Resources.

(ii) Rural Credits Act

A Rural Credits Act also was passed (7 Geo. V, Chap. 73) which authorized the formation of local rural credit societies. Under this Act local rural credit societies could acquire funds on which to base loans to individuals. One-half of the funds of each society were to be subscribed by the Provincial Treasury, one-quarter by the municipality involved and one-quarter by the members of the local rural credit society.

(iii) Seed Grain Assistance

Problems of provincial concern arose from time to time due to difficulty in obtaining adequate supplies of satisfactory seed grain as the result of cereal rust, grasshopper infestation, drought, frost, or other adverse conditions over which farm operators in the districts affected had little or no control. Thus when and where scarcity of seed or feed became temporarily acute the Ministry of Agriculture had to survey the situation and, in co-operation with the municipalities concerned, to design and put emergency measures into effect in order to cope with the various needs as required by the circumstances.

As early as 1901 a provincial Act had been passed enabling the Provincial Government to loan money to municipalities for the purchase of seed grain (Page 139); and it is apparent that the Dominion Government undertook to supply seed grain to needy settlers at an earlier date.

The Seed Grain Act (Chapter 178, Revised Statutes of Manitoba, 1913) refers to filing in the Dominion Lands Office, Winnipeg, of mortgages made for securing payment of advances for provisions or seed grain obtained from the Government of Canada for the relief of the necessitous in Manitoba. This Act included seven sections (3 to 9) that "shall be deemed to have been in operation from and after the 4th day of February, 1876." "The Seed Grain Act" continued as amended and was included in and deemed part of the Acts passed relating to distribution of seed by municipalities.

During the 1906-1924 sub-period, provision was made in certain years, as necessity required, under Acts of the Legislature, to enable municipalities to borrow money for the purchase and distribution of seed grain to farmers in the municipality concerned, and to accept promissory notes for payment of same to the municipality by the recipient. These Acts generally restricted the enabling legislation to six months from passage of such Acts, and hence were specific for the season involved. Moreover, advances under these Acts to the farmer were restricted to seed and cash advances were not allowed.

The amount of money that a municipality was authorized to borrow and the maximum value of seed that could be supplied to any individual farmer, during the 1906-1924 sub-period, varied from time to time as shown in the following tabulation.

Year	Legislative Act	Maximum Amount Municipality Authorized to Borrow	Maximum Value of Seed Advanced to Any Farmer
1910	10 Edw. VII, Chap. 59	\$ 20,000	\$ 250
1915	5 Geo. V, Chap. 70	30,000	450
1917	7 Geo. V, Chap. 80	60,000	600
1918	8 Geo. V, Chap. 78	60,000	600
	8 Geo. V, Chap. 79		Amended Maximum of 1,200
1920	10 Geo. V, Chap. 120	60,000	1,500
1921	11 Geo. V, Chap. 159	60,000	1,000
1922	12 Geo. V, Chap. 19	60,000	1,000
1923	13 Geo. V, Chap. 41	60,000	1,000

Under these seasonal Acts, provisions were made for the Province to advance money to the municipalities for the purchase of seed; for all by-laws passed by a municipal council and debentures in connection with this project to be submitted by the Clerk of the municipality to the Municipal Commissioner for certification; for the Municipal Commissioner to levy for the amount advanced to a municipality; and also for any unexpended provincial advance to be returned to the Provincial Treasurer at the close of the season.

In 1915 provision was made (5 Geo. V, Chap. 72) setting aside \$100,000 from and out of the Consolidated Revenue for purpose of the Act in unorganized districts. In this connection, applications from resident owners of patented lands for seed grain had to be made to the Minister of Agriculture and Immigration, who was empowered to purchase and distribute the necessary seed required up to a maximum value of \$250.00 per individual, and to take promissory notes in favor of the Provincial Treasurer, payable October 1st, 1915.

In 1923 special action also was taken when under 13 Geo. V, Chap. 42, Sec. 21, the Lieutenant-Governor-in-Council was authorized to advance up to \$10,000 for the purchase of seed wheat, oats, barley and flax, and for delivery thereof by the Department of Agriculture to farmers unable to procure seed in Lowe Farm and Kane districts.

(iv) Municipal Borrowing for Purchase of Fodder

Legislative action similar to the seed grain assistance Acts was passed in 1922 (12 Geo. V, Chap. 9) under which municipalities were enabled to borrow up to \$50,000 for the purchase of fodder, on or before June 1st in each year, and to supply feed to the value of \$300.00 to individual farmers operating up to 320 acres, and up to the value of \$500.00 if operating 640 acres or more.

IV. AGRICULTURAL DEVELOPMENT DURING THE 1906-1924 SUB-PERIOD

The provincial annual crop reporting bulletins, supplemented by Dominion census data, show that during the years 1906 to 1924 there was continued expansion and development of agriculture in Manitoba despite the slowing down of immigration* and the farm labor shortage resulting from conditions brought about by World War I.

There was also a marked increase in population. The estimated total population of Manitoba (expressed in round figures) increased from 365,000 in 1906 to 629,000 in 1924, or an overall increase of 264,000. There was, however, during these years, a definite change in ratio of population classed as rural in comparison to population classed as urban. Rural population increased from 227,000 to 356,000 (an increase of 129,000), but decreased in percentage of total population from 62.2 to 56.4; whereas urban population increased from 138,000 to 273,000 (an increase of 135,000), and increased in percentage of total population from 37.8 to 43.6.

Agricultural expansion is shown by an increase in land held as farms from an estimated 10.5 million acres in 1906 to 14.7 million acres in 1924, or by an average of 233,000 acres per year. The estimated number of farms increased by 12,500 from 39,000 in 1906 to 51,500 (approximately) in 1924, so that the total farm acreage divided by the total number of farms indicates an increase in computed average size of farm from approximately 270 to 285 acres. The cultivated acreage on farms increased by 2.6 million acres, or an average increase of 144,000 acres per year, so that the computed average cultivated acreage per farm increased from 146 acres in 1906 to 160 acres in 1924, or from 54 to 56.1 percent.

The data in provincial annual crop bulletins also indicate a progressive, if not striking, modification in land use on Manitoba farms during the M.A.C. Sub-Period. This is reflected in the acreage and relative percentage of cultivated farm land under grain or soil exhaustive crops; in grasses, clovers and alfalfa or soil improvement crops; in intertilled or cleaning crops, and in summerfallow; in the relative percentages of total grain acreage sown to wheat, oats, barley, flax and rye; and in the increasing numbers of the various classes of livestock per farm as indicated by dividing the total numbers of each livestock class by the total number of farms.

The total acreage of the various classes of crops on Manitoba farms from 1906 to 1924, and expressed as the percentage of the various crop classes in each of the respective years is shown in Table 21.

Although the acreage of grain or soil exhaustive crops increased from 4.79 million acres in 1906 to 6.41 million acres in 1924, the total acreage of grain crops plus fallow showed a gradual decrease of about three percent, or a reduction from 98.0 to 95.2 percent, of the total cultivated farm acreage. The most striking modification, however, was a threefold increase in grasses, clovers and alfalfa, or soil improvement crops, the acreage of which increased from 1.2 percent of the total cultivated farm acreage in 1906 to 3.7 percent in 1924. This increase, which amounted to some 238,000 acres, reflects in

* Page 156.

some measure the educational efforts in respect of forage crop production put forth by the Manitoba Agricultural College and the Ministry of Agriculture.*

TABLE 21. CULTIVATED FARM ACREAGE, AND THE CLASSES OF CROPS IN ACRES AND PERCENT GROWN IN MANITOBA BY YEARS 1906 - 1924

Year	Grain Crops		Grasses, Clovers and Alfalfa		Intertilled Crops		Fallow		Total Cult. Acreage (000)
	Acres (000)	Percent	Acres (000)	Percent	Acres (000)	Percent	Acres (000)	Percent	
1906	4,795	84.3	71	1.2	44	.8	781	13.7	5,691
1907	4,685	86.1	85	1.6	61	1.1	611	11.2	5,442
1908	4,794	83.7	125	2.1	54	.9	778	13.3	5,751
1909	4,640	85.0	92	1.7	43	.8	684	12.5	5,459
1910	5,121	80.7	146	2.3	60	.9	1,023	16.1	6,350
1911	5,820	83.2	140	2.0	70	1.0	964	13.8	6,994
1912	5,933	82.5	164	2.3	79	1.1	1,017	14.1	7,193
1913	6,361	81.8	175	2.3	92	1.2	1,144	14.7	7,772
1914	6,728	81.4	226	2.7	109	1.3	1,208	14.6	8,271
1915	6,908	82.8	204	2.5	137	1.6	1,094	13.1	8,343
1916	6,299	80.6	165	2.1	116	1.5	1,235	15.8	7,815
1917	6,498	79.3	195	2.4	117	1.4	1,381	16.9	8,191
1918	6,050	77.5	213	2.7	67	.9	1,475	18.9	7,805
1919	5,897	77.9	265	3.5	61	.8	1,351	17.8	7,574
1920	5,695	77.2	212	2.9	61	.8	1,410	19.1	7,378
1921	7,101	78.7	250	2.8	60	.6	1,612	17.9	9,023
1922	6,448	77.3	227	2.7	72	.9	1,597	19.1	8,344
1923	6,398	77.7	251	3.1	66	.8	1,518	18.4	8,233
1924	6,415	77.7	309	3.7	93	1.1	1,446	17.5	8,263
Means		80.8		2.5		1.0		15.7	

Table 21 also indicates that during the 1906-1924 sub-period the ratio of fallow to grain changed to a marked degree. This change in ratio, which appears to have resulted in large measure from increased weed infestation and shortage of labor, is further emphasized in Table 22 wherein the percentage figures listed in Table 21 have been recalculated and expressed as five year moving averages to smooth out erratic yearly variations. The average percentage of grain crops calculated for the five years ending 1910 was 84.0 percent and for fallow 13.3 percent, thus showing a ratio of fallow

* Pages 198-199; 233; 236.

to grain crops of 1 to 6.3; whereas the average percentage of grain crops for the five years ending 1924 was 77.7 percent and for fallow 18.4, which shows a ratio of fallow to grain crops of 1 to 4.2.

TABLE 22. FIVE YEAR MOVING AVERAGE PERCENT OF THE VARIOUS CLASSES OF FARM CROPS GROWN ON MANITOBA FARMS - 1906 to 1924

Five Year Period Ending	Grain Crops	Grasses Clovers & Alfalfa	Intertilled Crops	Fallow
1910	84.0	1.8	.9	13.3
1911	83.8	1.9	.9	13.4
1912	83.0	2.1	.9	14.0
1913	82.7	2.1	1.0	14.2
1914	81.9	2.3	1.1	14.7
1915	82.3	2.4	1.2	14.1
1916	81.8	2.4	1.3	14.5
1917	81.2	2.4	1.4	15.0
1918	80.3	2.5	1.3	15.9
1919	79.6	2.7	1.2	16.5
1920	78.5	2.7	1.1	17.7
1921	78.1	2.9	.9	18.1
1922	77.7	2.9	.8	18.6
1923	77.8	3.0	.8	18.4
1924	77.7	3.1	.8	18.4

In connection with land use on Manitoba farms during the 1906-1924 sub-period, it is also enlightening to note the change that took place in the proportional acreage of the various grain crops, as shown in Table 23.

By way of comparison it may be noted that during the 16 year Pre M.A.C. Sub-Period (1890-1905) wheat averaged 66.4 percent, oats 24.3 percent, barley 8.0 percent, flax 1.2 percent, and rye 0.1 percent of the total grain crop acreage.* However, the data in Table 23 show that in the early years of the M.A.C. Sub-Period (1906-1924) the percent of the grain acreage sown to wheat gradually decreased and the feed grain (oats and barley) acreage increased. This variation, together with the gradual increase in percentage of grass, clover and alfalfa during the M.A.C. Sub-Period, indicates a change in proportion of field crops; and even though the fallow-grain system continued to be the major type of land use on Manitoba farms, nevertheless, it is apparent that whereas the wheat crop occupied two-thirds of the grain acreage up to the beginning of the M.A.C. Sub-Period, it fell to less than half the total grain crop acreage during the latter part of the 1906-1924 sub-period.

* Page 143 .

TABLE 23. RELATIVE PERCENTAGE OF TOTAL GRAIN ACREAGE
SOWN TO WHEAT, OATS, BARLEY, FLAX, RYE AND
MIXED GRAIN IN MANITOBA - 1906 to 1924

Year	Wheat	Oats	Barley	Flax	Rye	Mixed Grains
1906	65.5	24.1	9.9	.4	.1	—
1907	59.5	25.9	13.9	.6	.1	—
1908	59.5	25.4	13.7	1.0	.4	—
1909	56.9	29.6	13.0	.4	.1	—
1910	57.9	29.0	12.2	.8	.1	—
1911	57.4	28.0	13.0	1.5	.1	—
1912	47.6	32.7	16.2	3.3	.2	—
1913	49.4	30.5	18.1	1.8	.2	—
1914	50.0	30.7	17.6	1.5	.2	—
1915	53.1	30.7	15.1	.9	.2	—
1916	47.6	32.7	18.3	.9	.5	—
1917	43.9	34.3	19.6	1.0	1.2	—
1918	48.2	28.0	18.1	1.8	3.9	—
1919	48.6	31.0	14.5	.9	5.0	—
1920	47.2	32.6	14.6	2.5	2.6	.5
1921	49.3	31.4	14.7	.9	3.6	.1
1922	48.5	28.7	15.0	1.0	6.6	.2
1923	45.6	28.7	18.1	2.2	5.2	.2
1924	38.3	30.5	21.4	5.1	4.5	.2

An additional factor, which profoundly affected the wheat acreage during the M.A.C. Sub-Period, was the black stem-rust epidemic of 1916 and its persistence in subsequent years. The susceptibility of the widely grown Red Fife and the newly introduced Marquis variety of wheat to black stem-rust, which injured the crop to the extent that the threshed grain in some cases weighed as little as 49 pounds to the bushel, caused many farmers and agronomists to sow other varieties and other crops as alternatives in hope of avoiding disaster.

On the other hand, the Dominion Experimental Farm at Ottawa was conducting a plant breeding project about this time with the object of producing earlier maturing varieties of wheat suitable for northern areas, and had introduced several new varieties including Prelude, Pioneer, Ruby and Garnet. Other varieties of wheat were introduced from various sources and by various sponsors. These introductions included Renfrew, Vermilion, Red Bobs, Quality, Kota, Parker's Marquis, Kitchener, Ceres and Axminster, and the durum wheats Mindum, Kubanka, Arnautka and Red Durum. Of these, Mindum proved to be the most useful as it was less susceptible to the races of stem-rust which were prevalent at that time, and being somewhat more drought-tolerant than the common or bread wheats, was grown fairly extensively for a number of years in southwestern Manitoba after markets

had been found for this high quality macaroni variety.* With this exception, substitute varieties of wheat, by and large, did not resolve the problem, but attempts to grow them subsequent to 1916 can be credited with maintaining the wheat acreage at a higher level than it otherwise would have been.

In general, however, the growing of other crops as an alternative to wheat was more successful, with the result that, as shown in Table 23, the percentage of rye and flax, and of barley grown as a cash grain crop, increased in the latter years of the M.A.C. Sub-Period.

A definite modification towards more diversification during the 1906-1924 sub-period also is shown by the increase in average numbers of cattle, sheep and swine per farm as indicated when the total number of each kind of livestock is divided by the total number of farms.

The total numbers of horses, cattle, sheep and swine on Manitoba farms from 1906 to 1924, and the numbers of farm livestock per 100 acres of cultivated farm land are given in Table 24.

TABLE 24. TOTAL NUMBER AND KIND OF FARM LIVESTOCK AND NUMBER PER 100 ACRES OF CULTIVATED FARM LAND IN MANITOBA BY YEARS 1906 to 1924

Year	Horses		Cattle		Sheep		Hogs	
	Total (000)	Per 100 Acres	Total (000)	Per 100 Acres	Total (000)	Per 100 Acres	Total (000)	Per 100 Acres
1906	164	2.9	363	6.4	17	.3	121	2.1
1907	173	3.2	464	8.5	14	.3	118	2.2
1908	170	2.9	410	7.1	17	.3	120	2.1
1909	189	3.5	373	6.8	18	.3	156	2.8
1910	233	3.7	397	6.2	32	.5	176	2.8
1911	252	3.6	408	5.8	37	.5	192	2.7
1912	273	3.8	429	6.0	42	.6	217	3.0
1913	301	3.9	457	5.9	52	.7	248	3.2
1914	325	3.9	498	6.0	75	.9	325	3.9
1915	330	3.9	631	7.6	77	.9	286	3.4
1916	341	4.4	666	8.5	89	1.1	262	3.3
1917	419	5.1	669	8.2	147	1.8	376	4.6
1918	385	4.9	747	9.6	137	1.7	285	3.6
1919	379	5.0	782	10.3	167	2.2	262	3.4
1920	357	4.8	758	10.3	157	2.1	213	2.9
1921	420	4.6	818	9.1	131	1.4	225	2.5
1922	375	4.5	741	8.9	113	1.3	235	2.8
1923	364	4.4	695	8.4	93	1.1	291	3.5
1924	370	4.5	710	8.6	95	1.1	426	5.1

* Page 237.

The total numbers of the various classes of livestock and the numbers of each per 100 acres of cultivated land show an overall increase of each class during the M.A.C. Sub-Period, but due in part to war-time conditions and in part to shortage of labor, coupled in some cases with erratic crop yields due to seasonal conditions, the annual figures, in some cases, show interruptions in the trend towards a general progressive increase.

In an attempt to obtain a better picture of the trend in number of livestock during this sub-period, the total number of each kind of livestock was divided by the total number of farms. The figures thus obtained are presented as Table 25.

TABLE 25. AVERAGE NUMBER AND KIND OF LIVESTOCK PER FARM (TOTAL NUMBERS DIVIDED BY NUMBER OF FARMS) IN MANITOBA 1906 to 1924

Year	Horses	Cattle	Sheep	Hogs
1906	4.2	9.3	.4	3.1
1907	4.3	11.6	.3	3.0
1908	4.1	10.0	.4	3.0
1909	4.5	8.9	.4	3.7
1910	5.5	9.3	.7	4.1
1911	5.8	9.3	.8	4.4
1912	6.2	9.7	.9	4.9
1913	6.7	10.2	1.2	5.5
1914	7.1	11.0	1.6	7.1
1915	7.2	13.7	1.7	6.2
1916	7.3	14.3	1.9	5.6
1917	8.8	14.0	3.0	7.9
1918	7.9	15.3	2.8	5.8
1919	7.6	15.7	3.4	5.2
1920	7.0	15.0	3.1	4.2
1921	8.1	15.8	2.5	4.3
1922	7.2	14.3	2.2	4.3
1923	7.0	13.3	1.8	5.5
1924	7.0	13.5	1.8	8.0

The figures in Table 25 indicate that horses kept on Manitoba farms definitely increased in numbers per farm during the first decade of the M.A.C. Sub-Period and then continued in about the same proportion during the remainder of the sub-period. In this connection the available records imply that there was only one tractor to 5.3 farms. Thus, as tractors were used primarily as belt power for threshing, and to a limited extent for breaking new land, horses still continued to be the chief tractor power on the majority of Manitoba farms, and the production of oats continued to be maintained in relative proportion to horse feed requirement.

In the case of cattle and sheep, however, the increase in numbers per farm, together with the increase in acreage of grasses, clovers and alfalfa,

indicate a definite trend to diversification which reflects in some measure the activities of the Ministry of Agriculture in respect of agricultural education. Nevertheless, although in the case of cattle and sheep, the total figures and the average number of each per farm increased to a peak point towards the close, or immediately after, the 1914-1918 war, such increases were followed by a slight regression in the closing years of the 1906-1924 sub-period.

In connection with the increase in cattle on Manitoba farms during the 1906-1924 sub-period, the records of dairy produce also are of interest (Table 26). The number of creameries and the amount of creamery butter produced showed marked increase; dairy butter showed little change; but the total butter production rose from 17 to 35 pounds per capita per year. The number of cheese factories, on the other hand, decreased almost to extinction and it is obvious that farmers found cheese-making as a farm enterprise to be less rewarding than other activities under Manitoba conditions.

In the case of swine on Manitoba farms it is apparent that although there was an overall increase during this sub-period, the number of pigs showed marked fluctuation from season to season (Table 24). This seasonal variation in the number of hogs appears to reflect a sensitive response of this grain-fed class of livestock to variations in grain prices and labor supply, and to government propaganda and patriotic pressure.

V. GENERAL COMMENTS RE DEPARTMENTAL ACTIVITIES, 1906-1924 OR M.A.C. SUB-PERIOD

The activities, outlined in this section, that were carried on by the Ministry of Agriculture through 1906 to 1924, reflect the great strides made towards maturity and enlargement of the Department which took place during the M.A.C. Sub-Period when the Ministry (by adopting the policy of initiating, developing and maintaining agricultural education, and of supporting investigational and research projects) was rewarded by being able to assume - in greater measure than in preceding years - the role of leadership and direction in the development and improvement of Manitoba agriculture.

Prior to this period, the routine duties of the Department were carried on by the Minister through a Chief Clerk, in lieu of a Deputy Minister, assisted by a limited clerical staff; and specific departmental duties were assigned to departmental officers designated respectively as Provincial Immigration Commissioner, Provincial Veterinarian, Provincial Dairy Superintendent, Provincial Bacteriologist, Provincial Noxious Weeds Inspector, and Provincial Game Guardian.

By the end of the 1906-1924 sub-period, however, the Department of Agriculture and Immigration was administered under the Minister, through a Deputy Minister, and was organized under branch heads into units designated respectively as Dairy Branch, Livestock Branch, Weeds Commission, Publications and Statistics Branch, Game Branch, and Employment Bureau; together with a "Demonstration Farm Board", an "Agricultural Extension Council", a Home Economics Society Advisory

TABLE 26.

NUMBER OF CREAMERIES AND CHEESE FACTORIES IN MANITOBA AND
PRODUCTION OF DAIRY PRODUCE BY YEARS
1906 to 1924

Year	No. of Creameries	Creamery Butter (000) lbs.	Average Pr./lb. (cents)	Dairy Butter (000) lbs.	Average Pr./lb. (cents)	Total Butter (000) lbs.	No. of Cheese Factories	lbs. of Cheese (000)	Average Pr./lb. (cents)
1906	17	1,553	22.0	4,699	17.8	6,252	40	1,502	13.0
1907	19	1,577	24.5	3,239	20.5	4,816	42	1,408	12.0
1908	18	—	—	—	—	5,787	37	1,489	12.3
1909	26	2,613	23.2	3,003	20.0	5,616	34	1,452	11.2
1910	24	2,999	23.0	3,907	21.7	6,906	31	923	10.7
1911	24	3,090	24.0	4,548	21.4	7,638	20	561	12.5
1912	23	2,931	28.0	4,334	23.4	7,265	20	537	13.0
1913	29	3,930	27.5	4,288	23.9	8,218	17	400	13.0
1914	33	4,761	26.5	3,889	22.5	8,650	17	471	14.0
1915	36	5,840	29.0	4,150	23.0	9,990	22	727	15.0
1916	35	6,575	31.0	4,423	25.2	10,998	21	881	18.0
1917	41	7,526	38.5	3,980	31.2	11,506	26	1,094	20.2
1918	42	8,450	45.0	9,703*	37.0	18,153	20	974	21.8
1919	44	8,257	54.0	10,804	44.0	19,061	16	680	26.4
1920	53	7,667	55.0	9,540	43.0	17,207	5	226	27.0
1921	47	8,550	37.0	9,888	23.0	18,438	6	270	19.0
1922	48	10,560	35.0	9,177	22.0	19,737	5	225	16.7
1923	54	10,730	34.0	9,095	22.0	19,825	2	250	20.0
1924	51	12,633	33.0	9,285	20.0	21,918	11	501	16.0

* Commencing in 1918 the figures represent the quantities marketed and consumed.
Until 1917 the figures represent the quantity marketed.

Board, and an Agricultural Extension Branch which (in addition to taking over new ventures initiated and developed by the Agricultural College, such as Boys' and Girls' Clubs, Agricultural Representatives, Women's Institutes, and the services of Agronomy, Horticulture, Apiary and Poultry specialists, etc.) was given the responsibility of supervising Agricultural, Horticultural, and Home Economic Society activities.

The end of the 1906-1924 sub-period was also of historic significance in that government activities in respect of public health, for which the Ministry of Agriculture had been responsible since 1883, were transferred to a Provincial Department of Health which was established in 1924, and reconstituted in 1928 as a Department of Health and Welfare.

C. THE POST M.A.C. SUB-PERIOD, 1925 to 1959

The Post M.A.C. Sub-Period extended over the thirty-five years which remained from the close of the M.A.C. Sub-Period to the end of the period during which the Provincial Ministry of Agriculture was designated as "The Department of Agriculture and Immigration". However, before continuing a review of the activities and development of the Ministry of Agriculture as the Department of Agriculture and Immigration, it is essential that reference be made and consideration given to certain circumstances and events which had profound and determining effects on the agricultural industry, the economic conditions, and government policies in Manitoba during this sub-period.

The sub-period was unique in that during the first seventeen years, 1925 to 1941, Manitoba farmers, together with the Ministry of Agriculture, had to contend with the longest continuous interval of sub-normal and adverse conditions ever experienced in this Province. These adverse conditions resulted from the interaction of natural and other factors outside provincial control.

On the other hand, during the last eighteen years of this sub-period, 1942-1959, natural and economic conditions improved to such an extent that the last half of this sub-period may be considered as the "golden age" of agriculture in Manitoba, not only in respect of the agricultural industry but also in the effect this continuous series of years of agricultural prosperity had on the provincial economy and on public administration.

I. INTERVAL OF RETRENCHMENT AND AGRICULTURAL DIFFICULTIES

The adverse conditions which continued more or less throughout the first half of this sub-period were the result, in part, of circumstances acquired from the latter portion of the preceding sub-period and, in part, from sequential events. Circumstances and events which contributed to the difficulties that ensued include:

- (i) the occurrence of black-stem rust of wheat which, after the epidemic of 1916, struck with varying severity during the 1920's;

- (ii) the economic depression that followed World War I (1914 to 1918) and involved the provincial administration in post-war rehabilitation, public relief, and budget deficits;
- (iii) the drastic retrenchment policy introduced, subsequent to 1922, by a newly elected (so-called) "farmer government" as it attempted to balance the provincial budget;
- (iv) the continental-wide collapse of the general economy in 1929;
- (v) the decade of regional drought in the prairie region from 1929 to 1938 which, although not province-wide, was regionally so severe that, in seven out of ten years, the wheat crop in Crop Reporting District No. 1 averaged only 5.8 bushels per acre, and was almost as severe in parts of the adjacent Crop Reporting Districts No. 2 and No. 7; and
- (vi) the low prices for agricultural products which, together with sub-normal yields, resulted in so many years of low net agricultural production.

The most serious natural factor responsible for the agricultural difficulties in the first half of the 1925-1959 sub-period was the years of drought which followed the economic collapse of 1929. The drastic effect of these years of drought is reflected in the yields of wheat per acre. These are shown in Figure 1 which presents, in graphic form, the annual yields per acre and the five-year moving average yields of wheat for Manitoba, as well as for the Melita Crop Reporting District therein included as indicative of the drought problem in the open plains region.

The depressing effect of the low yields obtained from field crops during the early years of the Post M.A.C. Sub-Period was intensified by coincident low prices of agricultural products. This is shown by data in Table 27, derived from Provincial Crop Bulletins, and arranged to show, in summary form, the provincial mean annual yields, and the weighted mean annual price per bushel, for the four main types of grain produced during:

- (a) the fourteen years, 1925 to 1938, prior to World War II;
- (b) the war years, 1939 to 1945; and
- (c) the fourteen post-war years, 1946 to 1959.

In addition, this table includes the mean annual price per 100 lbs of three classes of livestock, cattle, sheep and hogs, weighted for all grades of each class sold at the stockyards.

The combined effect of the various contributing factors, however, is best reflected in the provincial net agricultural production* recorded for the years in question. The provincial net agricultural production recorded for the

* The data thus presented is recorded as approximate only. The net values were obtained by deducting the estimated values of seed used, and of feed and milk products, etc., consumed by livestock on farms, from the total gross production of field crops and livestock products.

FIGURE I

MANITOBA

Yield of wheat
per acre
1925 - 1959

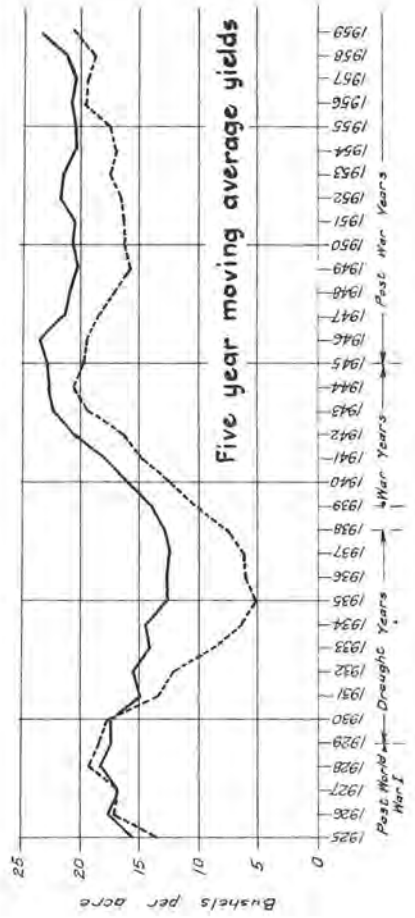
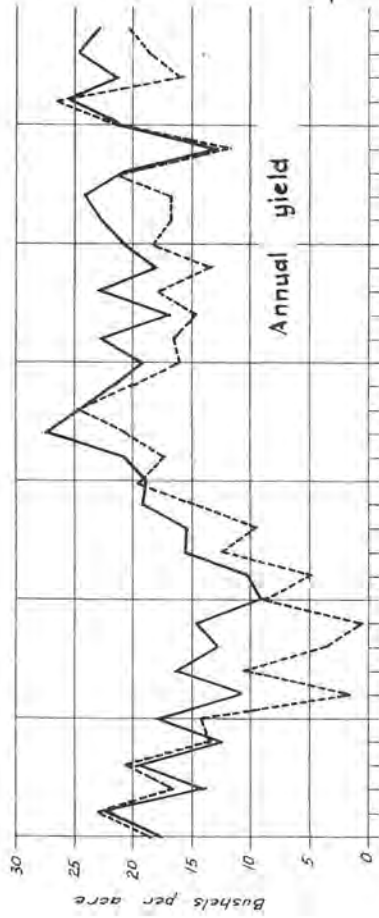


TABLE 27. PROVINCIAL MEAN ANNUAL YIELDS PER ACRE AND WEIGHTED PRICE PER BUSHEL OF WHEAT, OATS, BARLEY AND FLAX; AND AVERAGE MEAN ANNUAL PRICES PER CWT. (LIVE WEIGHT) OF CATTLE, SHEEP AND HOGS SOLD AT THE STOCKYARDS; IN EACH OF THREE SUCCESSIVE GROUPS OF YEARS: (a) 1925 to 1938; (b) 1939 to 1945; and (c) 1946 to 1959

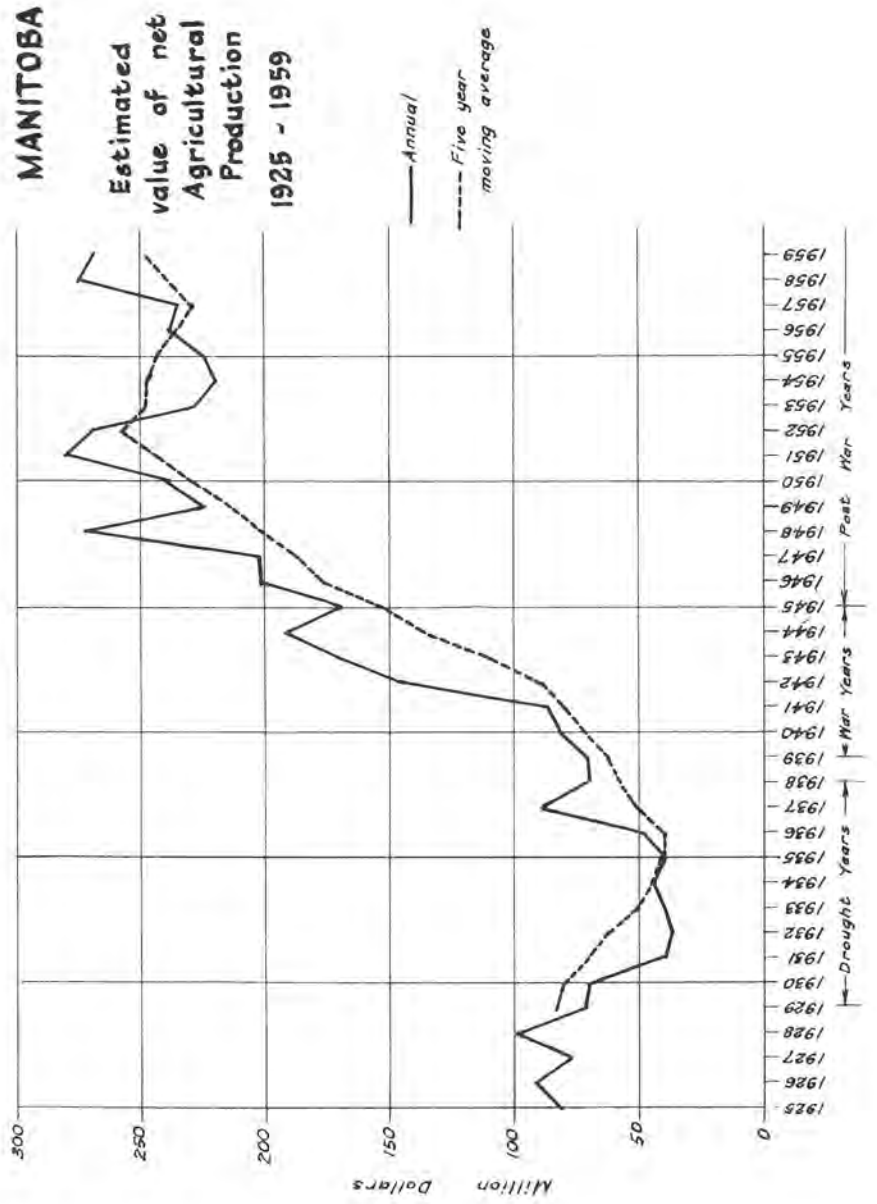
Kind of Crop	(a) 1925 to 1938 (14 Years)		(b) 1939 to 1945 (7 Years)		(c) 1946 to 1959 (14 Years)	
	Mean Annual Yield Per Acre	Mean Price Per Bushel	Mean Annual Yield Per Acre	Mean Price Per Bushel	Mean Annual Yield Per Acre	Mean Price Per Bushel
	Bus.		Bus.		Bus.	
Wheat	15.2	\$ 0.79	21.6	\$ 0.94	21.1	\$ 1.52
Oats	24.9	0.32	34.0	0.40	35.3	0.63
Barley	21.0	0.40	26.4	0.51	25.2	0.99
Flax	7.9	1.37	9.2	1.85	8.7	3.17
Kind of Livestock	Weighted Mean Price Per 100 lbs All Grades		Weighted Mean Price Per 100 lbs All Grades		Weighted Mean Price Per 100 lbs All Grades	
Cattle	\$ 4.19		\$ 7.34		\$ 16.13	
Sheep	7.00		8.92		17.21	
Hogs	8.06		10.44		18.93	

years 1925 to 1959, presented in graphic form as Figure 2, shows not only the estimated net agricultural production by years, but also five-year moving averages computed to smooth out erratic annual variations and to indicate general trends. The data, from which Figure 2 was prepared, indicate that the estimated mean net agricultural production for the seventeen years, 1925 to 1941, had an average value of only 66.47 million dollars per year; whereas the comparable estimated net agricultural production value for the eighteen years, 1942 to 1959, had an average value of 225.90 million dollars per year. Thus the average net agricultural production for the difficult years 1925 to 1941, in Manitoba, was only 30 percent of the average net agricultural production for the years 1942 to 1959.

Moreover, and despite the somewhat lower than normal production in the last seven years of the preceding sub-period due to wheat rust, grasshopper damage and post-war difficulties, the computed average net agricultural production for the seven years 1918 to 1924 was (approximately) 97.44 million dollars per year; so that, in addition to the net agricultural production in 1925 to 1941 averaging 70 percent per year less than in 1942 to 1959, it also averaged 32 percent less per year than for the seven years of depression which followed World War I.

The foregoing references to the striking contrast between the prevailing agricultural and economic conditions, which changed during the years of

FIGURE 2



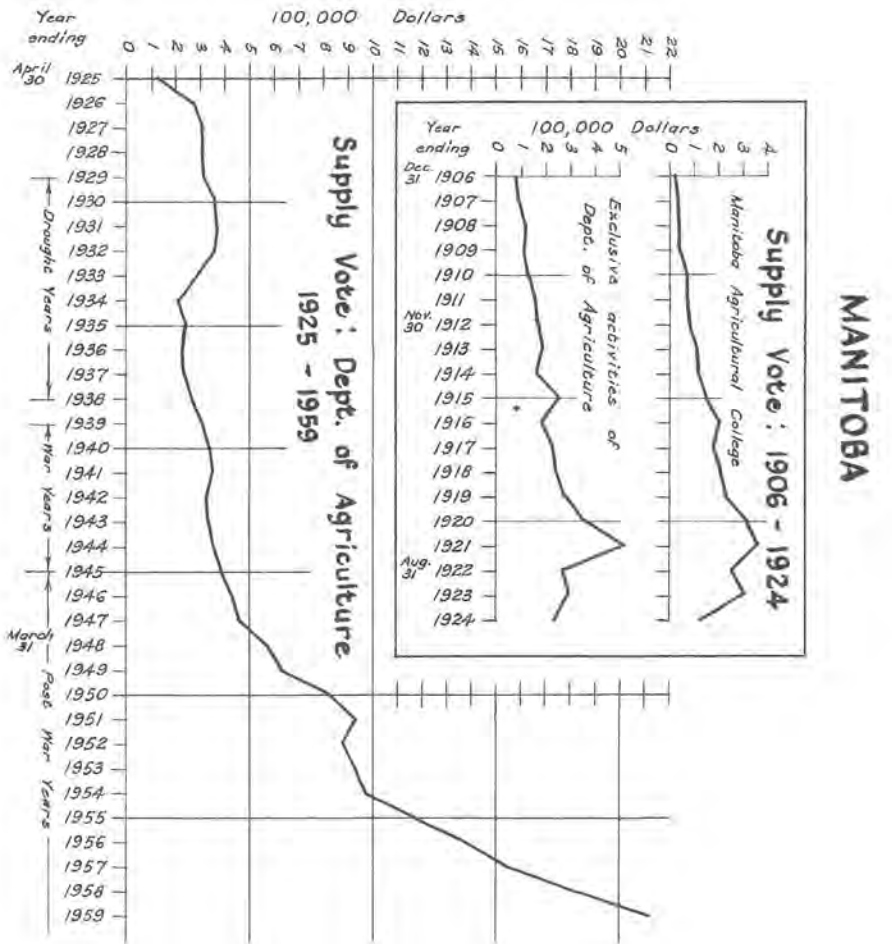


FIGURE 3

TABLE 28. SUPPLY VOTED BY THE LEGISLATURE FOR DEPARTMENT OF AGRICULTURE AND

	Legislative Session				
	4th of 17th Jan. 15 to Apr. 9, 1925	4th of 17th Jan. 15 to Apr. 9, 1925	5th of 17th Jan. 21 to Apr. 23, 1926	6th of 17th Feb. 3 to Apr. 9, 1927	1st of 18th Dec. 1, 1927 to Mar. 16, 1928
	Supply Voted for Year Ending				
	Apr. 30, 1925 (8 Mths.)	Apr. 30, 1926	Apr. 30, 1927	Apr. 30, 1928	Apr. 30, 1929
Administration	\$ 9,208	\$ 13,100	\$ 12,900	\$ 14,000	\$ 19,160
Agriculture	74,258	176,630	173,870	165,930	178,500
Immigration, Agricultural and Industrial Development	5,000	—	—	—	—
Agricultural and Industrial Development	—	22,000	40,000	43,000	27,800
Demonstration Farms	3,900	7,000	7,000	7,000	7,000
Employment Service of Canada	17,933	28,000	28,000	28,000	28,440
Organizing and Moving Farm Labour	—	—	—	—	—
Agricultural Publications	7,200	10,800	10,800	10,800	10,800
Weeds Commission	—	—	—	—	—
Statistics	—	—	—	—	—
Grasshopper Control	—	—	—	—	—
Grants to Agricultural and Horticultural Societies	—	—	—	—	—
Grasshopper Control and Destruction of Crows and Gophers	—	3,000	3,000	3,000	3,000
Wolf Bounties	—	—	—	—	—
Predator Control	—	—	—	—	—
Predator and Grasshopper Control	—	—	—	—	—
Distribution of Registered Seed Grain	—	—	—	3,000	3,000
Purchase of Seed Grain and Fodder	—	—	—	—	—
Barley Multiplication	—	—	—	—	—
Co-op Services	—	—	—	—	—
Sugar Beet Development	—	—	—	—	—
Miscellaneous and Unforeseen	500	1,000	1,000	1,000	1,000
Game Branch	14,333	22,000	30,540	35,880	35,000
Freight Rate Bureau	—	—	—	—	—
Economic Research	—	—	—	—	—
War and Post-War Problems and Projects	—	—	—	—	—
Advance re Biologicals	—	—	—	—	—
Flood Control and Relief	—	—	—	—	—
Soil Erosion and Water Control	—	—	—	—	—
	132,332	283,530	307,110	311,610	313,700

IMMIGRATION DURING THE POST MANITOBA AGRICULTURAL COLLEGE SUB-PERIOD, 1925 to 1959

Legislative Session					
2nd of 18th Feb. 11 to May 17, 1929	3rd of 18th Jan. 21 to Apr. 14, 1930	4th of 18th Jan. 27 to Apr. 20, 1931	5th of 18th Feb. 29 to May 7, 1932	1st of 19th Feb. 14 to May 4, 1933	2nd of 19th Feb. 8 to Apr. 7, 1934
Supply Voted for Year Ending					
Apr. 30, 1930	Apr. 30, 1931	Apr. 30, 1932	Apr. 30, 1933	Apr. 30, 1934	Apr. 30, 1935
\$ 20,680	\$ 21,280	\$ 21,480	\$ 17,894	\$ 16,277	\$ 16,277
184,900	235,621	235,331	164,379	107,573	93,726
-	-	-	-	-	-
65,000	50,000	36,850	56,384	52,902	52,647
7,000	7,000	8,200	7,744	6,318	1,588
28,680	28,680	28,680	26,108	26,197	22,004
-	-	-	-	-	-
10,860	11,040	11,040	10,390	8,164	8,163
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
3,000	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
3,000	3,000	3,000	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	1,500	-	-	-
2,000	2,000	2,000	5,800	1,500	51,000
39,560	8,867	-	-	-	-
-	-	6,000	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
364,680	367,488	354,081	288,699	217,931	245,405

TABLE 28. (Continued)

	Legislative Session			
	2nd of 19th June 5 to June 7, 1934	3rd of 19th Feb. 12 to Apr. 6, 1935	4th of 19th Feb. 18 to Apr. 7, 1936	1st of 20th Feb. 18 to Apr. 17, 1937
	Supply Voted for Year Ending			
	Apr. 30, 1936	Apr. 30, 1937	Apr. 30, 1938	
Administration	\$ 16,277	\$ 16,277	\$ 16,277	\$ 16,277
Agriculture	91,835	104,216	101,102	101,102
Immigration, Agricultural and Industrial Development	—	—	—	—
Agricultural and Industrial Development Demonstration Farms	52,316	52,132	49,306	49,306
Employment Service of Canada	1,588	1,588	1,588	1,588
Organizing and Moving Farm Labour	—	—	—	—
Agricultural Publications	—	—	—	—
Weeds Commission	11,055)	10,055)	10,055)	10,055)
Statistics	—	—	—	—
Grasshopper Control	—	—	—	—
Grants to Agricultural and Horticultural Societies	50,000)	50,000)	50,000)	50,000)
Grasshopper Control and Destruction of Crows and Gophers	—	—	—	—
Wolf Bounties	5,000	5,000	6,000	6,000
Predator Control	—	—	—	—
Predator and Grasshopper Control	—	—	—	—
Distribution of Registered Seed Grain	—	—	—	—
Purchase of Seed Grain and Fodder	—	—	—	—
Barley Multiplication	—	—	—	—
Co-op Services	—	—	—	—
Sugar Beet Development	—	—	—	—
Miscellaneous and Unforeseen	5,500	5,000	5,000	5,000
Game Branch	—	—	—	—
Freight Rate Bureau	—	—	—	—
Economic Research	—	—	—	15,000
War and Post-War Problems and Projects	—	—	—	—
Advance re Biologicals	—	—	—	—
Flood Control and Relief	—	—	—	—
Soil Erosion and Water Control	—	—	—	—
	233,571	244,268	254,328	

Legislative Session

2nd of 20th Dec. 9, 1937 to Mar. 23, 1938	3rd of 20th Feb. 20 to Apr. 17, 1939	4th of 20th Feb. 20 to Apr. 5, 1940	5th of 20th Nov. 18 to Dec. 17, 1940	1st of 21st Dec. 9, 1941 to Mar. 31, 1942	2nd of 21st Feb. 2 to Mar. 17, 1943
--	---	--	---	--	--

Supply Voted for Year Ending

Apr. 30, 1939	Apr. 30, 1940	Apr. 30, 1941	Apr. 30, 1942	Apr. 30, 1943	Apr. 30, 1944
\$ 16,777	\$ 17,711	\$ 17,711	\$ 12,709	\$ 12,757	\$ 13,597
129,532	138,369	149,614	146,595	146,090	140,380
-	-	-	-	-	-
71,096	86,236	99,720	102,760	110,005	94,790
1,588	1,588	1,588	1,575	1,575	1,575
-	-	-	-	-	-
-	-	-	-	-	10,000
10,455)	12,761)	10,561)	12,440)	12,380)	28,620)
-)	-)	-)	-)	-)	-)
50,000)	50,000)	50,000)	30,000)	30,000)	26,000)
-)	-)	-)	-)	-)	-)
-	-	-	-	-	-
6,050	7,000	7,000	5,180	5,000	5,500
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
2,000	4,000	500	500	500	500
-	-	-	-	-	-
-	-	-	-	-	-
20,000	15,000	16,000	11,500	15,500	36,700
-	-	-	-	3,350	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
307,498	332,665	352,694	323,259	337,157	357,662

TABLE 28. (Continued)

	Legislative Session				
	3rd of 21st Feb. 8 to Apr. 6, 1944	4th of 21st Feb. 6 to Apr. 7, 1945	5th of 21st Sept. 4 to Sept. 8, 1945	1st of 22nd Feb. 19 to Apr. 13, 1946	2nd of 22nd Feb. 25 to Apr. 26, 1947
	Supply Voted for Year Ending				
	Apr. 30, 1945	Apr. 30, 1946		Apr. 30, 1947	Mar. 31, 1948 (11 Mths.)
Administration	\$ 14,806	\$ 15,560		\$ 15,800	\$ 16,580
Agriculture	153,240	148,555		165,730	256,902
Immigration, Agricultural and Industrial Development	—	—		—	—
Agricultural and Industrial Development	95,610	99,470		100,710	148,280
Demonstration Farms	1,575	1,575		1,250	—
Employment Service of Canada	—	—		—	—
Organizing and Moving Farm Labour	10,000	10,000		10,000	15,000
Agricultural Publications	27,660	29,530		20,660)
Weeds Commission)))	37,280
Statistics	—	—		—)
Grasshopper Control))))
Grants to Agricultural and Horticultural Societies	22,000	20,500		23,300	34,300
Grasshopper Control and Destruction of Crows and Gophers))))
Wolf Bounties	—	—		—	—
Predator Control	15,000	15,000		30,000	30,300
Predator and Grasshopper Control))))
Distribution of Registered Seed Grain	—	—		—	—
Purchase of Seed Grain and Fodder	—	—		—	—
Barley Multiplication	—	—		—	—
Co-op Services	—	—		—	—
Sugar Beet Development	—	—		—	—
Miscellaneous and Unforeseen	500	500		500	—
Game Branch	—	—		—	—
Freight Rate Bureau	—	—		—	—
Economic Research	37,200	92,700		93,000	30,300
War and Post-War Problems and Projects	—	—		—	—
Advance re Biologicals	2,000	2,000		2,000	2,000
Flood Control and Relief	—	—		—	—
Soil Erosion and Water Control	—	—		—	—
	<u>379,591</u>	<u>435,390</u>		<u>462,950</u>	<u>570,942</u>

Legislative Session

3rd of 22nd Feb. 10 to Apr. 22, 1948	4th of 22nd Feb. 8 to Apr. 22, 1949	1st of 23rd Feb. 14 to Apr. 22, 1950	2nd of 23rd Nov. 7 to Nov. 16, 1950	3rd of 23rd Feb. 1 to Apr. 20, 1951	4th of 23rd Feb. 5 to Apr. 3, 1952
---	--	---	--	--	---

Supply Voted for Year Ending

Mar. 31, 1949	Mar. 31, 1950	Mar. 31, 1951		Mar. 31, 1952	Mar. 31, 1953
\$ 18,396	\$ 26,408	\$ 29,333		\$ 31,725	\$ 34,139
245,860	288,780	300,880		306,460	411,874
-	-	-		-	-
155,865	161,380	179,325		206,255	229,265
-	-	-		-	-
-	-	-		-	-
27,000	30,000	9,500		20,000	20,000
)))))
49,057)	50,945)	51,425)		52,165)	54,306)
)))))
)))))
40,000)	198,083)	265,000)		140,000)	60,000)
)))))
-	-	-		-	-
52,000)	50,000)	50,000)		50,000)	55,000)
)))))
-	-	-		-	-
-	-	-		-	-
-	-	-		-	-
-	-	-		-	-
18,400	19,300	19,580		23,440	24,934
-	-	-		-	-
-	-	-		-	-
-	-	-		-	-
-	-	-		-	-
29,000	21,800	25,700		28,000	35,282
-	-	-		-	-
700	700	-		-	-
-	-	-		-	-
-	-	-		-	-
-	-	-		-	-
<u>636,278</u>	<u>847,396</u>	<u>930,743</u>		<u>858,045</u>	<u>924,800</u>

TABLE 28. (Continued)

	Legislative Session			
	5th of 23rd July 22 to July 26, 1952	6th of 23rd Jan. 13 to Jan. 16, 1953	7th of 23rd Feb. 24 to Apr. 18, 1953	1st of 24th Feb. 2 to Mar. 25, 1954
	Supply Voted for Year Ending			
		Mar. 31, 1954	Mar. 31, 1955	
Administration		\$ 37,090	\$ 40,300	
Agriculture		444,424	493,400	
Immigration, Agricultural and Industrial Development		—	—	
Agricultural and Industrial Development Demonstration Farms		244,581	284,000	
Employment Service of Canada		—	—	
Organizing and Moving Farm Labour		15,000	15,000	
Agricultural Publications))	
Weeds Commission		54,715)	60,418)	
Statistics))	
Grasshopper Control))	
Grants to Agricultural and Horticultural Societies		58,300)	57,000)	
Grasshopper Control and Destruction of Crows and Gophers		—	—	
Wolf Bounties		61,500)	67,000)	
Predator Control))	
Predator and Grasshopper Control		—	—	
Distribution of Registered Seed Grain		—	—	
Purchase of Seed Grain and Fodder		—	—	
Barley Multiplication		—	—	
Co-op Services		28,810	33,800	
Sugar Beet Development		—	—	
Miscellaneous and Unforeseen		—	—	
Game Branch		—	—	
Freight Rate Bureau		—	—	
Economic Research		37,909	35,000	
War and Post-War Problems and Projects		—	—	
Advance re Biologicals		—	—	
Flood Control and Relief		—	—	
Soil Erosion and Water Control		—	96,000	
		982,329	1,181,918	

Legislative Session

2nd of 24th Feb. 1 to Mar. 31, 1955	3rd of 24th Jan. 31 to Apr. 23, 1956	4th of 24th Jan. 29 to Apr. 5, 1957	5th of 24th Feb. 11 to Apr. 10, 1958	1st of 25th Oct. 23 to Nov. 7, 1958	2nd of 25th Mar. 12 to Mar. 31, 1959
--	---	--	---	--	---

Supply Voted for Year Ending

Mar. 31, 1956	Mar. 31, 1957	Mar. 31, 1958	Mar. 31, 1959		
\$ 43,500	\$ 45,490	\$ 52,500	\$ 55,295		
534,650	598,770	737,235	805,760		
-	-	-	-		
290,000	300,900	383,440	414,740		
-	-	-	-		
11,000	8,000	8,250	6,000		
))))		
58,000)	75,080)	75,650)	88,000)		
))))		
72,500	72,500	81,000	90,040		
-	-	-	-		
50,000)	50,000)	50,000)	39,000)		
-	-	-	-		
20,000	15,000	5,000	1,000		
23,250	23,250	15,000	-		
38,090	41,410	44,147	45,180		
-	-	-	-		
-	-	-	-		
-	-	-	-		
57,750	103,000	172,500	277,400		
-	-	-	-		
-	-	-	-		
-	3,000	1,000	3,000		
190,000	215,000	215,000	320,000		
1,388,740	1,551,400	1,840,722	2,145,415		

World War II from a time of regression and enforced retrenchment to a time of progression and continuing expansion, provides the background against which the activities and policies of succeeding governments during this sub-period, and of the Ministry of Agriculture as a Department of Provincial Government, can be seen with greater clarity.

The effects of the changing circumstances and events on provincial administration can be seen in the varying annual supply voted by the Legislature for the support of the activities of the Ministry of Agriculture during the years in question. The detailed supply vote, by years from 1925 to 1959, is shown in Table 28 and in graphic form as Figure 3. An insert also is included in Figure 3 to show, on the same scale, by comparison, the annual supply vote for agriculture approved by the Legislature for the years 1906 to 1924.

Because the Agricultural College was included as an item within the agricultural supply vote for the years 1906 to 1924, the insert in Figure 3 was drawn to show the proportion of the agricultural supply vote allocated to the Manitoba Agricultural College as one graph, and the remaining amount allocated to all other items of the departmental vote as a separate graph comparable with the graph drawn to show the supply voted for the years 1925 to 1959.

The graphs in Figure 3 clearly reflect:

- (i) the drastic retrenchment enforced during the four years 1922 to 1925;
- (ii) the slight recovery that followed until a further period of regression resulted from the lean years of low yields and low prices during a decade of drought;
- (iii) the gradual recovery that took place during the transitional years of World War II; and
- (iv) the spectacular and progressive expansion in the post-war years resulting from the introduction of more rust-resisting varieties of wheat, higher yields of grain, and more favorable prices.

From the foregoing review it is apparent that although the Ministry of Agriculture had made great strides towards maturity and enlargement as a Department of Government, during the preceding M.A.C. Sub-Period, and had assumed a large measure of leadership and direction in the development of provincial agriculture, it was forced during the early years of the Post M.A.C. Sub-Period to struggle on against agricultural problems it could not currently resolve, and to maintain its activities and services under enforced government policies of retrenchment and financial stringency.

The extent of the retrenchment policy of government during the years in question, insofar as it involved the Department of Agriculture, is shown by the fact that for the 23 years including 1900 to 1922, the annual supply voted by the Legislature for maintenance of the Ministry of Agriculture had averaged 9 percent of the total supply vote for all departments; whereas for the 16 years 1923 to 1938 inclusive, the annual supply voted for the Ministry of Agriculture averaged only 2.5 percent of the total supply vote provided for all departments.

(1) EFFECT OF RETRENCHMENT AND AGRICULTURAL DIFFICULTIES ON DEPARTMENTAL ACTIVITIES

The sub-normal and adverse conditions, which followed in sequence during the first half of the Post M.A.C. Sub-Period, and the low level of the annual supply vote provided for the Ministry of Agriculture, had profound effects on the activities of the Department. These effects, however, were opposite in direction depending on whether political economy or natural phenomena were dominant in causing or prolonging the financial difficulties with which the Ministry had to contend.

For example, the drastic reduction in the supply vote for the years 1922 to 1925 - when the newly constituted "Progressive" government attempted through a policy of retrenchment to adjust to the economic depression of Post World War I - compelled the Ministry of Agriculture to curtail a number of its activities. On the other hand, the difficulties brought about by the persistent drought of the 1930's resulted in additional agricultural problems which served as a challenge and compelled the Ministry of Agriculture to enlarge certain activities, to readjust to changing circumstances, and to undertake new ventures, some of which were co-operative with other institutions that helped to share the costs. These additional duties were undertaken with but little increase in the annual supply vote granted by the Legislature until towards the close of the second decade of the Post M.A.C. Sub-Period.

Therefore, in considering the activities of the Ministry of Agriculture during this sub-period, reference should be made first to:

- (a) the effect of financial stringency in the initial years of this sub-period;
- (b) the transfer of activities and duties to conform with the reorganization of government departments; and
- (c) the various activities inaugurated to deal with specific problems that arose during the first half of the sub-period;

and thereafter to consider separately the overall enlarged development of the Department and its branches which took place in the second half of this sub-period.

(a) Effect of Financial Stringency in the Initial Years of the 1925-1959 Sub-Period

(i) Retrenchment in Agricultural Extension Service

In addition to the financial difficulties with which the Ministry of Agriculture had to contend, under the newly elected "Progressive" government of 1922, the Ministry, as previously noted, was further handicapped, subsequent to 1923, by reason of the withdrawal of the annual grant it had enjoyed for nine years under the Dominion Agricultural Instruction Act. Consequently, because the major portion of the salaries and travelling expenses of extension instructors in dairying, poultry management, bee-keeping, boys' and girls' clubs, gas engines, agricultural engineering, cookery, canning, dressmaking, millinery, and home nursing, as well as the

financing of rural short courses, had been supported mainly by the Dominion Agricultural Instruction grant, the Ministry was compelled to make drastic reductions and readjustments in agricultural extension activities.

As noted in the foregoing section (Page 226) the staff of over 30 full-time extension lecturers and demonstrators was reduced to five; the agricultural representative work was temporarily discontinued; and the Extension Service, under a new Director (N.C. MacKay) was moved back in 1923 to the Agricultural College (Page 227) where the re-established liaison with the teaching staff of the College favored the continuation of extension activities that otherwise would have been even more drastically curtailed.

(ii) Printing of Annual Reports Discontinued

The printed annual reports of the Department were a further casualty. Prior to 1922, annual reports of the Department of Agriculture were printed for public distribution, but commencing with the year 1922-23 the printing of the departmental reports - as separate from Sessional Papers - appears to have been discontinued. Typed reports were prepared annually for the Minister by the respective branch directors; and reports of each year's work of the Department were typed, as submitted by the Minister to the Lieutenant-Governor (copies of which, commencing with the year 1925-26, are on file in the library of the Department of Agriculture).

Nevertheless, the printing of annual reports by the Ministry of Agriculture (apart from annual crop reporting bulletins) does not appear to have been revived until after the close of the 1925-1959 sub-period.

(b) Transfer of Activities and Duties to Conform with the Reorganization of Government Departments

Because of readjustments required in part by economic housekeeping, and in part by the creation of new Cabinet portfolios to keep pace with the growing administrative duties of government, certain functions that had been developed by the Ministry of Agriculture were transferred to other departments, either at the close of the M.A.C. Sub-Period or early in the 1925-1959 sub-period.

The activities thus involved included:

- (i) administrative duties in connection with Public Health;
- (ii) the operation of the Manitoba Agricultural College; and
- (iii) the protection of game.

(i) Transfer of Administrative Duties in Connection with Public Health

The development of government activities in respect of public health under the Ministry of Agriculture, up to 1924, is outlined in the foregoing pages (i.e. 87 - 88; 108-110; 139-141; and 177-179).

Fractionation of administrative responsibility in connection with public health, however, began as early as 1916, at which time the Board of Health was reconstituted and the work and records in connection with vital statistics were transferred to the Municipal Commission. In 1924, all government activities in connection with public health were transferred and

consolidated under a newly created Department of Health, directed by Hon. C. Cannon, which was reconstructed in 1928 as a Department of Health and Welfare under Hon. E.W. Montgomery. Thus, at the beginning of the Post M.A.C. Sub-Period, the Ministry of Agriculture was finally relieved of certain administrative duties for which it had been responsible since 1883 when it was designated as a Department of Agriculture, Statistics and Health.

(ii) **Transfer of Manitoba Agricultural College to the University of Manitoba, and Retention of Agricultural Extension Service by the Ministry of Agriculture**

It is of significance that the post World War I depression played an important role in determining the destiny of the Manitoba Agricultural College as a faculty of the University of Manitoba, and in permanently establishing the agricultural extension service as a specific functional activity of the Ministry of Agriculture.

To put events in this connection in proper perspective it should be restated that the Agricultural Commission - appointed under the chairmanship of Principal Patrick of Manitoba College in 1901 to enquire into the wisdom and advisability of establishing and maintaining an agricultural college in Manitoba - reported that

"education in agriculture for young men from rural districts should be given by a separate college, that they may not be sidetracked or alienated from the farm."

This recommendation was in harmony with the concept held by the government of the day, and by the first Board of Directors, when the M.A.C. was first established.

However, a demand for advanced courses on the part of the first graduating class of agricultural diploma students led to the introduction of degree courses and to affiliation for two years (1911 and 1912) with the University of Manitoba for the conferring of degrees (Page 189). Nevertheless, the original concept of the function of an agricultural college (which was held almost as a religious belief by the current Board of Directors) prevailed; with the result that affiliation with the university was discontinued for the years 1913, 1914 and 1915.

During these three years the College conferred its own degree on the successful graduates in agriculture. Thus it was that for the first ten years of its existence the Agricultural College was decisively rurally-oriented, but with a reconstituted College Board of Directors, and the appointment of a new College president in 1915 (who "tutorially" was academically-oriented (Page 190)), affiliation with the University of Manitoba for the conferring of degrees in agriculture was re-established in 1916. Thus the stage was now set for splitting-off from College direction certain activities formerly considered integral parts of its function as the provincial institution for rural education.

At this time the agricultural extension work, which had been initiated and developed so successfully under President W.J. Black, was detailed by his successor to a superintendent who relieved the College president of duties involved as managing director of extension.

It was coincident with this appointment that the Dominion Government inaugurated the policy of providing annual grants to provincial governments under the Agricultural Instruction Act. These circumstances resulted in the appointment of extension workers in agriculture and home economics as staff members of the Manitoba Department of Agriculture. These workers were financed not through funds provided by the Province and administered by the College Board of Directors but from funds received from the federal grant and administered by the Manitoba Department of Agriculture. Thus the Department of Agriculture soon acquired complete control of the agricultural extension service and, in 1917, transferred it from the College campus to the Legislative Building.

As formerly noted, the withdrawal of the Dominion grant in 1923 at a time when the newly elected provincial government of 1922 was struggling with a policy of retrenchment, forced the drastic reduction in Extension Service personnel. To ensure the continuance of Extension Service activities for the time being, the remaining personnel were returned in 1923, under N.C. MacKay as the newly appointed Director, to quarters on the College campus, but although close liaison was thus re-established with the College, the Extension Service was financed and continued to operate as a branch of the Department of Agriculture.

At this time also, the support of the Agricultural College through the Department of Agriculture, and of the University of Manitoba through a grant under the Department of Education, posed financial problems. The Provincial Government attempted to resolve the dilemma by terminating the operation of the College as a teaching institution under a separate Board of Directors, and by combining the two tutorial institutions to be administered under one grant by the University Board of Governors.

However, if the average annual disbursements for the maintenance of the two institutions (exclusive of capital expenditures) for the last five fiscal years ending 1924, as shown in Table 29, are compared with the average annual grant to the University of Manitoba for the first five fiscal years of the 1925-1959 sub-period, the extent to which the policy of amalgamation succeeded in alleviating the financial difficulties which the government was trying to resolve appears to be of doubtful significance.

In considering the data presented in Table 29, it may be noted that the disbursements for the support of the M.A.C. during 1920-1924 differ somewhat from the intended expenditures authorized by supply vote for the same fiscal years; and further, that the fiscal year ending August 31st, 1922 was for nine months, and the fiscal year ending April 30th, 1925 was for eight months only. Furthermore, it also must be noted that, subsequent to 1923, the Ministry of Agriculture assumed the cost of maintaining the reduced Extension Service, and to that extent reduced the apparent saving implied in Table 29 by the difference in the annual mean figures for the two five fiscal year periods thus compared.

Reference also must be made to the financial support that was given by the Ministry of Agriculture to special or specific projects carried out by individual members of the Agricultural Faculty who, despite the

TABLE 29. COMPARISON OF THE DISBURSEMENTS AND GRANTS
MADE ON BEHALF OF THE M.A.C. AND OF THE
UNIVERSITY OF MANITOBA FOR THE FIVE
FISCAL YEARS 1920-1924, WITH THE TOTAL
GRANTS TO THE UNIVERSITY FOR THE FIVE
FISCAL YEARS 1925-1929
(Exclusive of Capital Expenditures)

Fiscal Year Ending	For Maintenance of M.A.C. by Department of Agriculture	Annual Grants through Department of Education for University of Manitoba	Total	Annual Mean for Five Fiscal Years
Nov. 30, 1920	\$ 332,265.04	\$ 212,998.00	\$ 545,263.04	\$ 573,481.34
Nov. 30, 1921	318,966.09	372,128.00	691,094.09	
Aug. 31, 1922	219,519.66	254,096.00	473,615.66	
Aug. 31, 1923	266,387.90	315,000.00	581,387.90	
Aug. 31, 1924	143,046.00	433,000.00	576,046.00	
Apr. 30, 1925		\$ 288,000.00	\$ 288,000.00	\$ 418,600.00
Apr. 30, 1926		475,000.00	475,000.00	
Apr. 30, 1927		425,000.00	425,000.00	
Apr. 30, 1928		438,000.00	438,000.00	
Apr. 30, 1929		467,000.00	467,000.00	
			Difference	\$ 154,881.34

amalgamation in respect of tuition duties, retained close contact with the Ministry in respect of agricultural investigations and extension projects. This policy of financing investigational and research projects, which was carried out in co-operation between certain departments of the Faculty of Agriculture and the Ministry of Agriculture, was subsequently enlarged even though in the first years of the amalgamation the government steadily continued adamant in respect of enlarging the total grant placed at the disposal of the University Board of Governors.

Thus a number of co-operative projects became activities of the Ministry of Agriculture, even though they may have been conceived or referred to and directed by personnel who were members of the Faculty of Agriculture in the University.

The important point under consideration, however, is not how much or how little was saved financially by the transfer of the M.A.C. to the University, but that the enforced retrenchment in the early years resulted ultimately in the withdrawal of responsibility for the Agricultural College as a teaching institution from the Ministry of Agriculture, and in the agricultural Extension Service being retained permanently as an administrative branch of the Department of Agriculture and Immigration. As such, it was again relocated, subsequently to 1926, in the offices of the Ministry in the Legislative Building.

(iii) Termination of Protection of Game
Under the Ministry of Agriculture

Early in the 1925-1959 sub-period the Manitoba Government was enlarged by the creation, in 1928, of a Department of Mines and Natural Resources under Hon. John Bracken; and negotiations were entered into with the Dominion Government which culminated in the natural resources (formerly administered by the Dominion) being transferred to the Government of Manitoba and accepted under "An Act respecting the Transfer of the Natural Resources of Manitoba" (Chap. 30, SM. 1930).

It is of passing interest to note that one year before the Manitoba portfolio of Mines and Natural Resources was created, Dr. R.C. Wallace (Professor of Geology, University of Manitoba) was appointed Commissioner of Mines and attached to the Department of Agriculture and Immigration.* However, Dr. Wallace resigned in September and was replaced by Dr. J.S. DeLury.

Although the portfolio of Mines and Natural Resources was established in 1928, the protection of game, which had been under the jurisdiction of the Ministry of Agriculture since its inception and had evolved into a Game Branch (Pages 68, 70, 133-134 and 175-177), was continued as a responsibility of the Department of Agriculture until 1930-31 when the Game Branch was transferred to the Department of Mines and Natural Resources.

Thus the routine activities of the Game Branch remained the duty of the Ministry of Agriculture for the first five years of the 1925-1959 sub-period. During this five-year period the Ministry of Agriculture continued to be responsible for issuing and recording licences and permits required under the Game Protection Act, as well as for the publication and distribution of posters and literature in respect of game regulations, etc.

In 1925-26 the Spruce Lake Game Preserve and St. Charles Game Preserve and Sanctuary were added to those already established by Order-in-Council (Page 176), thus bringing the area in game preserves in Manitoba, at that time, up to 7,900 square miles.

In 1927 a Western Canada Fox Show was held in Winnipeg on November 30th to December 3rd. This was the first of such shows to be held in the prairie provinces. In this connection the Deputy Minister's report records that 130 animals were on exhibit and that there were 6,000 paid admissions.

The fur farms in operation under fur farm licences required subsequent to 1920 (Page 176) increased rapidly in the last five years of administration under the Ministry of Agriculture.

The number of licensed fur farms for these five years were recorded by the Deputy Minister as:

Year Ending April 30	Number of Fur Farms
1925-26	64
1926-27	98
1927-28	149
1928-29	230
1929-30	347

* Cole, G.E. - "Mining in Manitoba"; Economic Survey Board Publication, 1938.

The species of fur-bearing animals kept during this five-year period is indicated by the limited records reported by the Deputy Minister in his annual report for the first three years of this same period.

TABLE 30. SPECIES OF FUR-BEARING ANIMALS KEPT ON LICENSED FUR FARMS DURING THE THREE YEARS 1925-26 to 1927-28

Species	Number of Farms 1925-26	Number of Animals 1926-27	Number of Animals 1927-28
Fox	40	2,598	3,074
Muskrat	8	1,789	4,990
Mink	4	347	536
Beaver	—	107	117
Wolf or Coyote	3	59	75
Raccoon	1	20	24
Skunk	1	26	16
Fisher	1	3	10
Weasel	—	—	9
Badger	—	—	7
Ferrets	—	—	4
Marten	—	—	2
Miscellaneous	6	—	—

The wildlife furs recorded by the Deputy Minister, as taken during the last three years of the five-year period, are listed in Table 31.

TABLE 31. NUMBER OF WILDLIFE PELTS RECORDED BY THE DEPUTY MINISTER AS TAKEN IN MANITOBA IN THE THREE YEARS, 1927-28 to 1929-30

Species	Number of Pelts 1927-28	Number of Pelts 1928-29	Number of Pelts 1929-30
Muskrat	213,866	248,004	267,296
Weasel	88,852	105,780	102,610
Mink	9,833	12,758	9,689
Skunk	6,325	8,002	5,868
Timber Wolf and Coyote	13,056	5,149	2,992
Red Fox	3,590	3,180	2,933
Otter	1,218	1,411	945
Cross Fox	1,197	973	937
Badger	1,476	1,467	752
Lynx	744	785	451
Bear	443	593	429
Marten	1,735	1,435	422
White Fox	655	1,018	364
Fisher	460	330	201
Beaver	264	294	126
Silver Fox)			119
Black Fox)	175	106	22
Wolverine	29	41	20

The data in Tables 30 and 31, though limited to the specific years recorded, indicate the relative importance of fur produced in Manitoba on fur farms in comparison with wildlife fur in the years immediately preceding the time when the Ministry of Agriculture ceased to be responsible for wildlife statistics and for the protection of game.

It may be of interest to note that the 1925-26 report of the Deputy Minister of Agriculture refers to the constructive policy of introducing game birds, of which the Hungarian Partridge is given as an example:

"Ever since its introduction to Alberta a few years ago it has rapidly increased in numbers and is finding its way eastward. It has reached points in Saskatchewan within one hundred miles of the Manitoba western boundary. . . . One must not assume, however, that the introduction of the Hungarian Partridge into Manitoba is being left to migration from Alberta through Saskatchewan. I desire to pay tribute to the local sportsmen who have introduced large numbers of Hungarian Partridge into Manitoba at their own expense, some of which were imported from Czechoslovakia, and the balance from the Province of Alberta through the courtesy of the Alberta Department of Agriculture, which issued permits enabling the sportsmen to purchase the birds from private individuals in Alberta."

Reference also was made to the introduction of the English Pheasant and to Chinese Mongolian Pheasants that were hatched and liberated in Manitoba.

Because the protection of game and the conservation of wildlife had been an integral part of the duties of the Ministry of Agriculture during the first half century of its existence, it may seem somewhat ironical that after the Game Branch was transferred to the Department of Mines and Natural Resources in 1930-31, the administrative duties in respect of "The Wolf Bounty Act" were transferred in 1935 from the Treasury Department to the Ministry of Agriculture, and thereafter the annual supply vote for "Agriculture" carried an item for "Wolf Bounty" which was later enlarged to "Predator Control" in 1944 as shown in Table 28.

(2) **INNOVATIONS INITIATED OR UNDERTAKEN TO DEAL WITH SPECIAL PROBLEMS IN THE FIRST HALF OF THE 1925-1959 SUB-PERIOD**

Despite the policy of enforced retrenchment with which the Ministry of Agriculture had to contend during the first half of the 1925-1959 sub-period, a number of innovations were undertaken, some of which were enforced by circumstances that could not be ignored.

These innovations included:

- (a) Investigations resulting in the introduction of fertilizers into agricultural practice on Manitoba farms.
- (b) Initiation of the systematic soil survey and investigation of Manitoba soils.
- (c) Combating the decade of drought.
 - (i) Direct relief
 - (ii) Soil Moisture Survey, 1933
 - (iii) An Agricultural program for Southwestern Manitoba
 - (iv) The Prairie Farm Rehabilitation Act
- (d) The Land Rehabilitation Act.

- (e) Rural Rehabilitation Commission.
- (f) Debt Adjustment Commission.
- (g) The Manitoba Economic Survey, 1937-39.
- (h) Veterinary Diagnostic Laboratory.
- (i) Launching the Manitoba sugar beet industry.

(a) **Investigations Resulting in the Introduction of Fertilizers into Agricultural Practice on Manitoba Farms**

Prior to the Post M.A.C. Sub-Period little or no interest was manifest in the use or need of fertilizers on Manitoba farms which, up to that time, were located chiefly in the prairie or the prairie and aspen-grove regions of the Province. The yields of grain secured by early settlers, in most districts, following the breaking of well-drained native grasslands, and the propaganda emanating from real estate agents and immigration personnel, fostered a general belief in the infallible fertility of Manitoba soils. Moreover, the disastrous effect of grain rust or of unfavorable weather conditions, such as frost, aperiodic drought, or excessively moist seasons, occurred with sufficient frequency in various districts so that blame was generally placed on the weather rather than on the soil in cases where crop yields in a given season were not as high as farm operators' hopes.

The Dominion Experimental Farms Guidebook of 1912 outlines the experimental treatments of plots on which green manures, barnyard manures and broadcast applications of commercial fertilizers, were being carried out on the Federal Experimental Farms located in Manitoba, Saskatchewan and Alberta. However, the results of broadcast applications of fertilizers in these trials (which were restricted in Manitoba to one farm located at Brandon, on alluvial deposits in the Assiniboine Valley) failed to arouse any enthusiasm for the expansion of this type of investigation and tended to confirm the belief commonly held by federal agronomists and others, at that time, that there was no need for commercial fertilizers on prairie farms in Manitoba.

Soil fertility experiments, however, were introduced on the Field Husbandry Experimental Field at the Manitoba Agricultural College in 1915. These investigations were extended and enlarged in subsequent years.* In these investigations the Department of Agriculture was not, at first, directly involved. However, the Provincial Ministry of Agriculture became directly concerned in fertility investigations in 1928 when the Consolidated Mining and Smelting Company (Cominco) of Trail, B.C., provided the Ministry with a large quantity of triple superphosphate fertilizer (in the manufacture of which this company had become interested) with the request that the Ministry would co-operate and supervise the distribution and testing on Manitoba farms of the fertilizer so provided.

This led to a three-year co-operative project in which Cominco supplied the fertilizer and procured combination grain and fertilizer drills, the

* Pages 237-239.

Canadian Pacific Railway Company provided transportation of the fertilizer and the drills, the Ministry of Agriculture provided the personnel to arrange for seeding, harvesting and recording the results of the field trial strips, and individual farmers provided the fields and traction power.

It should be recorded also that, after the 1928 trials, officials of the Dominion Experimental Farms assisted the Extension Service in the supervision of the field trials carried out in the Brandon and Morden districts.

The total number of field trials in this co-operative fertilizer project increased from 16 in 1928, to 55 in 1929, and to 163 in 1930, but due to various causes, complete results are not available for all locations.

In the initial trials, attempts were made to apply triple-superphosphate at 100 lbs per acre in five-acre strips on farm fields in comparison with five-acre unfertilized check strips. This comparison was continued during each of the three years involved, with the addition of a few trials comparing ammonium phosphate with triple-superphosphate, and a few rate of application trials with 60, 100 and 120 lbs per acre of triple-superphosphate and with 50, 85 and 100 lbs per acre of ammonium phosphate.

Three combination drills were provided in 1928; four more were provided in 1929, including an eastern type drill supplied by the Massey Harris Company, an eastern type drill supplied by the Cockshutt Plow Company, an Australian combination type drill supplied by Cominco, and a drill purchased by the Minister of Agriculture for his own farm. The latter was loaned to co-operators in the Minister's home district. In 1930, sixteen drills were provided together with trucks to move the drills from farm to farm.

Although the first results of applying phosphate fertilizer in powder form were not satisfactory, the trials with drilling-in triple-superphosphate with seed grain proved highly successful. The annual reports of the Agricultural Extension Agronomist, for the three years involved, indicated that increased yields up to 30 percent were obtained in certain districts; and the widely distributed field strips provided local demonstrations of the beneficial effects of this practice.

The results, as a whole, justified the policy adopted by Cominco of co-operating with government agronomists to carry out extensive trials and demonstrations on farmers' fields before undertaking an extensive program of fertilizer production and sales distribution.

Other investigations and demonstrations which influenced the introduction of fertilizers into general agricultural practice on Manitoba farms involved the Soils Division of the Agricultural College in co-operative activities with the Ministry of Agriculture.

The plot experiments with fertilizers initiated on the Field Husbandry Experimental Field on the M.A.C. Fort Garry site in 1915 were greatly enlarged when the Fertility Field of the Soils Division, M.A.C., was laid down to long-time experiments in 1919. The experiments on this field involved the management and documentation of over 1,000 plots, and despite the drastic retrenchment imposed on all agricultural departments when the University acquired control of the Fort Garry site, the experiments

on this Fertility Field were maintained for approximately forty years, until the area involved was appropriated by the University and converted into a sports track and football field.

These experiments supplied the College instructors with authoritative information and provided data for student courses in soil management, as well as for dissemination by the Extension Service. The results also contributed in large measure to the recommendations made by the Manitoba Fertilizer Board after its establishment at a later date.

The fertilizer experiments on the M.A.C. Fertility Field were supplemented by fertilizer trials in rural areas initiated, as early as 1922, by the Soils Division in co-operation with farmers on peat soil on the St. Andrews bog at Balmoral, and on peat soil at Matlock. Also, from 1924 to 1939, numerous experiments with fertilizers applied to sugarbeets were conducted on farmer fields in extensive investigations carried out prior to the establishment of the factory of the Manitoba Sugar Company in 1940.

The most important and epoch-making fertility experiments of the Soils Division in rural Manitoba, however, were the Junior Co-operator Fertilizer Trials which were designed when Colin H. Burnell, Oakville, President of the Manitoba Wheat Pool, requested that a program be devised which would interest young people in some project that could be carried out on their home farms. This provided the opportunity to design the junior co-operator fertilizer tests which were carried out in each of the three years, 1929-30-31, with the wholehearted support of Mr. C.H. Burnell and the Wheat Pool. These tests consisted of applying nitrogen, phosphate and potash fertilizers, alone and in combination, by hand, in drills one inch below seed wheat planted in replicated rows. The educational department of the Manitoba Wheat Pool undertook to secure a junior co-operator (age 14 to 24) at each point where there was a Pool Elevator which thus gave a good coverage of the grain-growing portion of the Province.

The Manitoba Wheat Pool financed the printing of instructions and record forms; the containers for the measured quantities of seed and fertilizer shipped to each co-operator; the cotton bags in which the unit rod rows of grain were shipped after harvest by each co-operator to the Soils Division at the University; the painted board signs - one of which was displayed on each co-operator's farm; the expenses incurred in judging and inspecting the field plots; and the prizes awarded to the co-operators who made the highest score.

The Soils Division, M.A.C., designed the experiments; carried out the packaging of seed and fertilizers shipped to the co-operators; received and threshed the unit rod rows of grain shipped from each co-operator in the fall (averaging over 3,600 units per year); and compiled the results which were presented to each current annual meeting of the Manitoba Wheat Pool.

The results of these trials, when plotted on a map, showed definite response to phosphate in the grassland region of southwestern Manitoba; significant response to phosphate with increasing response to the application of nitrogen in the northern and eastern portions of the aspen-grove region; and marked response to nitrogen and phosphate in the forested region, with

indications of additional response to potash in local areas of sandy-textured soils.*

After the re-establishment of agricultural representatives by the Ministry of Agriculture at rural points in 1929-30, the practice of carrying out experiments with fertilizers on farm fields in co-operation with the Soils Division was greatly expanded, both in respect of types of crops and rates of fertilizer application. Over the years 1929 to 1942, an average of 30 farm co-operators per year conducted fertilizer trials with grain crops, intertilled crops, alfalfa and grass crops, under the supervision of the agricultural representatives of the Department of Agriculture. Early in the prosecution of these projects it was demonstrated, by applying phosphatic fertilizers at the rate of 25, 35, 45 and 60 lbs per acre, that the most economic rates of application for grain crops were less than the rates initially used. This discovery aided in breaking down the initial widespread reticence to adopt this new practice.

It is therefore of significance to note that, prior to the first half of the 1925-1959 sub-period, commercial fertilizers were not in use on Manitoba farms. Nevertheless, during the first decade of the Post M.A.C. Sub-Period - due to the activities reviewed above in which the Ministry of Agriculture played so large a part - the practice of applying phosphatic fertilizers, in pellet form, drilled-in with seed grain at relatively low rates per acre was definitely established as an improved practice which was gradually accepted and extensively adopted. So much so that, following the outbreak of World War II, it was necessary for the Ministry of Agriculture to establish a Manitoba Fertilizer Board** to co-operate with the federal authorities for the purpose of ensuring a proportionate quota of fertilizer available to Manitoba farmers, which as a war-time measure was placed under federal war-time control.

A further item of importance is that the zonation or fertilizer requirement indicated by the Junior Co-operative Fertilizer Trials, and by the fertilizer ratio and rate of application experiments carried out in co-operation with the Agricultural Representatives, influenced Cominco to manufacture fertilizers other than triple superphosphate in a laudable endeavor to provide the kind of fertilizers indicated as generally required for farm use in different regional areas of the Province.

Thus phosphate fertilizers with varying amounts of nitrogen were made available, including: 11-48-0 ammonium phosphate; 16-20 ammonium phosphate; and later (following the years of severe soil drifting and the need of more nitrogen which became evident in the case of crops sown on stubble land) 27-14-0 ammonium-nitrate-phosphate. In addition, 33½-0-0 ammonium nitrate (nitroprills) was introduced as a high grade nitrogen fertilizer for grass crops and, as required, to supply supplementary nitrogen; as well as a complete fertilizer 9-27-9 (later 10-32-10) which was produced to provide the addition of potash required in sandy areas, especially in the forested region.

* Ellis, J.H. - "Zonation for Fertilizer Requirements"; Scientific Agriculture 15:2 (1934).

** Manitoba Fertilizer Board appointed - J.H. Evans, Deputy Minister; J.E. Blakeman, Dominion Seeds Branch; and J.H. Ellis, Soils Department, University of Manitoba.

It may be of interest also to note that Cominco found it necessary to design, manufacture and supply fertilizer attachments for various makes of grain drills to ensure the extensive use of the practice of drilling-in "pelleted" fertilizer with seed grain at lower rates than were possible with the standard drills first used in the co-operative trials of 1928-1930.

The importance of the fertilizer investigations and demonstrations, co-operatively carried out in the early depression years of the 1925-1959 sub-period (which led to the gradual acceptance of fertilizer as a farming practice on Manitoba farms) may be more properly appreciated when it is noted that this practice, together with the introduction of more rust-resisting varieties of grain and more favorable weather conditions, can be considered as the most important factors contributing to the improved agricultural conditions (reflected in Table 27) experienced in the later years of this sub-period.

(b) **Initiation and Evolution of the Systematic Survey and Investigation of Manitoba Soils**

The systematic survey of Manitoba soils had its beginnings in the Soils Division of the Agronomy Department of the Agricultural College at the beginning of the 1925-1959 sub-period. At this time the activities of the Agronomy Department were divided into three branches, one of which operated as a Soils Division under a staff member who was responsible for teaching and investigational activities in connection with soil fertility and soil and crop management, and for answering inquiries from farm operators in respect of soil problems.

It was soon apparent that systematic and detailed information about Manitoba soils was an essential prerequisite and hence, in spite of limited appropriations, a start was made in 1927 on the systematic survey of soils as a Manitoba resource.

Prior to 1927, various projects of a more or less discontinuous nature had involved soil investigations in local areas.* However, the preliminary soil survey begun by Professor A.J. Galbraith in 1917-18, and financed by the Ministry of Agriculture, was discontinued due to his untimely death in the influenza epidemic of 1918, and soils investigations undertaken by the M.A.C. Chemistry Department in connection with the Agricultural Survey of 1921-22 were discontinued when the agricultural survey was completed and funds for the same exhausted.

In the summer of 1926 certain members of the M.A.C. staff were directed by the Provincial Premier to undertake a study of unused lands in Manitoba. In this connection the Soils Division, M.A.C., was requested to undertake the field inspection of certain soil areas involved, and was thereby concerned with and responsible for the soils data, for the land use recommendations, and for some of the findings of the agricultural survey of 1921-22 which were dusted off and included in the report of this study.**

*Pages 240-241 and 243-246.

** Unused Lands of Manitoba"; Manitoba Department of Agriculture, 1926.

However, it was not until the fall of 1927 and the summer of 1928 that the systematic study and mapping of Manitoba soils was undertaken as a major project by the Director of the Soils Division assisted by W.H. Shafer. The initial project involved the reconnaissance soil survey of an area west of the Red River and north of the International Boundary. This early soil survey was financed through funds allocated to the Agronomy Department of the Agricultural College. In 1929, the interest of Dr. E.S. Archibald was secured with the result that support was provided for a second survey party through a grant-in-aid from the Dominion Experimental Farms, Ottawa. By the fall of 1930, some one and a quarter million acres or 54 townships had been mapped by reconnaissance survey in the Central Lowlands area of the Lake Agassiz basin. Unfortunately this initial co-operation with the Dominion Experimental Farms was discontinued after two years due to financial difficulties which caused national retrenchment in 1932. Nevertheless, the study of Manitoba soils was continued by the Soils Division insofar as reduced staff and finances permitted.

In 1933 a small grant was solicited and obtained from the Provincial Ministry of Agriculture to carry out an investigation of the soil and drought conditions in southwestern Manitoba. A report of this investigation was submitted to the Ministry of Agriculture which led to the appointment, by the Minister, of a Special Committee to outline an agricultural program for this area in the light of the findings of the soil and drought survey. From this time forward the Provincial Department of Agriculture supported and supplied funds, annually, for soil survey and soil investigations as a continuing activity of the Manitoba Department of Agriculture.

The climatic drought of the 1930's, which extended over the grassland region of western Canada, finally reached the proportions of a national calamity and caused the Federal Government to extend co-operation. The Federal "Prairie Farm Rehabilitation Act" (P.F.R.A.) was passed in 1935, under which funds were provided to aid the western provinces in the rehabilitation of farms in the designated "drought area". The P.F.R.A. Advisory Committee under Dr. E.S. Archibald immediately recognized that a knowledge of the soils, in the area involved, was essential to any logical planning of reclamation projects, and P.F.R.A. funds were approved to re-establish and enlarge the federal assistance formerly given to the Manitoba and Saskatchewan soil surveys, but now extended to all of the designated drought area to which the P.F.R.A. applied in Manitoba, Saskatchewan and Alberta.

The federal support of the soils survey activities in Manitoba through P.F.R.A. continued until the annual appropriation for this work was transferred to the Dominion Experimental Farms budget, with the result that the Manitoba Soil Survey was from thenceforth enlarged and continued as a co-operative project within and under the direction of the Soils Department (formerly Soils Division) of the University, but financed and supported by the Canada Department of Agriculture and the Manitoba Department of Agriculture.

In addition to the joint financing of field operations and laboratory work in connection with the soil survey by the two departments of

agriculture, the Province assumed the cost of printing the survey reports and the Dominion eventually assumed responsibility for the final cartography and printing of the accompanying colored maps. This co-operative enterprise, under the direction of the Soils Department in each of the three western provinces, was an outstanding example of the harmonious and efficient manner in which Federal, Provincial and University efforts could be co-ordinated and combined to achieve a common objective.

After the soil survey of the P.F.R.A. "drought area" in Manitoba was completed, the reconnaissance soil survey continued with the object of covering the remaining organized portion of the Province. The systematic work, however, was slowed down during the war years by loss of survey staff to the armed services. It also was interrupted, at various times, by urgent demands for information concerning the suitability of different virgin and unorganized areas for agricultural use or soldier settlement projects. For these projects, special surveys were required and given priority.

Summary reports with soil maps of such areas, on completion, were submitted to the Lands Branch and the Ministry of Agriculture. On the basis of these surveys the officials concerned were enabled more intelligently to recommend land settlement and land use programs suited to the various areas. In addition, detailed and special surveys were requested, and carried out, of all Dominion Experimental Farms and Illustration Stations in Manitoba. By 1955 the soils in the larger portion of the main agricultural area of the Province had been mapped by reconnaissance survey, and by the end of the 1925-1959 sub-period the soil surveys and investigations had extended well into the agricultural pioneer areas, so that over 21 million acres had been covered.

It is worthy of record that the soil survey, which commenced in difficult circumstances in the early years of the 1925-1959 sub-period, contributed in large measure to agricultural progress in the ensuing years. These investigations supplied basic information needed by Provincial and Federal Departments of Agriculture and Lands Branch administrators, and provided information in respect of soils and their land use capabilities required by municipal officials, agricultural representatives, extension workers, farm operators, land inspectors and assessors, agricultural business organizations, construction engineers, and workers in natural resource industries and in various scientific disciplines such as agronomy, forestry, botany and wildlife biology, etc.

Not the least of the benefits to agriculture in Manitoba were the contributions made by men who, through working with the soil survey, developed inspiration from their work, acquired concepts, and gained experience and knowledge of Manitoba soils which they carried, in later years, into other branches of service in the Ministry of Agriculture.

(c) Combating the "Decade of Drought"

The "decade of drought" which extended from 1929 to 1938-39 was the most tragic series of years with which the Ministry of Agriculture, and the farmers in the grassland region of the southern Manitoba Uplands in

particular, had to contend. As previously noted,* the closing years of the preceding sub-period (i.e. 1916 to 1924) had been difficult years by reason of the severe wheat-rust epidemic of 1916, and of varying degrees of crop injury in the immediately succeeding years due to grain-rust, soil drifting, grasshopper infestation, and saw-fly damage. These natural problems were aggravated by post War I economic problems, with the result that, by the beginning of the 1925-1959 sub-period, farmers in the grassland region, by and large, had not been able to build up the reserves which would have been necessary for them to combat successfully the disastrous effects of the unexpected decade of drought which commenced in Manitoba in 1929.

To emphasize the catastrophic effect of the drought years which extended with more or less severity over the farm lands in the grassland region, reference may be made to records of precipitation and crop yields in Manitoba Crop Reporting District No. 1 (Melita). The precipitation for the previous fall months, August to October, plus that of the grain-growing season, April to July, for the 41 years prior to 1929, expressed as the mean of all records available at seven meteorological stations - Waskada, Deloraine, Pipestone, Pierson, Hartney, Souris and Melita - was 13.56 inches. However, for seven of the 10 years commencing 1929 the mean precipitation for the same months at the several stations in the same area was 9.47 inches, or 4.09 inches below the previous long-time average.

The mean yield of wheat in Crop Reporting District No. 1 for the 44 years for which records are available prior to 1929 was 16.48 bushels per acre, whereas the mean yield of wheat for the ten years 1929 to 1938 for the same district was 8.04 bushels per acre. These figures, however, tell the story only in part. A more striking picture can be obtained from the graphs in Figure 4 which show the annual yields per acre of the four cereal crops and of flax, in Manitoba Crop Reporting District No. 1, for the years immediately preceding and the years following the decade of drought.

(i) Direct Relief

The results of this agricultural disaster, which extended over the prairie region of western Canada, with its catastrophic effects on farm families, on business and trade both in rural towns and urban centres, together with increasing unemployment in industry and the imperative need for relief, eventually compelled both provincial and federal governments to join forces to deal with the catastrophe and to undertake relief measures on a scale never before contemplated in this country.

In the meantime, at the beginning of the drought period the Provincial Ministry of Agriculture and the municipalities were first involved with measures that already had been provided for and practised as required at various times in respect of seed and feed relief, but as the years progressed and the situation continued to deteriorate, more drastic measures were required involving the Department of Public Works, the railway companies, and the Dominion Government in the problems of transporting livestock out

* Page 274.

CROP REPORTING DISTRICT NO 1 "MELITA"

Average yield of grain crops by years

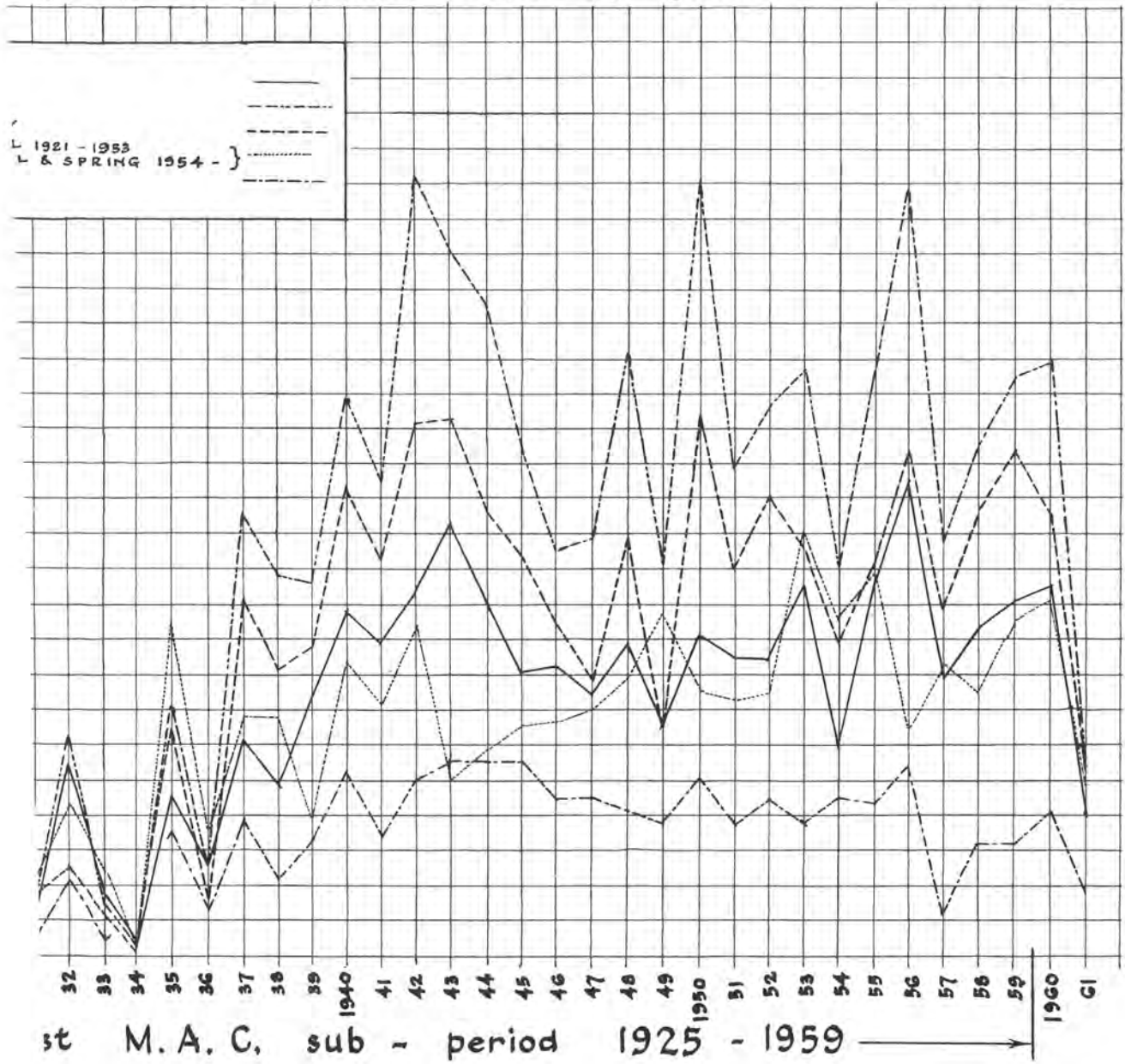


FIGURE 4

of the territory and of bringing in supplies of feed and relief. Moreover, personal and family relief in the form of domestic supplies (clothing, soap, etc.) and foodstuffs (flour, canned goods, vegetables, etc.) were contributed by churches and other organizations in the city and the less affected rural areas, which had to be shipped in carlots and distributed to residents in the affected territory.

It should be recorded, however, that as soon as conditions improved locally so their gardens were again productive, the farmers of southwestern Manitoba were the first to share their subsistence and to ship relief supplies to areas in Saskatchewan that continued to require relief to survive.

(ii) Soil Moisture Survey - 1933

In the fall of 1933 a general survey and a study of the moisture in the soils and subsoils of 36 townships in southwestern Manitoba was undertaken by the Soils Division. The object of this project was to ascertain the situation in respect of soil moisture conditions and crop prospects for 1934. The report* of this study submitted to the Ministry of Agriculture (vitaly concerned with seed distribution) contained among the recommendations the statement that "fields with dry subsoils (as outlined) cannot be expected to produce a crop next season unless timely rains, and moisture above that of the average, fall during the 1934 growing season. Any crop sown (in the areas outlined) should be sown on summerfallow. All other fields should be fallowed next season or used as pasture (corn and Russian Thistle)." It may be noted that, as shown in Figure 4, the crop yields in southwestern Manitoba, in 1934, turned out to be the lowest ever recorded.

(iii) An Agricultural Program for Southwestern Manitoba

Following the submission of this report, the Minister, the Hon. D.G. MacKenzie, called a conference to discuss the whole situation brought about by the continuing drought, and a committee "was appointed by the Minister to consider the whole issue and to prepare a report. This committee consisted of Professor T.J. Harrison, Assistant Commissioner, Board of Grain Commissioners (Chairman); Professor J.H. Ellis, Soils Division, University of Manitoba; Mr. Frank W. Reinoehl, Chief Farm Manager, Colonization Finance Corporation of Canada Limited; Professor G.W. Wood, Animal Husbandry Department, University of Manitoba; and Mr. George Batho, Manitoba Department of Agriculture (Secretary)."

In the winter of 1933-34 some members of this committee, together with members of the Extension Service, held meetings at Broomhill, Goodlands, Lauder, Lyleton, Melita, Napinka, Pierson, Tilston, and Waskada, where they presented the recommendations which formed the substance of the Committee's report to the Minister.**

Thus although the Provincial Ministry was first involved in relief and assistance measures in co-operation with the Federal Government and others,

* "Crop History and Crop Outlook in the Melita District" by J.H. Ellis and Wm. Shafer; 1933.

** "An Agricultural Programme for Southwestern Manitoba"; Report of a Special Committee appointed by, and which reported to, the Minister of Agriculture; submitted January 6th, 1934.

it also initiated an educational and rehabilitation program of remedial measures to be put into effect.

Although the decade of drought of the 1930's stands out as the most severe series of disastrous years experienced in southern Manitoba since the earliest days of settlement, there is no reason to assume that land operators in the plains region will not have to contend with a similar disaster in the future. Buried soils in the sand-dune landscape areas bear testimony to the fact that droughts, even more severe than the one under discussion, occurred long before settlement and before native vegetation was destroyed by arable culture.

Numerous observations of buried soils at different points lead to the conclusion that aperiodic droughts of varying severity and of varying duration are a natural hazard in the plains region. However, the intervals between excessive periods of drought appear to be long enough so that many persons think of severe drought periods only as events of past history; and others, whose experience is limited to agricultural land use under a few decades of relatively favorable climatic conditions in which drought may be only of seasonal occurrence, may acquire false concepts of the fundamentals involved in combating droughts which extend over long periods.

Consequently, at this point, it may be noted that the lessons learned from the decade of drought in the 1930's have been recorded in Chapter 6 of "The Soils of Manitoba", first issued as Manitoba Economic Survey Board Publication No. 14, 1938; and reprinted by the Department of Agriculture and Immigration in 1959.

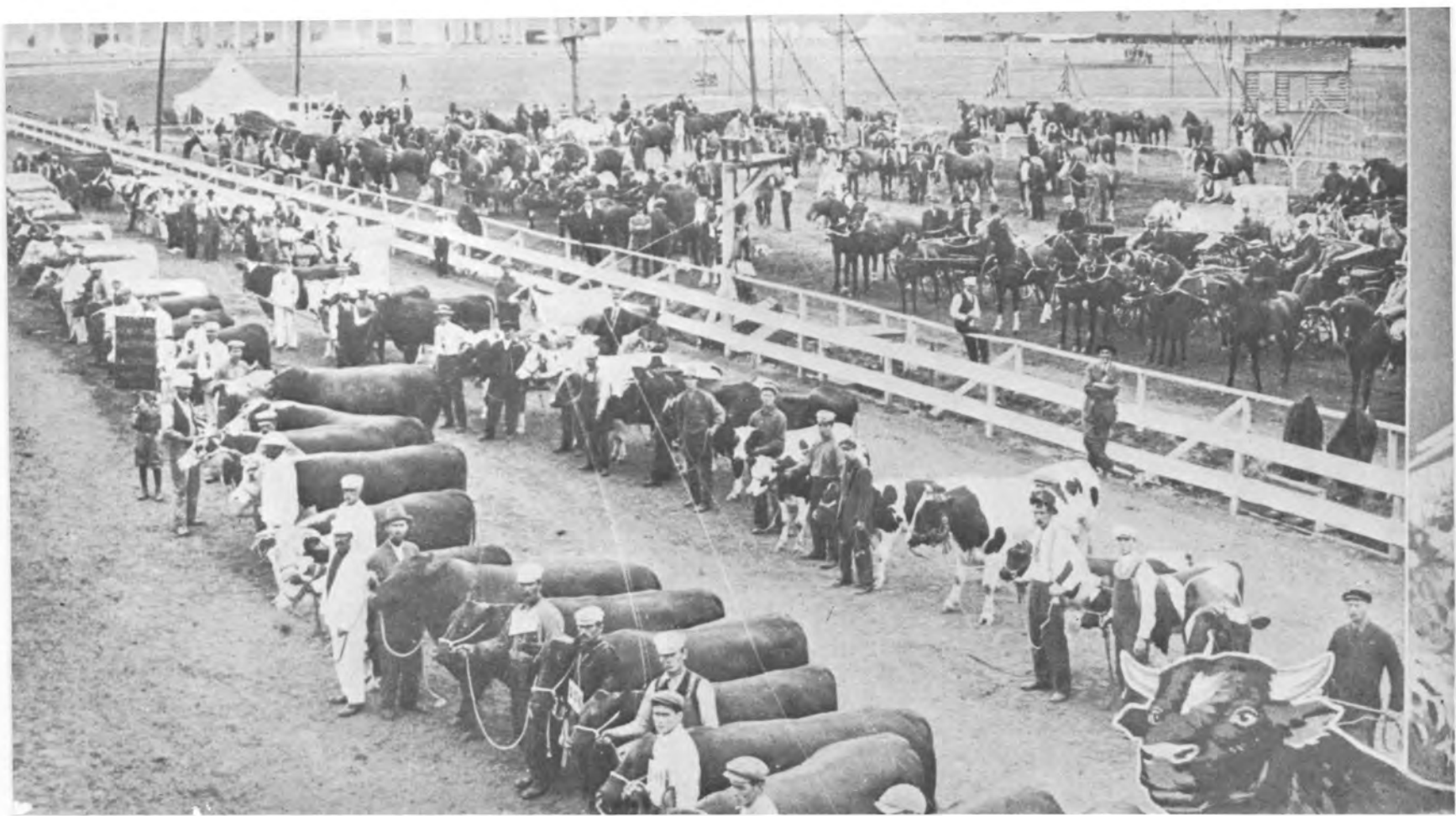
(iv) The Prairie Farm Rehabilitation Act

By the mid-1930's the extent of the drought in the grassland region of western Canada had become so much of a national disaster the Dominion Government introduced "An Act to provide for the rehabilitation of drought and soil-drifting areas in the Province of Manitoba, Saskatchewan and Alberta" (Bill 55, 25 Geo. V, 1935) which was passed by the House of Commons April 11th, 1935, and assented to April 17th, 1935.

This initial Prairie Farm Rehabilitation Act (P.F.R.A.) provided a sum of \$750,000 out of the Consolidated Revenue Fund of Canada for the year 1935-36, and for a further sum not exceeding one million dollars per annum for a further period of four years "to secure the rehabilitation of the drought and soil-drifting areas in the Provinces of Manitoba, Saskatchewan and Alberta. . . and to develop and promote within those areas systems of farm practice, tree culture and water supply that will afford greater economic security."

To this end the Governor-in-Council was authorized, under the Act, to establish a "Prairie Farm Rehabilitation Advisory Committee" consisting of 14 members to hold office during pleasure, i.e.:

- One representative each of the Grain-Growing Farmers in the drought and soil-drifting areas from (a) Manitoba, (b) Saskatchewan, and (c) Alberta;
- One representative each of (d) the Saskatchewan Livestock Farmers, and of (e) the Alberta Range Farmers from the drought areas;



34. Livestock Parade at Winnipeg Industrial Exhibition - 1913



Twenty-four Prize-Winning Calves, Boys' Fat Calf Competition at Manitoba Winter Fair, March, 1919.

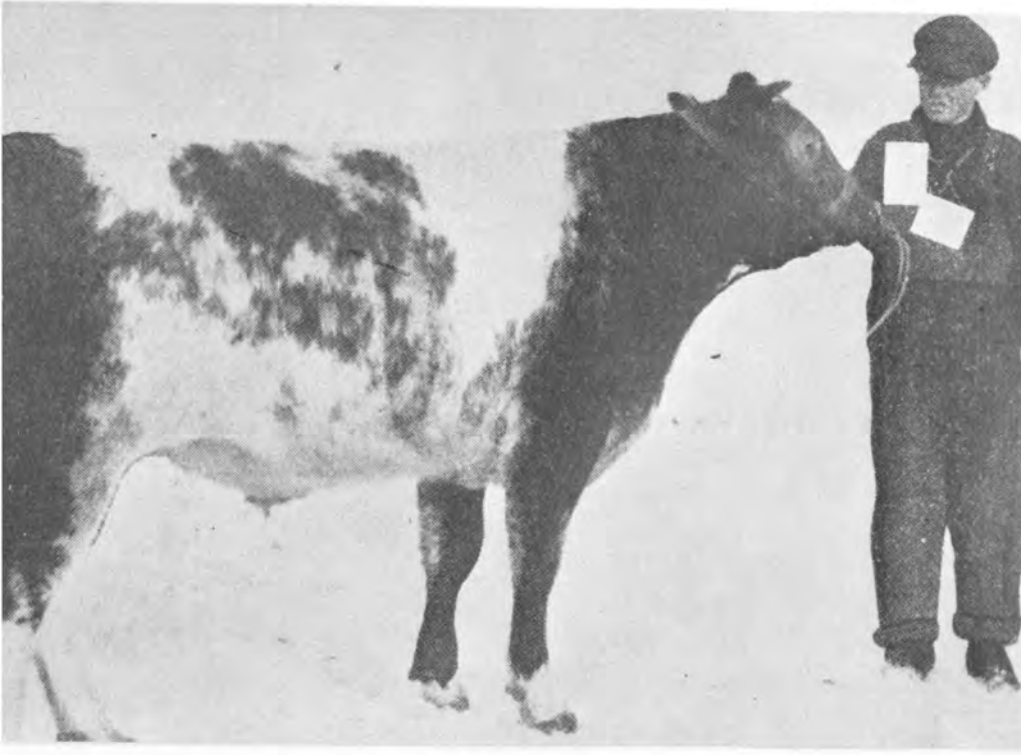


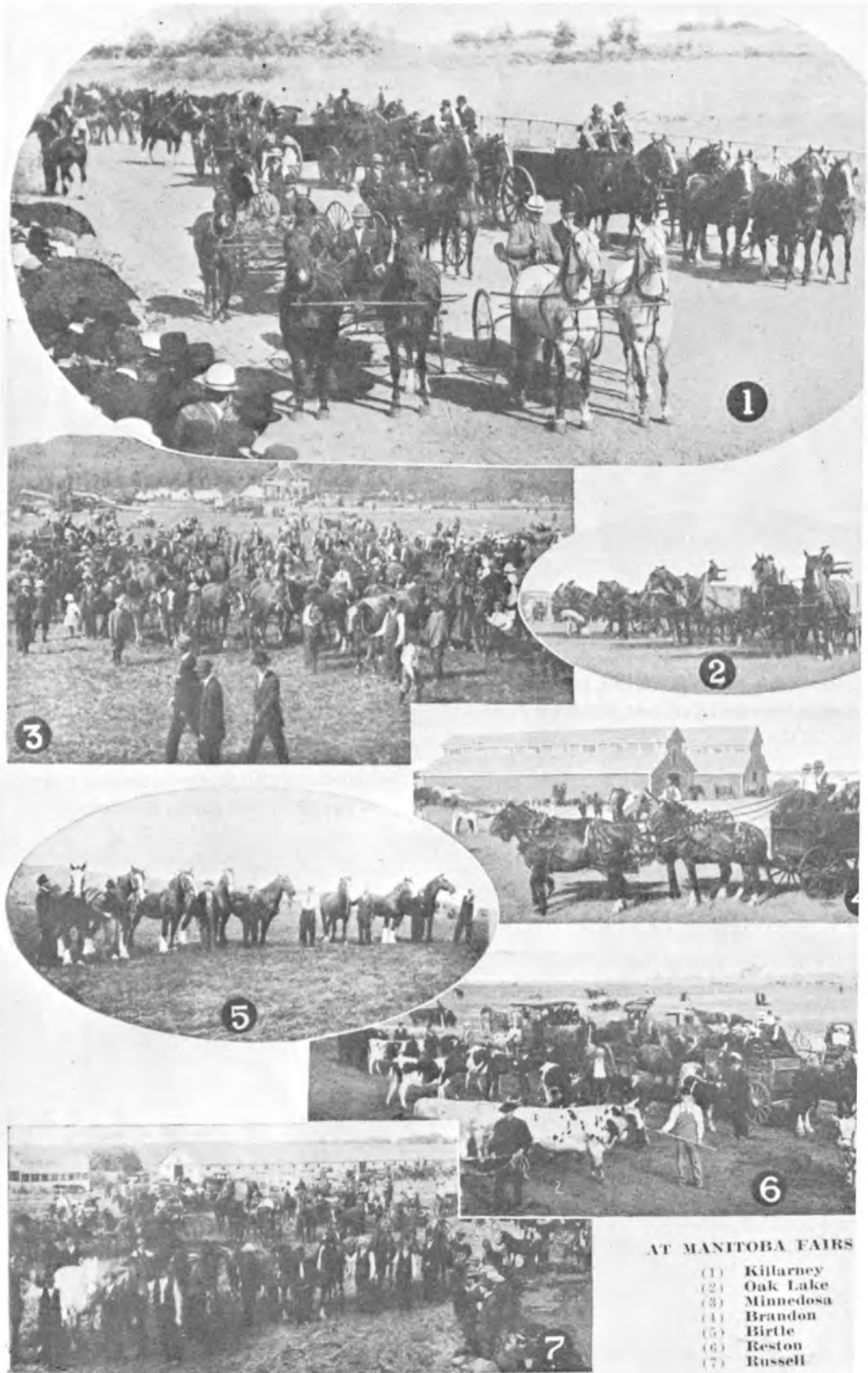
35. Boys' Fat Calf Competition - Winter Fair, Brandon, 1919



36. Holtby J. Moffatt, Carroll, Manitoba.
Grade Hereford Calf that won First Prize
at the 1916 Calf Show, Brandon

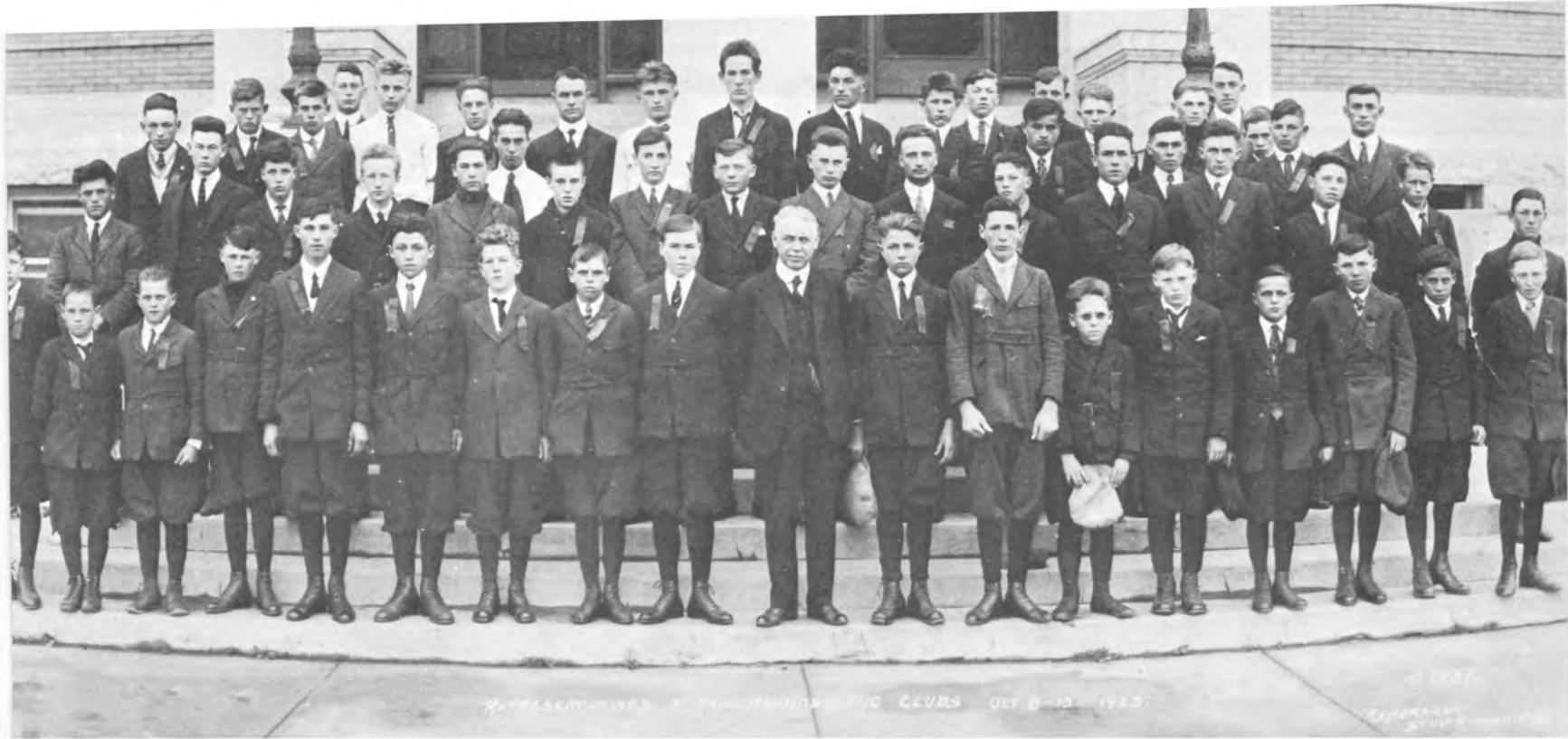
37. George English, Harding, Manitoba.
Grade Shorthorn Calf that won Second Prize
at the 1916 Calf Show, Brandon





AT MANITOBA FAIRS
 (1) Killarney
 (2) Oak Lake
 (3) Minnedosa
 (4) Brandon
 (5) Birtle
 (6) Reston
 (7) Russell

38. Local agricultural fairs at a number of Manitoba points



39. Representatives of the Manitoba Pig Clubs at Manitoba Agricultural College - 1923



40. Personnel attending Manitoba Farm Boys' Camp conducted by Extension Service Branch at Provincial Exhibition - Brandon, 1935



41. Dairy herd and buildings on Farm of W.J. Cummings - 1916



42. Flock of 2500 sheep near Gladstone, Manitoba - 1913

43. Provincial Demonstration Farm Established 1917 - Birtle, Manitoba



One representative of (f) the Mortgage Companies of Canada;
One representative of (g) the Canadian Bankers Association;
One representative each from (h) the Canadian Pacific Railway Company and the Canadian National Railways;
Two representatives from (i) the Dominion Department of Agriculture; and
One representative of (j) the Government in each of the Provinces of Manitoba, Saskatchewan and Alberta.

Dr. E. S. Archibald, Director of Dominion Experimental Farms, Ottawa, one of the members of the Committee, was appointed Chairman by the Governor-in-Council.

The duties of the Committee, as outlined, were "to consider and advise the Minister as to the best methods to be adopted in respect of carrying out the purposes of the Act."

The services of committee members were voluntary. They received no payment or emolument for their services, but were reimbursed for expenses incurred in connection with the work of the Committee.

In 1937 the Prairie Farm Rehabilitation Act was amended to provide for one or more additional advisory committees such as the "Soil Drifting Advisory Committee"; and the "Water Development Committee", which in effect acted as a western interprovincial water board until such was eventually created.

It is of historic significance that the initial Prairie Farm Rehabilitation Act (1935) was a brief but flexible statute designed to authorize a five-year program of federal aid in connection with the rehabilitation of agriculture in the areas of western Canada devastated by abnormal and long continued drought. As outlined to the Advisory Committee by the Dominion Minister of Agriculture (Hon. Robert Weir), federal participation was undertaken to meet a national emergency, during which the Dominion would work jointly with the three provinces for the term stated, subsequent to which the provinces would again take over and finance those activities recognized as under provincial jurisdiction and administration.

However, the Act was amended in 1937 to include "Land Utilization and Settlement"; in 1939 the Act, with increased financial support, was extended indefinitely; and in 1961 the P.F.R.A. program was extended, in respect of area involved, to include all agricultural areas of the "Prairie Provinces".

On the understanding of the 1935 proposal, various activities were recommended by the Advisory Board pursuant to the purposes of the Act. Some of these activities were operated as federal projects and some were joint federal-provincial programs. As the work took form, these various projects and programs were grouped into three categories: (a) Cultural Activities; (b) Land Utilization; and (c) Water Development.

These projects, in total, were designed to meet the different rehabilitation needs of the various areas throughout western Canada,

including irrigation and ranching areas, but only those which were of effect in Manitoba in respect of the drought of the 1930's are considered in this treatise. The story of P.F.R.A. activities as a whole is on record in a number of publications* and in annual reports issued by the Canada Department of Agriculture.

Cultural Activities - The objective under this category was stated as "to secure the adoption by farmers of tillage and cropping practices that would enable them to farm successfully under a wide and fluctuating range of physical and economic conditions."

Because these objectives were in line with the work carried on, at, and by, the Dominion Experimental Farms, the P.F.R.A. cultural program was assigned to and carried out with P.F.R.A. funds as an enlarged activity of the Experimental Farm Service.

In southern Manitoba two aspects of the P.F.R.A. cultural activities were placed under the direction of the Superintendent (M.J. Tinline) of the Brandon Experimental Farm, namely, "land reclamation" and "demonstrations of soil-drifting control".

Land Reclamation - A Land Reclamation Station, located three miles north of Melita, comprising two sections of Souris sandy loam, was rented and used both for demonstrational and experimental purposes. One of the half-sections was so badly pitted and made hummocky by wind erosion that it had become more or less abandoned. This was levelled and seeded to alfalfa and grass; other half-sections were operated under different widths of strip cropping, one-quarter section of which, in 1936, was surrounded by a four-row belt of trees and subdivided by three single-row cross hedges; and one quarter-section was occupied by an experimental area on which crop adaptation, fertilizer trials and soil moisture studies were conducted on replicated plots by H.A. Craig (and later by Dick Dryden). This station served its purpose as a valuable demonstration to farmers in the surrounding district; and, in addition, the discovery that alfalfa would thrive on the soils of the Souris and Bede associations, even in dry seasons by reason of the ground water present, led to the establishment of alfalfa demonstration plots on a number of farms throughout southwestern Manitoba.

As climatic conditions improved and the reclamation work achieved the desired results, this reclamation station was continued for a time as an Illustration Substation along with District Experimental Substations, but, having served its purpose, was finally discontinued.

Soil Drifting Control Demonstrations - In addition to the Melita Reclamation Station, six so-called District Experimental Substations were established at this time which served more or less as Illustration Substations

* (1) "Prairie Farm Rehabilitation"; C.S.T.A. Review, December, 1939; Can. Soc. Tech. Agric., Ottawa.
(2) "A Record of Achievement"; Canada Department of Agriculture, Ottawa; 1943.
(3) "P.F.R.A. - The Story of Conservation on the Prairies"; Canada Department of Agriculture Publication 1138, Ottawa; 1961.

in the southwestern portion of the Province. These were located at Lyleton, Goodlands, Boissevain, Crystal City, Pipestone and Hargrave. These stations were farms under contract to be operated by the owners under the direction of the Brandon Experimental Farm. The chief activities carried on in this connection were strip-cropping, the use of trash cover, and other soil drifting control demonstrations. Later, when conditions improved, these farms were continued as a P.F.R.A. project for a few years only and were either discontinued or operated under agreement with the owners, along with others in the Province, as Illustration Substations of the Dominion Experimental Farms Service.

Field Shelterbelt Associations - An additional cultural activity carried out as a P.F.R.A. project involved the extensive planting of tree hedges around farm fields. This project was assigned to the Dominion Forest Nursery at Indian Head, Saskatchewan (at that time under the supervision of Norman Ross).

This project consisted of organizing farmers, in compact groups, to plant trees around farm fields as a crop protection and soil drifting control measure. Tree seedlings were supplied and planted under the supervision of the Dominion Forest Nursery, and the farmer members were paid a small sum to cultivate and maintain the plantings for a five-year period.

Four of these associations, in all, were organized in western Canada under P.F.R.A., located respectively at Lyleton, Manitoba; at Conquest and at Aneroid in Saskatchewan; and at Porter Lake in Alberta. Initially, plantings of caragana were attempted, but greater height was required, hence, box-elder, elm, ash, willow and Asiatic elm were the standard species used along with caragana.

In Manitoba, a majority of the farmers in a block of approximately one and a half townships were organized as the Lyleton Field Shelterbelt Association. The first plantings were made in 1937, and during the first five years of this program some 250 miles of tree hedges were planted around the farm fields of this area. This project has since developed into an outstanding example of the value of tree shelterbelts in combating wind erosion and in favoring snow retention on sandy-textured soils with moist substrate.

Land Utilization - The land utilization projects under P.F.R.A. arose out of the need to deal effectively with certain problems more or less peculiar to the plains region of Saskatchewan. They involved:

- removal of settlers from lands submarginal for, or unsuited to, arable culture;

- resettlement (in co-operation with provincial lands administration) of displaced settlers in approved locations where they could become self-supporting;

- regrassing of reclaimed and abandoned areas; and

- establishment of community pastures or district grazing associations on land submarginal for arable culture, but useful in connection with the rehabilitation of farm operators on neighboring arable farms.

Although parts of southern Manitoba were severely handicapped by the drought (so much so that some farmers moved temporarily from their

farms), there were no extensive areas in the Province where wholesale removal and resettlement was justified. Thus, up to 1939, P.F.R.A. pastures had been organized only in Saskatchewan where 41 community pastures, on 820,000 acres, were under development. Nevertheless, in 1939, a grassland area on the gravelly outwash plain in the Ellice-Archie municipalities, which was in partial use as pasture land by local stockmen, was under consideration as an organized pasture.

Moreover, because of the need for a site which could be used for unloading, watering, feeding, and resting the large numbers of cattle that were shipped to eastern markets through lack of feed and water on the ranches and farms of the west, the Manitoba Department of Mines and Natural Resources set aside an extensive area in the Spruce Woods Forest Reserve for this purpose.

This area, which was fenced for grazing and equipped with watering facilities, corrals and loading chutes by P.F.R.A., was located immediately south of and contiguous to Brandon Junction on the C.N.R., four miles south of Carberry, with easy access by short connecting track with Carberry on the C.P.R. This assembling area was sometimes referred to by P.F.R.A. officials as the Carberry Pasture, but it was in an area unsuited for continuous grazing and was used only during the drought period as a resting and recuperation site in connection with the enforced liquidation of western cattle.

By 1942, the Ellice Pasture No. 1 (which was operated in conjunction with Spy Hill, Saskatchewan), and the Archie Pasture No. 2, were organized and in operation as P.F.R.A. community pastures. In addition, a small area of 3,280 acres of "submarginal" land in the Municipality of Wallace was seeded down and turned over to the local council to be operated as a municipal pasture. Subsequently, officials of the P.F.R.A. Community Pasture Division, with headquarters in Regina, held meetings at a number of Manitoba points to expound the virtues of community pasture associations, thereby creating local demand for this form of land utilization as a government service.

The extension of this program in Manitoba was adopted and developed in subsequent years, not for the combating of drought, but as a program for improved utilization of Crown lands and lands submarginal for arable culture, or for enlarging the activities of farmers requiring the use of additional land to ensure more efficient and economic use of their respective farm units. Hence, the subsequent development of community pastures in Manitoba, although of importance from a land use standpoint, has no further part at this point in a discussion of programs pertaining to the combating of "the drought".

Water Development - The wholesale liquidation of livestock that was inevitable in the mid-1930's through lack of water and feed, and the widespread dearth of domestic and stock water supply, focused attention on the fact that water conservation was of the highest priority, and that water conservation on the prairies was largely a question of storage and effective use of precipitation. Consequently, the development of farm and community water supply involving dugouts, dam construction, neighborhood and

irrigation projects (in co-operation with provincial authorities and in line with regulations under the respective provincial water control Acts) was adopted as a major P.F.R.A. activity.

During the first year (1935), during which P.F.R.A. work was in process of organization, water development (as well as the cultural phases of P.F.R.A.) was administered by the Dominion Experimental Farms Service, Ottawa, but in the following year administrative quarters were established in Regina, which became the headquarters for P.F.R.A. water development and land utilization activities under the Directorship of George Spence, to whom tribute should be paid for devoted service.

In Manitoba, the water development and conservation work was carried on, initially, through the Provincial Department of Natural Resources under C.H. Attwood, Director of Water Power and Water Rights; assisted by B.B. Hogarth, Provincial Hydraulic Engineer; and H.H. McIntyre, Agriculturist, P.F.R.A., who was seconded to C.H. Attwood for service in connection with the construction of farm dugouts and small water-storage projects.

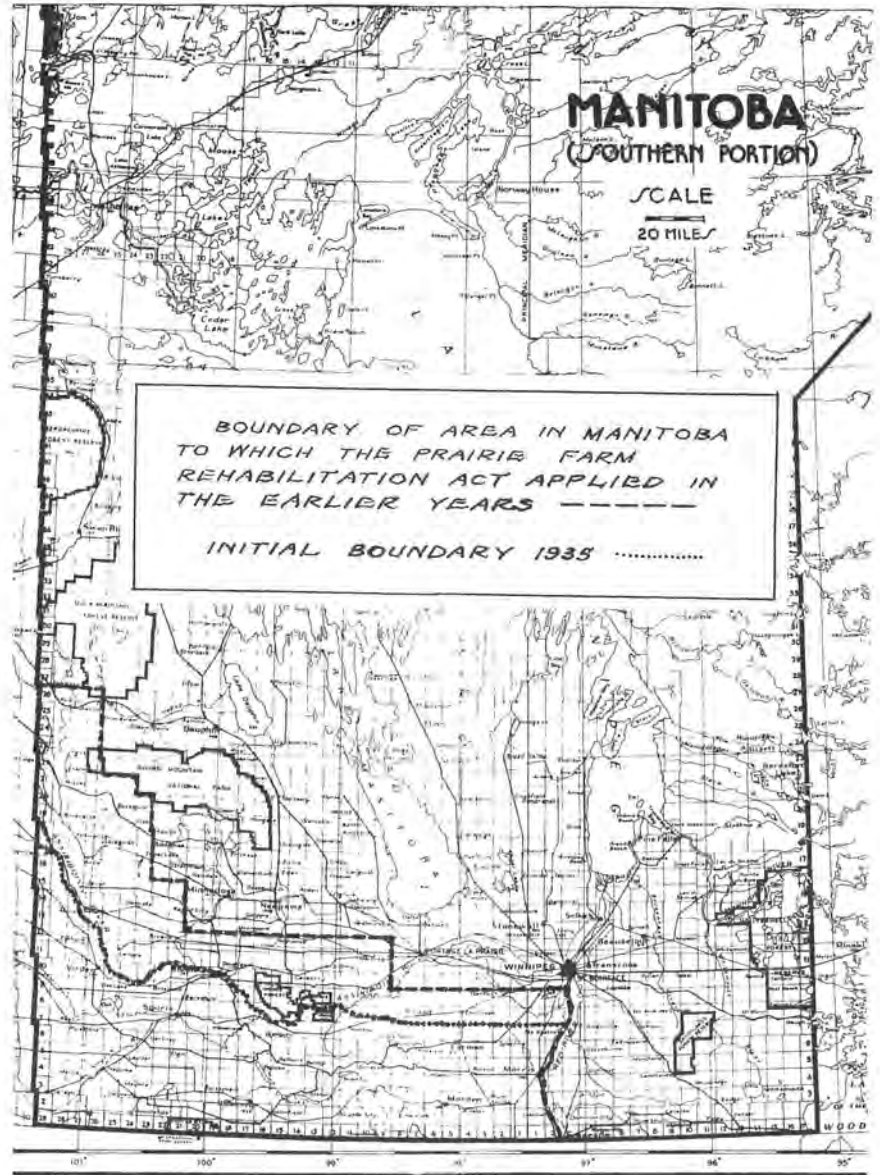
The P.F.R.A. water development projects were grouped into "large water development" and "small water development" projects.

The "large water development" projects were government undertakings that were financed under joint agreement between Canada and the provincial government concerned. In general, they involved hydrological engineering works primarily installed to provide water storage for large irrigation schemes or for rehabilitation of existing projects in which Manitoba was not administratively implicated. Nevertheless, with the passage of time, the P.F.R.A. engineering service was involved in surveys for water control and hydrological construction works in Manitoba in connection with federal responsibilities in the case of navigable waters under Dominion jurisdiction. Hence the close liaison which was initiated between the Provincial Water Control Branch and the P.F.R.A. Engineering Service in the drought years was continued in later years whenever other joint Canada-Manitoba hydrological projects were involved. In this connection tribute should be paid to the harmonious co-operation that developed between H.G. Riesen who was appointed P.F.R.A. Regional Engineer with headquarters in Winnipeg, C.H. Attwood, and Don Stephens who succeeded C.H. Attwood as Manitoba Deputy Minister of Mines and Natural Resources.

The "small water development" activities initiated under P.F.R.A. in 1935 involved farm dugouts or ponds and individual stock-watering dams for the storage of water for domestic and livestock use; small water storage works for small irrigation schemes to ensure feed supplies; and water storage projects for neighbor or community use.

These types of projects were designed on the self-help plan. Local beneficiaries had to construct or be responsible for constructing the required water storage works, and when the works were approved payment was made from funds provided through P.F.R.A. on the basis of $4\frac{1}{2}$ (initially 3) cents per cubic yard of earth moved up to a maximum of \$75.00 (initially \$50.00) per dugout, or up to \$350.00 (initially \$150.00) for a stock-watering dam, inclusive of 25 cents per cubic yard for rock work where works were authorized and passed inspection when completed.

MAP VI



Apart from the benefits derived from individual farm dugouts, etc., reference should be made to a noteworthy contribution to rehabilitation in southwestern Manitoba in respect of the overall control established in the Manitoba section of the Souris River Watershed. Between 1935 and 1942, control dams were constructed on the Souris River at Melita, Napinka, Hartney, Souris and Wawanesa; and on its tributaries such as Gainsborough Creek, Antler Creek and Graham Creek, etc. The benefits of this contribution continue as a regional asset.

However, the problem of domestic and stock water supply was not confined to the region affected by the atmospheric drought of the 1930's, so that small water development projects were installed in and to northward and eastward of southwestern Manitoba to the boundary established by the Federal Government within the limits of which the P.F.R.A. was to apply. (Map VI)

The extent to which P.F.R.A. water development activities were extended during the Post M.A.C. Sub-Period is indicated in Tables 32, 33 and 34.

TABLE 32. WATER DEVELOPMENT PROJECTS INSTALLED IN MANITOBA UNDER P.F.R.A. FROM INCEPTION, 1935 TO END OF POST M.A.C. SUB-PERIOD, 1959

Type of Project	No. of Dugouts	No. of Dams	No. of Irrigation Projects
Individual	11,984	322	177
Neighbor	59	15	8
Community	6	23	2
Large	—	18	6
Total	12,049	378	193

Tables 32, 33 and 34 indicate the extent to which federal assistance (initially extended through P.F.R.A. in 1935 as an emergency measure for the combating of local drought in a time of financial difficulty) was expanded, as a result of need, and over a 25-year period, to an enlarged program of water conservation, water control in land reclamation, and improved water supply of continuing benefit to large areas throughout the agricultural portion of the Province.

The contribution thus made to Manitoba through the federal P.F.R.A. programs over the 25 years, 1935 to 1959, cost the Canada Department of Agriculture* some 3.2 million dollars for farm dugouts, dams, etc.; 2.8 million dollars for community water development projects; and 4.2 million dollars for major water development projects; or a total of 10.2 million

* Annual Report on P.F.R.A. activities - Canada Department of Agriculture, P.F.R.A. Branch, Regina; 1959-60.

TABLE 33. COMMUNITY WATER STORAGE AND IRRIGATION PROJECTS INSTALLED IN MANITOBA FROM INCEPTION, 1935 TO END OF POST M.A.C. SUB-PERIOD, 1959

Name of Project	Location	Type of Project	Date Completed	Irrigated Acres	Storage Capacity in Acre Feet
Alexander Soil Conservation	Alexander	Soil Conservation	1944	—	—
Birtle Dam	Birtle	Stockwatering Dam	1947	—	—
Boissevain	Boissevain	Storage Dam	1954	—	580
Brandon Flood Irrigation	Brandon	Flood Irrigation	1949	1,000	—
Brandon Water Supply	Brandon	Storage Dam	1940	—	500
Clearwater Storage	Clearwater	Stockwatering Dam	1938	—	12
Crystal City Storage	Crystal City	Stockwatering Dam	1935	—	3
Dead Lake Community	Gladstone	Irrigation	1950	20	90
Edwards, R.M. of	Melita	Stockwatering Dam	1935	—	100
Hague Dam	Sanford	Stockwatering Dam	1953	—	—
Hampson Dam	Sanford	Storage Dam	1954	—	420
Hartney	Hartney	Irrigation	1941	—	—
Killarney	Killarney	Multi-purpose Dam	1956	—	800
La Salle River Dams	La Salle	Stockwatering Dam	1941	—	900
Lewko Dam	Sanford	Storage Dam	1954	—	320
Little Souris River Dam	Melita	Stockwatering Dam	1945	—	250
Mary Jane Storage Project	Manitou	Multi-purpose Dam	1959	—	1,150
McAuley Community Dam	McAuley	Stockwatering Dam	1955	—	20
Melita	Melita	Irrigation	1941	3,900	3,200
Minnedosa Dam	Minnedosa	Storage Dam	1950	20	1,500
Morden Dam (Dead Horse Creek)	Morden	Irrigation	1941	100	1,200
Morris River-Rock Lake	Carmen	Stockwatering Dam	1940	—	10,000
Napinka	Napinka	Irrigation	1941	—	—
Neepawa Storage Project	Neepawa	Multi-purpose Dam	Incomplete	—	3,800
Oak Lake	Oak Lake	Irrigation	1956	13,000	—
Park Lake	Neepawa	Stockwatering	1953	—	—
Plum Coulee	Plum Coulee	Multi-purpose Res.	1957	—	12
Rivers Dam	Rivers	Multi-purpose Res.	Incomplete	—	—
Roland	Roland	Stockwatering Dugout	1957	—	1.5
Rosebank Dam	Rosebank	Stockwatering	1948	—	32
Roseau River Dam	Dominion City	Multi-purpose Dam	1957	—	—
Shoal Lake Project	Shoal Lake	Stockwatering	1948	—	3,500
Souris Dam	Souris	Multi-purpose Dam	1952	—	150
Souris, Town of	Souris	Stockwatering Dam	1935	—	150
St. Malo Dam	St. Malo	Multi-purpose Dam	1958	—	1,770
St. Lazare Storage Reservoir	Lazare	Stockwatering	1948	—	5
Turtle Mountain Reservoir	Boissevain	Multi-purpose Res.	1956	70	600
Wawanesa	Wawanesa	Irrigation	1941	—	—
Westbourne, R.M. of	Gladstone	Stockwatering	1947	—	—
Whitemud River	Woodside	Stockwatering	1949	—	160
Whitemud River Storage	Gladstone	Stockwatering Dam	1943	—	660

TABLE 34. MAJOR WATER CONTROL AND RECLAMATION
PROJECTS INSTALLED IN MANITOBA BY
SPECIAL VOTES OF PARLIAMENT, ADMINISTERED BY P.F.R.A.
FROM 1935 TO THE END OF POST M.A.C. SUB-PERIOD, 1959

Name of Project	Location	Type of Project	Reclaimed Acres
Assiniboine River Diking and Cut Off	Brandon	River Control	—
North-West Escarpment Reclamation Project - Riding Mountain Area	Dauphin	Watershed Control	—
Saskatchewan River Reclamation - Pasquia Area	The Pas	Reclamation	135,000

dollars for water conservation and development. A further sum of .5 million dollars was spent under P.F.R.A. for the development of community pastures in Manitoba over the same 25-year period, so that the assistance received by the Province for water development and community pasture development during the Post M.A.C. Sub-Period, expressed in terms of financial cost to the Federal Department of Agriculture, was 10.7 million dollars. However, the benefits to Manitoba and to agriculture in this Province, first extended during a period of financial stress and imperative need, cannot be expressed adequately in monetary terms as they were of far greater significance than the implied average expenditure of \$428,000 per year.

(d) The Land Rehabilitation Act

In 1939 a further endeavor to aid in combating drought and to induce public action in respect of soil drifting was undertaken by the Manitoba Minister of Agriculture through the introduction of Bill 126, "An Act to provide for the Rehabilitation of Drought and Soil Drifting Areas in the Province". This Act was passed by the Legislature on April 15th and assented to April 17th of the same year.

This Act was designed to implement the provisions of "The Prairie Farm Rehabilitation Act" (Canada); to authorize the Lieutenant-Governor-in-Council to co-operate with Dominion and municipal governments for the purposes of rehabilitation of drought and soil drifting areas; and to give municipalities power to pass by-laws to control tillage practices which are liable to cause soil erosion.

Although this Act facilitated the co-ordination of rehabilitation projects between the provincial and federal governments, and between each of the two senior governments and the municipalities, the power of the municipalities to pass by-laws to control tillage practices was, at first, more or less ineffective because public interest was not yet educated to the point of supporting Section 6(4) of the Act. This section provided that "no by-law

(in respect of tillage control) shall have effect until it is approved by the Minister and submitted to a vote of the ratepayers of the municipality and approved by three-fifths of those voting thereon."

However, after a few minor amendments, the Land Rehabilitation Act was rewritten as Chapter 134, R.S.M. 1954, and designated as "An Act to provide for the Rehabilitation or Development of Agricultural Areas". Although Section 6(4) of the initial Act was retained as Section 8(4), Part II, the rewritten sections of Part I included Section 7(2) which provided that the Government of Manitoba may:

"(d) require the owner or occupant of any land to adopt such methods or practices of farming or grazing as the Minister may deem necessary to prevent any hazard that might dissipate, nullify, damage or reduce the benefit of assistance rendered to farmers through works established and constructed by or with the aid of the Crown."

This revised Act also added water control to the list of farm practices to which this Act applies.

(e) Rural Rehabilitation Commission

Early in the depressional period, the two senior governments found it necessary to pass legislation providing funds for relieving distress and providing employment. A provincial statute, i.e. "An Act respecting Unemployment Relief" (22 Geo. V, 1932) authorized the Lieutenant-Governor-in-Council to make any further or other agreement with the Government of Canada, whether in pursuance of "The Unemployment and Farm Relief Act, 1931" or not.

In this connection, an endeavor of particular agricultural interest was an attempt on the part of the governments concerned to aid unemployed families on relief through the inauguration of a "Back to the Land" movement designated as the "Rural Rehabilitation Plan".

By Order-in-Council 552/32 passed on May 5th, 1932, the Lieutenant-Governor-in-Council, with the concurrence of the Government of Canada, appointed a Rural Rehabilitation Commission "to assist the establishment in rural life of certain persons in receipt of unemployment relief".

A further Order-in-Council 728/32, June 13th of the same year, authorized the Minister of Public Works to execute on behalf of the Province an agreement with the Government of Canada embodying the terms which the Government of Canada, the Government of Manitoba, and the municipalities concerned should contribute funds to enable the Commission to carry out the purposes for which it was established.

Under this agreement the Dominion Government agreed to contribute one-third of an amount not to exceed \$600.00 per family for the purpose of providing a measure of self-sustaining relief (to families who would otherwise be in receipt of direct relief) by placing such families on the land; the remaining two-thirds of the expenditures to be contributed by the Province and the municipality concerned. In the case where no organized municipality was concerned, the costs were to be shared on a joint and equal basis by the Dominion and the Provincial Governments. It was also agreed that the

Dominion share of the costs were to be a non-recoverable expenditure, and no part of the Dominion share of expenditures was to be used for land purchase or rent.

Furthermore, of the Dominion share, up to \$500.00 could be granted in the first year and \$100.00 retained for subsistence, if necessary, in the second year. The Province was to be responsible for administration of relief; for location and inspection of suitable farms; for selection of suitable families; and for the administrative costs of supervision.

It was also stipulated by the Dominion Government that the Advisory Committee set up by the Province should include one representative from the Dominion Land Settlement Branch, and one representative each from the Colonization Branch of the Canadian Pacific and of the Canadian Northern Railways; that the Dominion contribution should not exceed \$171,420.00 under the Relief Act of 1932; and that the agreement would continue until March 31st, 1934.

This agreement was extended in 1934 and amended and extended in 1936 to 1940. In the latter year the Dominion Government continued the Rural Rehabilitation Plan under an amended "Unemployment and Agricultural Assistance Act, 1940", and under an amended agreement with Manitoba as set forth in Manitoba Order-in-Council 580/40.

Under the new agreement the Dominion agreed to provide one-third of the expenditures incurred by the Province and by a municipality up to \$1,000.00 per family for not more than 100 families in the year ending March 31st, 1941, and for a maximum number of families to be determined by later agreement for the year 1941-42. Of the \$1,000.00 per family granted by the Dominion, \$180.00 was to be retained for subsistence, if required, in subsequent years, and \$820.00 per family could be expended in the first year of settlement for all purposes, inclusive of cost of buildings, improvements, establishment and subsistence.

Although the administration of relief was made the responsibility of the Departments of Public Works and of Health and Welfare, officials of the Ministry of Agriculture were involved to the extent of giving service to the Rural Rehabilitation Commission in locating farms for settlement and in purchasing or inspecting livestock, poultry, equipment, etc., for the settlers.

When the Rural Rehabilitation Commission was set up on May 1st, 1932, N.C. MacKay, Director of Extension Service, was appointed by the Government as supervisor but, as the organization work of the Commission was largely completed by midsummer and the pressure of Extension Service work made it undesirable for him to continue in the dual capacity, his official connection with the Commission was severed on October 20th. Nevertheless, staff members in the Extension office continued to render service to the Commission.

In this connection the agricultural representatives in various districts also were of much assistance to the Commission in placing families on farms in their territory. Families, ranging in number from one to twenty-eight, were placed in five of these territories. Farm livestock was located and inspected, and assistance was given to the settlers on livestock, poultry and many other problems.

In the course of its operations the Commission was required from time to time to protect, acquire and dispose of interests in land and personal property but, by reason of not being incorporated, was unable legally to acquire, hold or dispose of such land and personal property. Consequently, an Act to incorporate "The Rural Rehabilitation Holding Corporation" was passed by the Legislature and assented to March 31st, 1942, which gave the Corporation authority to administer, manage, control, and dispose of the properties involved upon resolution of the Commission in respect of each particular transaction.

Because families were settled under the Rural Rehabilitation Plan on Crown land as well as on available "improved" and rented farms, the Lands Branch of the Department of Mines and Natural Resources also became involved in this relief scheme. In this connection a paragraph in the annual report of the Lands Branch for the year ending April 30th, 1939, is illuminating:

"For the seventh year the Department (Lands Branch) continued to co-operate with the Rural Rehabilitation Commission by placing at their disposal government unimproved farm lands selected by settlers who had received the approval of the Commission, on the basis of a two-year lease with the option to purchase at a set price per acre any time during the term of the lease. During the year, 37 lease options (brought) the total in force at the end of the year to 76; since the inception of the scheme nine families have exercised their option to purchase."

As economic conditions improved, the need for continuation of this form of relief ceased and the Rural Rehabilitation Commission was disbanded by Order-in-Council 938/46 (July 19th, 1946); and by amendment to The Crown Lands Act (R.S.M. 1954, Chap. 57, S.40) provision was made for "lands purchased on, before, or after March 1938, out of moneys of the Rural Rehabilitation Commission" to be vested in the Crown and to be administered or disposed of as Crown lands according to regulations made in respect of same.

(f) Debt Adjustment

The declining net agricultural production in Manitoba in the early years of the drought (as shown in Page 277 and Figure 2), together with the low prices coincident to the economic collapse of 1929, resulted in many farmers being unable to meet their financial obligations and caused many farm operators to suffer severe hardships. Foreclosure for debt or for inability to meet financial obligations, at that time, would have forced many owners and operators off their farms and thus have prevented them from becoming solvent at a future date and of discharging their obligations when farm production and provincial economy returned to more normal conditions.

Therefore, to avoid large scale farm abandonment and additional family hardship, the Provincial Government attempted to aid both the debtors and their creditors, and both the rural and urban economy, through a scheme of debt adjustment. In October, 1930, A.E. Darby was appointed Director of Debt Adjustment but was succeeded by G.S. Rutherford as Debt Adjustment Commissioner in January, 1931.

An Act to facilitate the adjustment of debt designated as "The Debt Adjustment Act, 1931" (21 Geo. V, Chap. 7) was passed by the Legislature and assented to April 19th, 1931. This Act provided for the appointment, by the Lieutenant-Governor-in-Council, of a Commissioner and of assistant commissioners to carry out the provisions of this initial Act which was to remain in force only until April 1st, 1933.

Under this Act a resident farmer or creditor of a resident could make application in writing to the Commission, which was then required to confer with and advise the resident or creditor, and endeavor to bring about a mutually acceptable arrangement for payment of indebtedness without recourse to legal proceedings. If successful, the Commissioner was then required to issue a certificate; and after filing such certificate with the proper legal authorities no action for legal claim or demand of debt; and no proceeding for sale, foreclosure or cancellation; and no proceeding to acquire title to land by virtue of tax sale; or seizure under chattel mortgage, relating to real property of the resident personally bona fide engaged in farming operations, or to real property of a resident not a bona fide farmer which he occupies as a home; could be taken without leave of a judge of the County Court.

The initial Act was amended and replaced the following year by "The Debt Adjustment Act, 1932" (22 Geo. V, Chap. 8). In the revised Act the Commissioner and Assistant Commissioners were constituted as a Debt Adjustment Board to meet at the call of the Commissioner and to advise him in matters pertaining to the duties of the Commission.

While the prime purpose of the 1932 Act was the same as the 1931 Act, it also provided that if it was not possible to bring about a mutually acceptable arrangement between creditor and debtor, the Commissioner "may" determine from time to time a basis on which the resident ought to pay the claims.

The Debt Adjustment Act thus instigated as a relief measure to deal with a desperate condition proved so useful that it was amended or rewritten from time to time and continued in force as S.M. 1940, Chap. 10 and R.S.M. 1954, Chap. 59.

(g) The Manitoba Economic Survey, 1937-1939

The study which led to the Provincial Department of Agriculture publication entitled "An Agricultural Program for South-Western Manitoba" in 1934, was followed in 1937 by a much more exhaustive study of agricultural and economic conditions in the Province as a whole. This study, which became known as the Manitoba Economic Survey, was authorized by the following motion passed by the Provincial Legislature on April 6th, 1937:

"Therefore be it resolved, that in the opinion of this House it is desirable that the Government should consider the advisability of appointing an independent Economic Survey Board with a view to assembling data and formulating plans to improve the standard of living of this Province, to investigate and report promptly on the present potential production, distribution and consumption and the financial situation of the people of this Province, and without restricting the generality of the foregoing to investigate and report on:

1. Production of primary and secondary industry,
2. Total actual consumption of the Province,
3. Financial status,
4. Unemployment,
5. Remedial measures."

To implement this motion C.B. Davidson was engaged to act as Director of the Economic Survey, and the many phases of the study were divided into over 20 projects, each of which was referred to a provincial or other personage professionally or technically familiar with the subject matter involved.

As the result, a series of reports was published by the Manitoba Economic Survey Board, each of which was a separate and complete contribution submitted by the respective contributor dealing with the specific subject matter in question. These reports may be listed as follows:

re Agricultural and Natural Resources:

- "The Climate of Manitoba" by A.J. Connor, 1939
- "The Forests of Manitoba" by H.I. Stevenson, 1938
- "The Water Resources of Manitoba" by C.H. Attwood, D.M. Stephens and B.B. Hogarth, 1938
- "The Commercial Fishing Industry of Manitoba" by H.C. Grant, 1938
- "The Fur Industry of Manitoba" by J. Melven, 1938
- "The Mineral Resources of Manitoba" by George E. Cole, 1938
- "The Soils of Manitoba" by J.H. Ellis, 1938
- "Economic Diseases of Field Crops" by J.H. Craigie, 1939
- "The Livestock Industry of Manitoba" by J.R. Bell, G. Watkins, and G.W. Wood, 1939
- "The Poultry Industry of Manitoba" by M.C. Herner, 1939

re Social and Economic Factors

- "The Population of Manitoba" by C.B. Davidson, H.C. Grant, and F. Shefrin, 1938
- "Education in Manitoba" by D.S. Woods, Vol. 192, 1938
- "Provincial Finance" by R. McN. Pearson, 1938
- "Employment in Manitoba" by C.B. Davidson, 1938
- "Employment of Women in Manitoba" by A. Oddson, 1939
- "The Youth Problem of Manitoba" by Alistair M. Stewart, 1939
- "Manufacturing in Manitoba" by C.B. Davidson, 1938
- "Transportation in Manitoba" by J.V. Dillabough, 1938
- "Agricultural Income and Rural Municipal Government in Manitoba" by H.C. Grant, C.B. Davidson and J.E. Chernick, 1939
- "Crop Insurance in Manitoba" by C.B. Davidson, 1939

These reports provided the information required by the Legislature. They can be found on file for reference in various libraries.

Economic Research No. 2 - A local study also was conducted, in 1939, of the Municipality of Armstrong. At the request of the Premier, Hon. J.

Bracken, the Soils Department of the Agricultural Faculty (U. of M.) undertook a reconnaissance soil survey of this municipality. The field work in this connection was carried out by J.A. Hobbs and J.M. Parker, and a report was prepared and published by the Provincial Department of Agriculture as Manitoba Soil Survey Report No. 2.

At the same time, Hon. J. Major, Minister of Municipal Affairs, requested the Department of Political Economy (U. of M.) to undertake a study of the economic conditions in the same municipality, with the result that an economic report was prepared by H.C. Grant and J.E. Chernick. These two reports were published by the Provincial Government as a combined publication entitled "Physical and Economic Factors Relating to Local Government in Distressed Rural Areas - A Case Study of the Municipality of Armstrong in the Interlake Area, Province of Manitoba" - Economic Research Report No. 2, 1939.

(h) Veterinary Diagnostic Laboratory

Although courses in veterinary science were given to students at the M.A.C. by professionally qualified instructors engaged on a part-time basis, it was not until 1922 that a full time Animal Pathologist in the person of Dr. Alfred Savage, V.S., was appointed to the Faculty of the Agricultural College. In that capacity, and as Professor of Bacteriology and Animal Pathology from 1929 to 1933, and as Dean of Agriculture from 1933 to 1937, Dr. Savage also served as Veterinary Consultant to the Ministry.

It was not until 1935-36, however, that a veterinary laboratory service was maintained by the Provincial Ministry of Agriculture. In that year a fully modern laboratory was established in the old University Building, Kennedy Street, Winnipeg, for the purpose of testing blood samples of cattle and poultry. Until 1938 (when it was transferred to the university site), this laboratory was under the supervision of Dr. J.K. Morrow.

In July and August, 1937, the Ministry of Agriculture was faced with an epidemic of encephalomyelitis in horses. This became so serious that a number of veterinary surgeons, consisting of Doctors Savage, Morrow, Lay, Hilton and Lewis, were appointed as an Advisory Committee to the Ministry.

Early in September, 1937, the services of Dr. Savage were secured from the university to carry out research in connection with encephalomyelitis and, to forward this work, in the early months of 1938 a provincial laboratory was equipped at the university by the Ministry of Agriculture, to which the blood testing work, formerly carried out by Dr. Morrow, was transferred. This provincial laboratory was operated under the direction of Dr. Savage who resigned as Dean of Agriculture to devote full time as Director of the Provincial Animal Pathological and Veterinary Laboratory which thus came into being in a time of adversity, and was maintained in subsequent years as a branch of the Provincial Department of Agriculture.

(i) Launching the Manitoba Sugar Beet Industry

At the same time that the grassland region of the Western Uplands was struggling with the "decade of drought", steps were being made to establish a sugar beet industry under the more favorable conditions in the Manitoba Lowlands.

Crop adaptation trials with sugar beets had been initiated on the M.A.C. experimental plots in 1915, where they were first included in variety trials with mangels and other root crops as feed for farm livestock.

In subsequent years, however, sugar beet seed, of as many varieties as could be obtained at the time, were grown in "variety" and "date of seeding" trials, to obtain information in respect of yield per acre, sugar content, and purity of the juice of the beets thus produced. In this initial work the Chemistry Department of the Agricultural College co-operated in the analysis of the beets produced on the College experimental plots. This plot experimental work continued until interest in forming a company for the manufacture of beet sugar was promoted in Winnipeg by Michael Scott and associates, involved in the business of real estate but with visions of the benefits to be derived from a sugar beet industry.

A tentative organization of Winnipeg businessmen was formed and Lloyd Scott, son of Michael Scott, was detailed by the organization to conduct sugar beet trials on farmers fields at a number of points in the Red River area. In the course of this work, Scott maintained close touch with the sugar beet experiments of the College; and the Soils Division, M.A.C., conducted fertilizer trials on a number of sugar beet fields planted by the company in the Emerson district.

It was pointed out by the Experimentalist at the Agricultural College that although the M.A.C. experiments had demonstrated sugar beets could be grown successfully under plot conditions, field trials should be conducted on a scale sufficiently large to provide sugar beets by carload lots. These could then be shipped by railway cars to the factory at Grand Forks and thus provide better information in respect of out-turn under field and factory conditions before proceeding with the erection of a Manitoba factory. This resulted in some 500 acres of sugar beets being produced as a field demonstration by several farmers in the Emerson district, and the beets thus produced were shipped to North Dakota for processing.

To aid in these preliminary investigations the Ministry of Agriculture financed the purchase of additional and more suitable laboratory equipment, which was installed in the Chemistry Department of the Agricultural College and used to facilitate the processing of the large number of samples of sugar beets that were submitted to the College for analysis.

To further aid in launching the sugar beet industry in the Province, a legislative Act (with a preamble stating "Whereas it is desirable to procure the establishment of a beet sugar refinery or factory as an aid to the development of agriculture") was passed (24 Geo. V. Chap. 3, 1934) authorizing the Lieutenant-Governor-in-Council (within one year) by Order-in-Council to guarantee debentures of a corporation undertaking to build, equip and operate a beet sugar refinery or plant in the Province to the extent of one-half the cost of building and equipping same, but not exceeding \$600,000. This Act which was passed April 6th, 1935, was successively amended and extended, in 1936 to two years, in 1937 to three years, in 1938 to four years, and in 1939 to five years.

Subsequently, when "The Manitoba Sugar Beet Company" finally was fully organized and undertook to erect a factory in the Municipality of Fort

Garry to process 100,000 tons of sugar per year commencing in 1940, the Legislature passed an Act authorizing the guarantee by the Province of debentures to the amount of \$600,000 at an interest rate of five per centum per annum (4 Geo. VI, Chap. 5, 1940). Later, an Act (10 Geo. 6, Chap. 1, 1946) provided for refunding the debentures, at a lower rate of interest, to mature not later than 1959.

With this backing by the Provincial Government the sugar beet industry was finally launched and developed by the company into a successful agricultural and industrial enterprise.

(j) War-Time Committee on Agriculture

The Manitoba Economic Survey of 1937-39 (which had been undertaken in an effort to provide factual information in respect of agricultural and natural resources, and of the social and economic conditions in the Province under the depressed conditions of the 1930's) had barely completed its assignments by publishing some 20 reports (Pages 329-330) when the outbreak of World War II (1939-45) caused the attention of the Provincial Government to be directed, by Premier John Bracken, to consideration of the probable effect of the war and post-war conditions on agriculture and the provincial economy, and on the modifications needed to meet such changed and changing conditions as might occur. Consequently, a Manitoba War-Time Agricultural Committee was appointed on November 22nd, 1939, by the Premier, consisting of the following personnel:

D.G. McKenzie - Vice-President, United Grain Growers, Ltd.
Paul F. Bredt - President, Manitoba Pool Elevators Limited.
Dr. J.A. Munn, M.L.A. - President, Manitoba Federation of Agriculture.
F.H. Downing - Manager, Canadian Livestock Co-operative (Western) Ltd.
Cecil Lamont - Director, Public Relations Department, North-West Line Elevators Association.
W.S. Patterson - President, Manitoba Co-operative Poultry Marketing Association, Limited.
W.F. Popple - Manager, Manitoba Co-operative Wholesale, Limited.
G.W. Tovell - Secretary-Treasurer, Manitoba Co-operative Dairies, Ltd.
J.W. Braithwaite - President, Man. Co-operative Honey Producers, Ltd.
Rev. A.H. Laurin - President, Manitoba Beekeepers' Association.
Roy McPhail - Manager, Canadian Livestock Sales Agencies.
N.C. MacKay - Director, Extension Service, Man. Dept. of Agriculture.
W.H. French - Past President, Union of Manitoba Municipalities.
C.B. Davidson - Secretary, Manitoba Federation of Agriculture.
Mrs. E.L. Johnson - Vice President, Man. Federation of Agriculture.
Mrs. W.H. Hicks - President, Manitoba Women's Institutes.
John Spalding - Secretary, Union of Manitoba Municipalities.
Dr. W.H. Tulloch-Lee - President, Agricultural Societies' Advisory Board.
W.L. McGregor - President, Manitoba Horse Breeders' Association.
Rev. Adelard Couture - Director of Social Organization for Diocese of St. Boniface.

Alex McPhail - President, Manitoba Swine Breeders' Association.
 R.B. Hunter - President, Manitoba Sheep Breeders' Association.
 J.E. Crawford - President, Man. Dairy Cattle Breeders' Association.
 Les. Robson - President, Manitoba Cattle Breeders' Association.
 Andrew Turkevich - Farmer, Winnipeg Beach.
 Dr. H.C. Grant - Professor of Economics, University of Manitoba.
 Dr. E. Cora Hind - Editorial Writer of the Winnipeg Free Press.
 Axel Bergkvist - Farmer, Sanford.
 Mrs. M.G. Ellis - Agricultural Editor, Family Herald and Weekly Star.
 Paul Kwiatkowski - Farmer, Tolstoi.
 R.D. Colquette - Joint Editor, The Country Guide and Nor'-West Farmer.
 W.D. Strang - President, Dauphin Agricultural Society.
 Rev. A. Benoit - Parish Priest of St. Malo.
 Prof. A.V. Mitchener - Dean of Agriculture and Home Economics, University of Manitoba.
 J.T. Hull - Manitoba Editor of The Western Producer.
 Neil Wright - Director, Manitoba Federation of Agriculture.
 Dr. Kenneth Neatby - Director of Agricultural Department, North-West Line Elevators Association.
 J.J. Siemens - Farmer, Altona.

This committee met in conference in Winnipeg on February 1st, 2nd and 3rd, 1940, under the chairmanship of Hon. D.L. Campbell, Minister of Agriculture, when a series of 32 addresses were delivered by committee members and others referred to by Premier John Bracken as "those of you who have been studying the problems of production", and to whom he assigned the task of outlining "what we should do as individuals, as groups, as municipalities, as a province, as a nation, to best fit ourselves for the testing time ahead"; and (mindful of the unforgettable years experienced following World War I) also "to . . . plan for the time when this war will be over."

The Proceedings of this Conference, containing the addresses given, were published in full by the Department of Agriculture, Winnipeg, under the title of "Proceedings of the War-Time Committee on Agriculture, Province of Manitoba, Part I, Part II, and Part III, February, 1940". In addition, a 12-page pamphlet was prepared entitled "The Farm Program in War Time", which contained the "Recommendations of the War-Time Advisory Committee on Agriculture", and which was printed and widely distributed by the Ministry of Agriculture.

II. ACTIVITIES AND PROGRESSIVE DEVELOPMENT OF DEPARTMENTAL BRANCHES DURING THE POST M.A.C. SUB-PERIOD

Notwithstanding the progress that had been made towards departmental maturity by the Ministry of Agriculture during the previous sub-period, the services and activities of the Ministry, at the beginning of the 1925-1959 sub-period, had been only partially organized under Directors of departmental branches, so that, although specific sections of the departmental work were assigned to each of the branches already established, certain personnel and departmental services, not normally assigned to the organized branches, were directed or directly administered through and by the Deputy Minister's office.

(1) SPECIFIC ACTIVITIES AND DUTIES OF THE DEPUTY MINISTER'S OFFICE DURING THE POST M.A.C. SUB-PERIOD

During the 35 years of the 1925-1959 sub-period the office of Deputy Minister of Agriculture and Immigration was held by only two incumbents, i.e. J.H. Evans, who occupied the position for the 34 years from 1916 to 1949; and J.R. Bell who, after serving previously as Provincial Livestock Commissioner, served as Deputy Minister from July 1st, 1949, through the remaining ten years of this sub-period and continued in that position until reaching the age of retirement in 1963.

In connection with the administrative duties carried on through the Deputy Minister's office during this sub-period, special tribute should be accorded Mrs. P.G. Coop, who for 30 years served faithfully as chief clerk and secretary to the Deputy until her retirement in 1950.

During this sub-period the Deputy's office was responsible, under the Minister,

for the general supervision and co-ordination of the specific departmental branches whose accomplishments and contributions are more appropriately outlined later in the historic review of each respective branch;

for departmental activities and services that were administered more or less directly through the Deputy's office; and

for co-operative activities with municipalities and with other departments of the Provincial Government, with various branches of the Dominion Department of Agriculture, and with the Faculty of Agriculture of the University of Manitoba.

The Deputy's office of the Ministry was variously involved in activities in respect of licensing and other routine administrative duties imposed by a number of provincial Acts relating to agriculture such as are listed in R.S.M. 1954, i.e.:

The Animal Husbandry Act; The Agricultural Societies Act; The Bee-Keeper's Act; The Dairy Act; The Farm Implement Act; The Horned Cattle Purchase Act; The Land Utilization Act; The Livestock and Livestock Products Act; The Margarine Act; The Milk Control Act;

The Noxious Weed Act; The Plant Pests Act; The Poultry Breeder's Act; The Predator Control Act; The Seed and Fodder Relief Act; The Seed Purchasing and Cleaning Warehouse Act; The Vegetable Sales Act; The Veterinary Service Act; The Women's Institute Act; etc.

Co-operative activities of the Deputy's office with municipalities and local government districts involved, among others, such projects as:

the payment of one-half of the \$2.00 wolf bounty paid out by municipal authorities (the administration of this project under "The Wolf Bounty Act" was transferred from Treasury Department to the Department of Agriculture in 1935); and, subsequent to the passage of "The Predator Control Act" in 1943-44, the similar sharing with municipalities of the \$3.00 bounty each paid for coyote, bear cub and red fox; of \$6.00 each for bear over eight months old; and of \$10.00 each for timber wolf (Table 35);

the supplying of seed grain advances to municipalities after they had passed the necessary by-law and were authorized by Order-in-Council under provisions of Part IV of "The Municipal Act" (Pages 264-265);

the operation of a seed grain exchange service through maintaining lists of seed growers with stocks for sale, and of purchasers requiring seed; aid in locating supplies of feed and fodder and in partial payment of transportation charges in connection with shipping feed and fodder to distressed areas in times of need; and

emergency services in connection with flood relief and with control of grasshoppers and other pests; also the holding on hand, by the Department, of biological supplies normally difficult to obtain, such as encephalomyelitis serum, so that it would be readily available when needed in times of emergency.

Co-operative activities of the Deputy's office with the Dominion Department of Agriculture involved both war-time and general agricultural projects. During the six years 1939 to 1945, the Provincial and Dominion Departments of Agriculture co-operated closely in respect of:

encouraging general agricultural expansion and the production of special crops required due to war-time demand for oil-bearing crops (rapeseed, flax and sunflowers);

in working jointly to increase egg production for the manufacture of powdered eggs for shipment across the Atlantic; and

in the production of vegetable seeds for the Canadian trade.

Throughout the sub-period the Provincial Ministry also continued co-operation with the Federal Health of Animals Branch and with the Dominion Department of Agriculture in carrying out a variety of projects, of which the following should be noted:

The Restricted Area plan which was started in 1922 and which resulted in creating the Municipality of Dufferin as the first Tuberculosis-free

TABLE 35. NUMBER OF MUNICIPALITIES INVOLVED, AND TOTAL NUMBER OF BOUNTIES FOR BEARS, TIMBER WOLVES, COYOTES, AND FOXES, PAID OUT ANNUALLY BY MUNICIPALITIES FROM 1935 TO 1959, ON THE BASIS OF 50 PERCENT REIMBURSEMENT BY DEPARTMENT OF AGRICULTURE UNDER "THE PREDATOR CONTROL ACT"

Fiscal Year	Bears		Bear Cubs		Timber Wolves		Coyotes		Foxes	
	No. of Municipalities	No. of Bounties	No. of Municipalities	No. of Bounties	No. of Municipalities	No. of Bounties	No. of Municipalities	No. of Bounties	No. of Municipalities	No. of Bounties
1935-36	—	—	—	—	—	—	34	2,519	—	—
1936-37	—	—	—	—	—	—	37	3,528	—	—
1937-38	—	—	—	—	—	—	52	3,591	—	—
1938-39	—	—	—	—	—	—	58	6,046	—	—
1939-40	—	—	—	—	—	—	57	4,422	—	—
1940-41	—	—	—	—	—	—	60	4,641	—	—
1941-42	—	—	—	—	—	—	57	5,131	—	—
1942-43	—	—	—	—	—	—	58	4,740	—	—
1943-44	—	—	—	—	—	—	59	4,490	—	—
1944-45	8	92	2	3	3	7	73	3,354	62	3,301
1945-46	10	157	5	9	11	27	78	5,331	75	6,629
1946-47	19	200	4	8	12	27	87	5,717	78	8,776
1947-48	18	238	6	16	16	51	96	8,787	90	8,100
1948-49	27	301	11	34	22	115	103	10,762	92	7,252
1949-50	37	517	17	63	Timber Wolf Bounty transferred to Department of Mines and Natural Resources		105	11,640	94	7,725
1950-51	35	480	11	43			103	13,049	88	7,183
1951-52	22	186	7	24			99	10,226	85	6,262
1952-53	28	290	12	43			101	13,870	98	9,846
1953-54	32	314	9	28			98	12,003	98	9,365
1954-55	31	348	14	43	Bounty Discontinued*		100	17,217	98	9,389
1955-56	27	229	10	28			103	13,460	100	10,913
1956-57	18	70	3	5			98	7,287	74	3,340
1957-58	24	181	8	67			97	8,731	65	4,153
1958-59	23	219	5	17			98	8,860	68	6,280

* Bounty for timber wolves discontinued in 1955. Wolf control undertaken, where necessary, by Game Branch, Department of Mines and Natural Resources.

Area in Canada was enlarged until in 1950 a total of 99 municipalities and three local government districts had qualified as Bovine T.B.-free areas under the Restricted Area regulations; (as 81 percent of farms were thus subject to the area regulations, a Provincial Order-in-Council was passed March 31st, 1957, requesting the Federal authorities to declare the Province of Manitoba, as a whole, a Bovine Tuberculosis Restricted Area);

a joint Federal-Provincial Bang's Disease Control policy was organized in 1950-51 which supplanted the provincial policy previously in operation; and

from time to time, arrangements were made with the Federal Government in respect of sharing services and costs of measures undertaken for the relief of distress caused by aperiodic drought or floods.

Co-operative activities in connection with the Agricultural Faculty of the University included:

Co-operative support of the Manitoba Soil Survey and soil investigations which was organized as a joint Federal-Provincial-University project in 1927;

special grants to finance specific research projects carried out by members of certain departments in the Agricultural Faculty; and

the establishment of bursaries in 1957 to provide financial assistance to deserving and needy students seeking a course of studies in agriculture at the University of Manitoba, and also for assistance to in-service personnel which permitted them to carry on post-graduate studies. Closely related to this activity was the assistance provided under The Veterinary Science Scholarship Fund Act of 1954.

To aid in the formulation of policies in respect of specific phases of departmental service, the Ministry adopted the practice, during this sub-period, of appointing a number of boards to meet on call, separately and aperiodically, under the chairmanship of the Deputy Minister. These boards were designated respectively as:

The Manitoba Seed Board; The Manitoba Feed Board; The Manitoba Fertilizer Board; The Dairy Board, etc.

Various committees also, such as The Potato Committee, The Improved Products Committee, special war-time committees, and others, were appointed from time to time when technical information or experience were required incidental to specific problems in relation to the production of farm and livestock products.

Except in the case of statutory appointments (such as The Dairy Board appointed by Order-in-Council), these boards and committees were voluntary - services were given free without remuneration to the respective members - .

As examples of the composition of these boards, it may be noted that "The Manitoba Seed Board" consisted of representatives of the Dominion Seed Branch, the Dominion Experimental Farms, the Plant Science Department of the Agricultural Faculty, University of Manitoba, the seed trade, the Manitoba Seed Growers' Association, and the Provincial Department of Agriculture; and "The Manitoba Feed Board" consisted of "a combination of plant scientist, animal scientist, the research worker and the producer; in short, as complete a representation as possible of the interests to be served."^{*}

These boards and "ad hoc" committees appointed by the Ministry were generally organized on a sub-committee basis. For example, the Seed Board consisted of Cereal, Grass, Corn, Flax, and Vegetable sub-committees. Other boards were organized in a similar manner. However, in the absence of available minutes and of detailed records in the annual reports of the Ministry, there appears to be little permanent record of the useful contributions and services rendered by the various voluntary boards and committees that served with the Deputy Minister.

The branches and services of the Ministry of Agriculture under the general supervision of the Deputy Minister prior to the beginning of the 1925-1959 sub-period are outlined in the upper portion of the chart submitted as Figure 5. The branches, commissions and services that were evolved or added to the Department during the sub-period are shown in the lower portion of the same chart. Apart from the miscellaneous departmental services administered directly through the Deputy's office, the branches already established that continued into this sub-period, under separate directors, included: the Extension Service Branch; the Dairy Branch; the Livestock Branch; the Publications and Statistics Branch (the Director of which served as Secretary of the Weeds Commission); and the Employment Service, including whatever remained of the Immigration and Colonization Branch.

However, as the years progressed during this sub-period, the growth and enlargement of various services, and the need to deal effectively with problems presented by changing conditions and circumstances, resulted in four more branches, each with its own director, being added to those already established. A "Debt Adjustment Board" was constituted in 1932, an "Animal Pathological and Veterinary Laboratory" in 1938, a "Co-operative Services Branch" in 1949; and, because the Extension Service had evolved and enlarged to such an extent by 1954, the Ministry deemed it desirable to reorganize this branch into two units: one unit continued as the "Extension Service Branch" while the other unit was established and continued as the "Soils and Crops Branch".

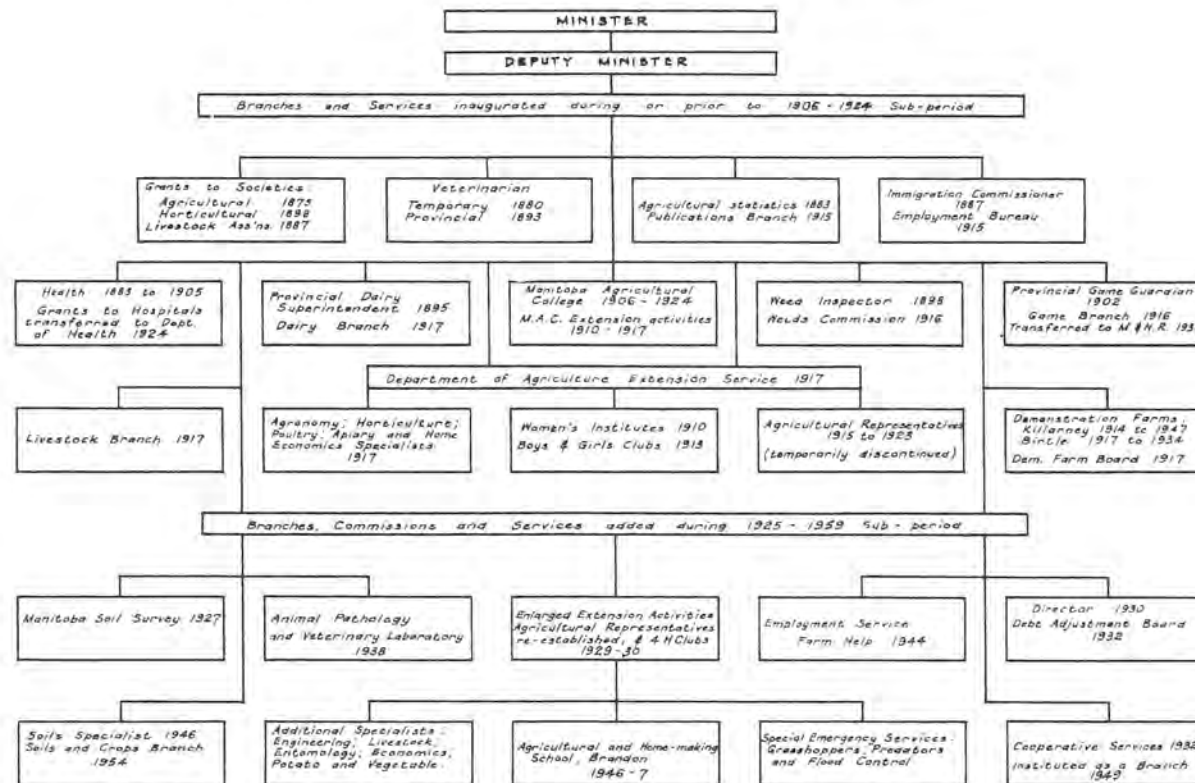
(2) EXTENSION SERVICE BRANCH

Although the Extension Service suffered drastic retrenchment (Pages 225-227) at the close of the preceding and the beginning of the 1925-1959

^{*} Department of Agriculture Annual Report (Typed) of the Deputy Minister, 1944-45; Pages 8-9.

FIGURE 5.

DEPARTMENT OF AGRICULTURE AND IMMIGRATION



sub-periods; and for some years was forced to contend with inadequate budgetary support; this branch, under the guidance of its Director, subsequently made remarkable progress and, beginning with the challenging years of the 1930's, gradually became a greatly enlarged, inspired and effective provincial service, which played a tremendous part in the subsequent development of agriculture in Manitoba.

As previously noted, when the Extension Service was transferred from the Fort Garry site to the Legislative Building on May 13th, 1926, the Extension staff had been reduced to the Director, N.C. MacKay, who carried on the departmental duties in connection with agricultural, horticultural, and kindred societies; the Assistant Director, H.E. Wood, who carried on the educational work in connection with short courses and junior livestock activities; the Home Economist, Esther Thompson, who directed women's extension work; and the three agricultural specialists, i.e. J.A. McGregor, Agronomist; J.R. Almey, Horticulturist; and L.T. Floyd, Apiculturist. However, within the fiscal year two additional agricultural specialists were appointed, i.e. F.B. Hutt, Poultryman; and R. Whiteman, assistant in Agronomy and Animal Husbandry. Isabelle Alexander also was added as assistant in Home Economics.

This relatively small group of specialists formed the nucleus (together with voluntary services of certain members of the Agricultural Faculty of the University) with which the Director had to carry on the work of agricultural extension; until, in the process of time, other specialists could be added to provide a wider and fuller complement of extension workers. To this end a livestock specialist for junior clubs was first appointed in 1928, an agricultural engineer in 1939, and a soils specialist in 1946. An Agricultural and Home-Making School was established as an agricultural extension centre at Brandon in 1946-47; and in 1954 the soil specialists and the agronomists of the Extension Service, together with the Weeds Section of the Publications and Statistics Branch, were organized as the Soils and Crops Branch. As each phase of extension work expanded, assistant specialists were added both in the field of Agriculture and Home Economics; in addition, an agricultural economist was appointed to the Extension Service Branch in 1957, and the work of the apiarist was enlarged in 1957-58 to include Entomology.

To the recently appointed Director of Extension and his small group of specialists, in 1925, the task of inspiring some 51,000 Manitoba farm operators and their families to develop (with the resources available) more effective farms and improved homes; and of attempting to develop an inspired well-informed rural youth; must have seemed an impossible assignment under the limitations imposed in the early years of the sub-period by the depressed conditions and enforced government retrenchment policy.

The chief hindrance to extensive achievement, however, lay not so much in the limited staff of extension specialists, but in the physical impossibility of establishing and maintaining continuity of contact between a central administrative office and the relatively large rural population they were expected to serve.

To correct this difficulty, the Director worked hard and long to establish and maintain local or district offices of the Department of

Agriculture, each with a resident agricultural representative, through which effective contact could be made between extension officers and residents of the respective local areas. Nevertheless, despite the fact that many agricultural societies favored, and in a number of cases requested, an agricultural representative service, the establishment of extension offices of the Department of Agriculture at rural points proceeded slowly for a number of years, due not only to the difficulty of obtaining increased departmental appropriations necessary for this endeavor, but also to the additional difficulty of obtaining suitable and available men with the necessary training to undertake this type of work.

It should be noted further in this connection that the policy of organizing agricultural representative districts under the dual responsibility of the Ministry and local boards or councils of agriculture, as proposed in 1918, was abandoned. The agricultural representative service, as re-established under N.C. MacKay, was developed from 1930 onward as a part of, and as a service provided by, the Ministry of Agriculture.*

Before attempting to follow the activities of the extension specialists, it is imperative that attention be directed to the agricultural representatives who, as they became established, helped forward the projects of the various extension specialists and, under the Director, formed the front line of extension action in their respective communities. Moreover, in addition to carrying on this service, together with their own projects, they also served as liaison officers between rural areas and other branches of the Ministry as well as, in later years, other departments of government involved in rural projects. Hence, it is appropriate that the personnel so involved should be placed on record (Table 36) and tribute paid at this point to the outstanding service given to agriculture in this Province by those who served as agricultural representatives.

(a) Director of Extension

In connection with the activities of the Extension Service Branch during the 1925-1959 sub-period, it should be noted that the Ministry was fortunate in having the same Director for 30 of the 35 years involved. N.C. MacKay, who was first appointed, in the M.A.C. Sub-Period, as Assistant Superintendent and Director of Agricultural Representatives on January 1st, 1921, and who was appointed Director of Extension in 1923, devoted his professional life to developing, from the truncated organization he inherited, the well-rounded and vigorous provincial service of which the Ministry became justly proud. He retired on July 31st, 1954, after 34 years of faithful and devoted service. He was succeeded by D.C. Foster who, after serving as agricultural representative at Teulon from 1930 to 1935, became Provincial Poultry Specialist until appointed Director of Extension in 1954. In this position he carried on for the five remaining years of the Post M.A.C. Sub-Period, as well as for the first six years of the succeeding period.

Over the years of this sub-period the Director of Extension was supported by an Assistant Director. At the beginning of the sub-period the

* For inauguration of agricultural representatives in the previous sub-period, see Pages 224 - 225.

Assistant Director was H.E. Wood (1923-1940), who was followed by W.S. Frazer (1940-1954), and by H.H. Austman from 1954 to the end of the sub-period.

In addition to directing the activities of the Branch during his years of tenure, the Director of Extension currently served as Secretary of the Manitoba Agricultural Society Advisory Board, and carried on the administrative work in connection with government grants to the agricultural and kindred societies.

(i) Agricultural Societies

The designation of the agricultural societies with their respective charter number is listed in Appendix IV.

From the time Extension work was first established, government support of agricultural societies was administered through the Director of Extension (Pages 201-213). Up to 1924, eighty agricultural society charters had been issued, and in the first year of the 1925-1959 sub-period there were 83 agricultural societies with a total membership of over 12,000. As shown in Table 37, the number of societies then increased to 88 in the early years of the decade of drought, but although government grants to "C" and "D" Class Fairs were discontinued for the years 1933-34, 1934-35 and 1935-36, most societies remained active until the war years of 1939-1945 when the number of active societies decreased to two-thirds of the total number of charters issued. After 1945, and until the end of the sub-period (1959), the number of active agricultural societies increased to 77 (Subsequent data have been added to Table 37 as complementary records).

There was an average of approximately 154 members per active society, both at the beginning and at the close of this sub-period. On this basis, and apart from the depressional effects of the "decade of drought" and the period of war-time conditions which followed, it would appear that some other factor or factors also were responsible for the number of agricultural societies which became inactive.

Perhaps the most significant cause of decrease in active agricultural societies during this sub-period was the growth in farm mechanization and the chain of reactions thereby set in motion, of which the reduction of horses in Manitoba from a ratio of 7.0 per farm in 1925 to 1.2 per farm in 1959; and the change in transportation from "horse and buggy" to automobile and motor truck; were only two of the links in the reaction chain.

Agricultural Society Activities

By the beginning of the 1925-1959 sub-period the activities carried out severally or specifically by various agricultural societies with government aid through the Extension Service Director, involved the holding of summer and fall fairs; spring fat stock shows; seed fairs and dressed poultry shows; plowing matches; standing crop and combined standing crop and seed competitions; and summerfallow, garden and good farming competitions.

TABLE 36. AGRICULTURAL REPRESENTATIVES AND DISTRICTS SERVED DURING POST M.A.C. SUB-PERIOD - 1925-1959

* = Leave of Absence
(T) = Temporary

Year Inaugurated or Re-Established	District	Representative	Period of Service	Previously Located At	Transferred To
1930	Carman	T.A. Johnson	1930-1945	Pilot Mound	Publications, Statistics and Weeds 4-H Clubs Holland Poultry Specialist.
		H.A. Craig	1945-1947		
		J.F. Muirhead	1947-1952	Holland Shoal Lake	
		D.L. Fletcher	1952-		
H.W. Graham	1957(T)				
1930	Teulon	Robert Hamm	1958(T)		
		D.C. Foster	1930-1935	Melita	
		H.L. Patterson	1935-1937		
		F.W. Anderson	1937-1943		
		E.H. Lange	1943-1948		
		George De Pape	1947(T)		
		H.H. Austman	1948-1954		
		D. Durksen	1954-1956		Swan River- Birch River Area
		H.L. Kernested	1956-		
		1931	Dauphin		D.J. Meadows
John Thordarson	1958(T)				
John Conner (1930)	1931-1944			Livestock Specialist Specialist (Foods)	
Edna McConnell (1939) (Assistant)	1940-1946 1946-1948*				
John O. Forbes	1947(T); 1948(T)				
D.J. Hill	1949-			Steinbach	
Ralph Rasmussen	1952(T)				
Robert Manns	1958(T)				

Note: For pioneer Agricultural Representatives see Pages 224 to 225 .

(Continued)

TABLE 36. (Continued)

Year Inaugurated or Re-Established	District	Representative	Period of Service	Previously Located At	Transferred To
1931	Morden	J.E. Crawford	1931-1933	Livestock Branch	Assistant Director, Extension
		W.S. Frazer	1933-1940		
		B.B. McCreery	1940-1948	Teulon	Brandon School Eriksdale Soils & Crops Branch
		Bessie McQuaig (Ass't)	1940(T)		
		E.H. Lange	1948-1951	Eriksdale	
		W.J. Lapka	1949(T)		
J.E.B. Campbell	1952-1954				
W.J. Lapka	1954-				
1931	Portage la Prairie	E.G. Minielly	1931-1940	Russell Livestock Branch	Brandon School
		L.H. Carter	1940-1946		
		C.E. Goode	1947-1948	Pilot Mound	
		Ray De Pape	1949*		
		J.C. Forbes	1950-		
1931	St. Pierre	J.E. Lafrance	1931-1960		Chief, Services Div.
		A.G. Arnal (Ass't)	1941-1943		Ste. Rose du Lac
		A.G. Arnal (Ass't)	1945-1946		
		Gerard Therrien	1958(T)		
1931	Swan River	C. Murray	1931-1936	Shoal Lake	Pilot Mound
		J.C. Forbes	1936-1945		
		E.J. McFadden	June to Oct. 1946*	Dauphin	Weeds Commission
		W.E. Rempel	May to Dec. 1947		
		John O. Forbes	1947-1948*		Teulon Eriksdale
		A.W. Hamilton	1949-1956		
1934	Melita	H.L. Patterson	1934-1935		
1935	Winnipeg	B.R. Poston	1950-1954	Eriksdale Steinbach	
		R.R. Filteau	1955-	Dairy Branch	Retired
		C.S. Prodan (1921) (Southeastern Man.)	1935-1959		
		M. Mitchell	1948(T)	Hamiota	
H.M. Douglas	1949-1952	Brandon	Livestock Branch		
D.A. Foster (Ass't)	1950-1950				
R.L. Sedgwick (1957)	1958(T)				

(Continued)

TABLE 36. (Continued)

Year Inaugurated or Re-Established	District	Representative	Period of Service	Previously Located At	Transferred To
1938	Pilot Mound	H.A. Craig J.C. Forbes R.E. Forbes D.M. Gourlay R.J. Cinq Mars (Ass't)	1938-1945 1945-1950 1949-1956 1956-1963 1958-1959	Swan River	Carman Portage la Prairie Brandon School The Pas Somerset
1938	Russell	L.H. Carter D.A. Kinney J.E. Forsyth Keith McComb W.T. Uhryniuk	1938-1940 1940-1946 1947-1952 1952-1958* 1958-	Dauphin-Ethelbert Area	Portage la Prairie Souris
1938	Selkirk	E.T. Howe T.A. Sandercok D.S. Stevenson M. Cormack	1938-1950 1950-1956 1956-1960 1956(T)	Morris	Altona Hort. Specialist Livestock Branch Swan River - Birch River
1939	Boissevain	D.S. Stevenson Wallace O. Lee G.A. Arnott	1939-1947 1947-1953 1953-		Souris Neepawa
1939	Morris	F.W. Hamilton C.J. Campbell D.S. Stevenson W.C. Van Wynsberghe	1939-1941* 1941-1951 1951-1956 1956-	Souris	Selkirk
1939	Neepawa	J.M. Bowman C.E.G. Bates (1945) H.E. Tolton Wallace O. Lee Bruce D. Campbell James Baudic	1939-1944 1946-1953 1948(T) 1953- 1957(T) 1958(T)	Livestock Clubs Boissevain	Brandon School Holland
1940	Holland	H.B. Peto J.F. Muirhead D.F. Smith H. Tolton G.A. Eisler R.K. Smith H.W. Graham	1940-1942* 1942-1947 1947-1948 1949-1954 1954-1955 1955-1958* 1958-	Neepawa Carman	Carman Soils & Crops Branch

(Continued)

TABLE 36. (Continued)

Year Inaugurated or Re-Established	District	Representative	Period of Service	Previously Located At	Transferred To
1940	Shoal Lake	B.J. Gorby C.E. Goode (Acting) E.J. McFadden D.L. Fletcher W. Stonehouse G.C. Jenkins (1954) D.H. McCausland K.J. Forbes H.C. Goehring A. Robertson (in charge)	1940-1941* 1942(T) 1943-1943 1945-1952 1952-1956 1956-1958 1956(T) 1957(T) 1958- 1958(T)	4-H Clubs	Souris Swan River Carman Carberry
1940	Vita	J.A. Negrych	1940-		
1941	Minnedosa	A.J. Strachan F.W. Anderson D.W. Wilton A.A. Dilworth W.I.R. Johnson	1941-1943 1943-1946 1946-1949 1949-1956 1956-1959	Teulon	
1942	Eriksdale	J.A. Hobbs B.R. Poston W.J. Lapka B.R. Poston	1942-1946 1949(T) 1950-1954 1954-1957		Melita Morden Social & Economic Survey, 1957-58 Whitemouth
1946	Hamiota	L.H. Jones H.M. Douglas C.T.G. Bailey R.M. Daveson	1946-1950 1948(T) 1950-1955 1956-		Winnipeg
1946	Souris	B.J. Gorby D.S. Stevenson J.E. Forsyth	1946-1947 1947-1951 1952-	Shoal Lake Boissevain Russell	Morris
1946	Ste. Rose du Lac	A.G. Arnal	1946-	St. Pierre	
1947	Steinbach	D.J. Hill R.R. Filteau F.L. Paquin	1947(T); 1948(T) 1949-1955 1955-		Dauphin Melita

(Continued)

TABLE 36. (Continued)

Year Inaugurated or Re-Established	District	Representative	Period of Service	Previously Located At	Transferred To
1947	The Pas	Harvey Scott	May 1-15, 1947		
1949	Roblin	J.H. Clark	1949(T)		
		E.W. Somers	1950-1951		Livestock Branch
		J.C. Brown	1951-1955		4-H Clubs
		H.M. Boughton	1955-1956		
			1956-		
1949	Virden	L.M. Henwood	1949-1951		
		D.F. McLean	1951-1952		
		Roy Esler	1952-1956		
		R.W. Winstone	1956-1963		Lands Branch
1950	Altona	E.T. Howe	1950-	Selkirk	
1950	Stonewall	R.H. Ross	1950-		
1951	Carberry	V.E. McNair	1951-1955		
		W.E. Henderson	1955-1956		
		W. Stonehouse	1956-	Shoal Lake	
1951	Fisher Branch	Peter Kiez	1951-1958		Dauphin-Ethelbert Area
1952	Baldur	M.C. McKay	1952-1956*		Soils & Crops Branch
		D.J. Meadows	1957-1958	Teulon	
		E.T. Oatway	1958-1959		Ass't. Agric. Engineer
1953	Brandon	Willis Steen	1953-1956		
		R. L. Sedgwick	1957(T)		Winnipeg
		C.C. Dixon	1958(T)		
		Elwood F. Hart (Ass't)	1959-		
1953	Dauphin-Ethelbert Area	W.T. Uhryniuk	1953-1958		Russell
		Peter Kiez	1958-	Fisher Branch	
1954	Beausejour	F. Slevinsky	1954-		
1955	Swan River - Birch River Area	W.E. Jarvis	1955-1956		Livestock Branch
		H.L. Kernested	1956-1956		Teulon
		M. Cormack	1957-1959*	Selkirk	
1957	Ashern	P.M. Herner	1957-1958		Livestock Branch
1959	Whitemouth	B.R. Poston	1959-	Eriksdale	

TABLE 37. AGRICULTURAL SOCIETY CHARTERS AND NUMBERS OF
ACTIVE AGRICULTURAL SOCIETIES AND SOCIETY
MEMBERS IN POST M.A.C. SUB-PERIOD BY YEARS
1925 to 1959; AND SUBSEQUENT YEARS

Fiscal Year	No. of Charters	No. of Active Societies*	No. of Members	Fiscal Year	No. of Charters	No. of Active Societies*	No. of Members
1925-26	83	—	12,129	1947-48	93	67	—
1926-27	83	—	13,245	1948-49	94	68	—
1927-28	85	—	12,595	1949-50	94	65	—
1928-29	87	—	13,638	1950-51	94	68	—
1929-30	87	—	13,824	1951-52	95	69	—
1930-31	88	—	13,484	1952-53	95	70	—
1931-32	88	82	10,548	1953-54	95	69	10,668
1932-33	88	82	9,678	1954-55	96	70	10,677
1933-34	88	82	—	1955-56	97	73	12,494
1934-35	88	82	—	1956-57	97	73	11,066
1935-36	88	82	—	1957-58	97	73	10,777
1936-37	89	83	—	1958-59	97	77	11,622
1937-38	89	83	—	1959-60	97	78	13,415
1938-39	90	84	—	1960-61	97	78	12,185
1939-40	90	57	w	1961-62	97	76	13,096
			a				
1940-41	90	57	r	1962-63	97	76	14,151
1941-42	90	62		1963-64	97	76	13,732
1942-43	90	60	y	1964-65	97	75	13,714
1943-44	90	59	e	1965-66	97	66	14,442
1944-45	90	60	a	1966-67	97	67	15,129
			r				
1945-46	90	61	s	1967-68	97	57	14,946
1946-47	91	65	—	1968-69	97	63	16,722

* Active Societies denote the Societies which qualified for a Departmental grant through holding an agricultural fair.

The progress of these activities during the 1925-1959 sub-period can be shown in tabular form, but in reviewing the data thus compiled from annual reports of the Director of Extension Service, the modifying effects of the drought period, the war years, and progressive mechanization in the later years should be kept in mind.

Agricultural Fairs - The number of agricultural fairs held each year by the agricultural societies, and the number of judges supplied by the Extension Service from 1925 to 1959, is shown in Table 38.

TABLE 38. NUMBER OF AGRICULTURAL SOCIETY FAIRS AND OF JUDGES PROVIDED BY EXTENSION SERVICE BRANCH - 1925 to 1959

Fiscal Year	Number of Fairs	Number of Judges Provided	Fiscal Year	Number of Fairs	Number of Judges Provided
1925-26	80	386	1942-43	49	251
1926-27	78	381	1943-44	46	268
1927-28	78	—	1944-45	46	262
1928-29	82	430	1945-46	45	262
1929-30	82	436	1946-47	53	307
1930-31	82	448	1947-48	56	320
1931-32	67	352	1948-49	58	326
1932-33	61	329	1949-50	59	353
1933-34	25	108	1950-51	56	342
1934-35	28	114	1951-52	63	367
1935-36	25	111	1952-53	62	258
1936-37	35	171	1953-54	68	444
1937-38	44	219	1954-55	66	431
1938-39	53	271	1955-56	72	515
1939-40	54	299	1956-57	72	455
1940-41	55	293	1957-58	72	474
1941-42	54	288	1958-59	71	474

Fat Stock Shows - With the development of livestock winter feeding, a number of agricultural societies became interested in this phase of the livestock industry. The members of such societies were encouraged to feed suitable animals with the object of exhibiting them at Fat Stock Shows held during the early spring months and immediately preceding the Provincial Fair. The most outstanding animals exhibited were subsequently exhibited at the Provincial Fat Stock Show, where one of the most valuable features was the boy's calf classes. Liberal prizes for the calf club classes and the high prices paid by cattle buyers for the prize animals were instrumental in bringing out large numbers of high class animals.

The number of Fat Stock Shows held as agricultural society projects during the 1925-1959 sub-period are shown in Table 39.

TABLE 39. NUMBER OF SPRING FAT STOCK SHOWS AS RECORDED IN EXTENSION SERVICE REPORTS - 1925 to 1959

Fiscal Year	Number of Shows	Fiscal Year	Number of Shows	Fiscal Year	Number of Shows
1925-26	4	1937-38	7	1948-49	15
1926-27	4	1938-39	7	1949-50	15
1927-28	4	1939-40	8	1950-51	10
1928-29	5	1940-41	6	1951-52	10
1929-30	5	1941-42	7	1952-53	5
1930-31	6	1942-43	7	1953-54	12
1931-32	6	1943-44	11	1954-55	15
1932-33	4	1944-45	14	1955-56	14
1933-34	4	1945-46	15	1956-57	11
1934-35	5	1946-47	18	1957-58	7
1935-36	6	1947-48	16	1958-59	4
1936-37	7				

Seed Fairs and Dressed Poultry Shows - Seed fairs and dressed poultry shows, as activities of agricultural societies, were sometimes held separately, but frequently they were combined or held at the same time. The numbers of each kind of show held per year during this sub-period are shown in Table 40.

TABLE 40. SEED AND DRESSED POULTRY SHOWS HELD, AS AGRICULTURAL SOCIETY PROJECTS, BY YEARS IN THE 1925-1959 SUB-PERIOD

Fiscal Year	Seed Fairs	Dressed Poultry Shows	Fiscal Year	Seed Fairs	Dressed Poultry Shows
1925-26	15	15	1942-43	5	3
1926-27	13	14	1943-44	6	2
1927-28	15	16	1944-45	4	2
1928-29	15	14	1945-46	8	8
1929-30	18	17	1946-47	4	5
1930-31	15	12	1947-48	7	3
1931-32	9	7	1948-49	10	6
1932-33	8	5	1949-50	12	12
1933-34	8	4	1950-51	13	13
1934-35	4	1	1951-52	9	3
1935-36	5	1	1952-53	9	1
1936-37	11	5	1953-54	10	8
1937-38	12	6	1954-55	12	9
1938-39	24	3	1955-56	9	7
1939-40	10	7	1956-57	7	8
1940-41	6	5	1957-58	9	8
1941-42	6	3	1958-59	7	6

It should be noted that the figures in Table 40 refer only to seed fairs held under the auspices of agricultural societies as reported in the annual report of the Director of Extension through whom the departmental grants to agricultural societies were administered. They do not include several junior seed growers fairs and 4-H Club seed competitions, or exhibitions and competitions held in connection with the grain improvement projects developed by the crop specialists and agricultural representatives of the Department, or sponsored by seed grower associations, or by commercial and other organizations, etc., which, though judged by the crop specialists of the Department, were not supported by the Ministry of Agriculture through agricultural society grants. Consequently, the figures given in Table 40 may differ from figures for all seed fairs judged by crop specialists of the Extension Service prior to 1954 and by the crop specialists in the subsequent annual reports of the Soils and Crops Branch.

Provincial Soil Products Exhibition - Further in connection with seed fairs, reference should be made to the Provincial Soil Products Exhibition. The annual reports of the Director of Extension record that the Provincial Soil Products Exhibition was held in Brandon for the first time in conjunction with the Manitoba Provincial Winter Fair on March 14th to

16th, 1925. The report for the year ending April 30th, 1928, notes that the Soil Products Exhibition (the fourth held at Brandon) was the 22nd annual show, thereby indicating that the first Provincial Soil Products Exhibition held at Brandon was the 19th annual exhibition, and that the initial Provincial Soil Products Exhibition was organized in 1907.

Prior to 1925 the Provincial Soil Products Exhibition had been held at various sites including the Agricultural College; the Industrial Bureau Building, Main and Water Street; and elsewhere in Winnipeg. Subsequent to 1925 the Provincial Soil Products Exhibition continued in conjunction with the Winter Fair at Brandon until 1932-33. It was then discontinued in the fiscal year 1933-34. From 1935 to 1941 the Soil Products Exhibition was held in the T. Eaton Company store in Winnipeg. In 1942 the Provincial Soil Products Exhibition was discontinued due to a wet fall, and war-time conditions, and was cancelled for the duration.

During the war years the Winter Fair Building at Brandon was in use as a Manning Depot for Air Force personnel and was therefore unavailable for winter fair activities until the building was no longer needed by the Department of National Defence.

After six years the Winter Fair Building was returned to the Holding Company and the seed show in connection with the Brandon Winter Fair (after an absence of 12 years) was again held in its former home on April 2nd to 4th, 1946, and recorded as "featured by an excellent display of horses, fat cattle, swine, poultry, and a small seed and grain show."

In 1947 the seed section at the Brandon Winter Fair included "a large section utilized for the inter-provincial (Alberta, Saskatchewan and Manitoba) National Barley Contest samples."

From this time onward the grain show continued as a part of the Brandon Winter Fair, and in 1955, "at the suggestion of the Manitoba Branch of the Seed Growers Association, and the Soils and Crops Branch, a new section was added. . . . This consisted of pedigree seed classes of cereals, flax and forage seed. . . . This section of the fair was an outstanding success."*

In subsequent years the annual reports of the Ministry of Agriculture refer to this exhibition as the Manitoba Winter Fair; and further record that a representative of the Soils and Crops Branch served on the Winter Fair Board as a member of the Seed Show Committee. For some years the grain shows, subsequently held in connection with the Brandon Winter Fair, were further assisted by the agronomists of the Soils and Crops Branch who secured and stored the Manitoba seed exhibits returned from the Royal Winter Fair (Toronto). These exhibits were forwarded in due time to Brandon at provincial expense and entered in the grain show; later, the Ministry adopted the policy of returning the exhibits directly to the respective growers.

Plowing Matches - Plowing matches as an activity of agricultural societies reached the peak number of 30 in 1921, but during the 1925-1959

* Annual Typed Report, Provincial Department of Agriculture.

sub-period only a few societies maintained continued interest in this activity. The number of plowing matches held annually under agricultural society auspices during this sub-period is shown in Table 41.

TABLE 41. NUMBER OF PLOWING MATCHES HELD ANNUALLY -
1925 to 1959

Fiscal Year	Number of Plowing Matches Held	Fiscal Year	Number of Plowing Matches Held	Fiscal Year	Number of Plowing Matches Held
1925-26	12	1937-38	3	1948-49	4
1926-27	16	1938-39	5	1949-50	6
1927-28	8	1939-40	5	1950-51	6
1928-29	9	1940-41	4	1951-52	5
1929-30	10	1941-42	3	1952-53	6
1930-31	6	1942-43	3	1953-54	2
1931-32	3	1943-44	2	1954-55	2
1932-33	3	1944-45	2	1955-56	5
1933-34	2	1945-46	3	1956-57	5
1934-35	1	1946-47	2	1957-58	4
1935-36	1	1947-48	2	1958-59	3
1936-37	2				

The decline in the number of plowing matches from the peak point of 30 in the previous sub-period (Page 213) to 12 in 1925-26 and decreasing further in the following years, are indicative of changes taking place at this time on Manitoba farms due to a variety of causes, including: the increasing need to utilize stubble as trash cover in the control of soil drifting; the growing interest in mechanization and the accompanying substitution of disks, cultivators, rod-weeders and other surface tillage machines for the plow; and the passing of many old time farm horsemen with their pride in draught horses and efficient operation of horse-drawn tillage and seeding equipment.

At the earlier plowing matches, the classes for competition were of necessity designed for horse-drawn gang-plows, sulky-plows and walking-plows, but, as gasoline tractors became more common on family farms, classes for tractor-drawn plows were introduced at plowing matches as a novelty attraction. Later, the tractor-drawn classes became dominant and horse-drawn classes more or less faded out. The figures in the foregoing tabulation also suggest that (except for the Provincial Plowing Match which continued to be held annually in the home district of the previous year's champion plowman) the local society plowing match, with its effect on the husbandman-like manner of tillage operations which it inspired, ceased to command the interest of a later generation of farm operators.

"Standing Crop" and "Combined Standing Crop and Seed" Competitions - "Standing Crop" competitions as an agricultural society activity (which were introduced in 1910 in an attempt to encourage good farming as well as good seed production, and which increased in number

until 1921 when 29 competitions were held - Page 212) decreased rapidly in number during the 1925-1959 sub-period. "Standing Crop and Seed" competitions also were initiated but this activity (although it was well supported in the Miami district) did not receive the general support of agricultural societies. Barley, corn, and later flax "standing crop and seed" competitions were held at a limited number of points. The number of societies which held these competitions annually is shown in Table 42.

TABLE 42. NUMBER OF AGRICULTURAL SOCIETIES HOLDING "STANDING CROP" AND "STANDING CROP AND SEED" COMPETITIONS IN THE 1925-1959 SUB-PERIOD

Fiscal Year	Number of Societies Holding		Fiscal Year	Number of Societies Holding	
	Standing Crop Competitions	Standing Crop & Seed Competitions		Standing Crop Competitions	Standing Crop & Seed Competitions
1925-26	12	1 (Barley)	1942-43	1	4 (Flax)
1926-27	13	2 (Corn and Barley)	1943-44	1	3 "
1927-28	6	1	1944-45	1	4 "
1928-29	7	1	1945-46	2	4 "
1929-30	10	1	1946-47	1	4 "
1930-31	12	1	1947-48	1	5 "
1931-32	10	1	1948-49	1	5 "
1932-33	2	1	1949-50	2	3 "
1933-34	18	—	1950-51	1	4 "
1934-35	—	—	1951-52	—	4 "
1935-36	—	2 (Flax)	1952-53	—	4 "
1936-37	1	5 "	1953-54	—	—) Project discontinued
1937-38	4	5 "	1954-55	—	—) because
1938-39	5	5 "	1955-56	—	—) disease resis-
1939-40	2	4 "	1956-57	—	—) tant flax
1940-41	2	4 "	1957-58	—	—) varieties were
1941-42	2	4 "	1958-59	—	—) not available at this time

Summerfallow Competitions - Summerfallow competitions apparently had little appeal as an agricultural society activity in the 1925-1959 sub-period. One summerfallow competition was held at Ste. Rose in 1926. This increased to two competitions in 1927 and 1928, and to three competitions in 1929. This endeavor was then discontinued until two competitions were held in 1936, and then reduced to one competition that was held at Harding for the five consecutive years 1937-1941. One more effort was made to revive summerfallow competitions at Pilot Mound in 1948, subsequent to which this endeavor was finally discontinued as an agricultural society activity.

Garden Competitions - Although garden competitions are normally an activity of horticultural societies, a few "garden" competitions were sponsored by agricultural societies. Four agricultural societies held garden competitions in 1925; 4 in 1926; 5 in 1927; 8 in 1928; 5 in 1929; 7 in 1930;

5 in 1931; and 2 in 1932. Strathclair Agricultural Society held garden and home grounds competitions - one for farmsteads and one for town gardens or lawns and flowers - from 1936 to 1955. The McAuley Agricultural Society held a competition for farm gardens in 1941, and the Archie Agricultural Society sponsored a home grounds competition in 1955.

Seed Cleaning Plants - In 1927 the Dufferin Agricultural Society established a seed cleaning centre at Graysville. Other societies adopted this project as a society activity until, at the mid-point of the 1925-1959 sub-period, 21 societies were involved. However, after reporting 18 seed cleaning plants in operation as agricultural activities in 1949-50, the Director of Extension records in the annual report of 1950-51, that:

"The seed cleaning plants controlled by the Agricultural Societies have about outlived their usefulness. The purchase of modern cleaning machinery by many farmers in the districts has been found to be more satisfactory than an itinerant or central plant. The difficulty in securing competent operators for the winter months has been a serious handicap. Unless the equipment is kept in good repair and is controlled by an intelligent operator the results are not satisfactory to the farmers."

(ii) Horticultural Societies

Horticultural societies - which in respect of receiving grants from the Ministry of Agriculture were declared to be agricultural societies "within the meaning of The Agricultural Societies Act" (Page 118), and which had increased in number from 2 to 17 during the previous or M.A.C. Sub-Period (Page 214) - showed a wide variation in number of active societies, and in number of members during the 1925-1959 sub-period.

The available data in respect of horticultural societies shown in Table 43 indicate the progress that was maintained until arrested by the drought and war years, and the increased development that ensued in subsequent years and in the succeeding period.

It may be noted that in some years two shows were held by a given society, and it should be restated also that, in addition, a number of agricultural societies supported horticultural shows of fruit, flowers and vegetables.

The names of horticultural societies with their respective charter number are listed in Appendix V.

(iii) Poultry Associations

Outside of the poultry exhibits held in connection with the fairs and dressed poultry shows sponsored by agricultural societies, the number of poultry shows sponsored by active poultry associations never became numerous in Manitoba. In the first year of the 1925-1959 sub-period six local poultry associations, in addition to the Provincial Poultry Association, were listed by the Director of Extension Service. Of the local poultry associations only four held shows, i.e. Dauphin, Neepawa, Portage and St. James-Assiniboia.

In the last year of the sub-period, 1958-59, Foxwarren and Neepawa were the only poultry associations to hold shows and to receive departmental grants for prize money through the Director. It is obvious,

TABLE 43. NUMBER OF HORTICULTURAL SOCIETY CHARTERS; MEMBERSHIP GRANTS; AND NUMBER OF FAIRS HELD IN POST M.A.C. SUB-PERIOD, 1925-1959, AND IN SUBSEQUENT YEARS

Fiscal Year	No. of Charters Issued to Date	Societies Receiving Grants Based on Active Members		No. of Horticultural Fairs Held	Fiscal Year	Charters Issued to Date	Societies Receiving Grants Based on Active Members		No. of Horticultural Fairs Held
		No. of Societies	No. of Members				No. of Societies	No. of Members	
1925-26	15	15	1,663	16	1942-43	30	9	1,124	7
1926-27	16	16	1,583	19	1943-44	30	7	1,099	8
1927-28	22	17	1,787	20	1944-45	30	8	1,379	7
1928-29	23	22	1,870	23	1945-46	31	8	1,655	8
1929-30	26	23	1,836	19	1946-47	33	9	1,821	7
1930-31	27	25	2,120	26	1947-48	33	13	2,104	12
1931-32	27	26	2,344	20	1948-49	33	13	2,225	13
1932-33	27	22	1,804	20	1949-50	34	11	2,088	12
1933-34	27	Government Grant temporarily discontinued		11	1950-51	35	12	1,768	13
1934-35	28			16	1951-52	36	17	2,431	17
1935-36	29			16	1952-53	38	17	2,440	17
1936-37	30	12	1,170	10	1953-54	38	19	2,740	19
1937-38	30	14	1,100	15	1954-55	39	19	2,914	20
1938-39	30	17	1,414	19	1955-56	41	20	2,980	20
1939-40	30	14	1,159	14	1956-57	43	23	3,058	23
1940-41	30	13	1,125	13	1957-58	45	26	3,316	26
1941-42	30	11	1,079	9	1958-59	47	26	3,644	26
1959-60	49	30	3,959	30	1964-65	52	33	4,538	31
1960-61	49	32	4,136	29	1965-66	52	34	4,627	33
1961-62	50	32	4,254	28	1966-67	55	35	4,319	33
1962-63	50	32	4,334	30	1967-68	56	35	4,180	35
1963-64	51	32	4,325	31	1968-69	59	38	4,376	40

therefore, that the "records of performance", and the increase in quantity and quality of poultry and poultry products produced by commercial and farm flocks, during this sub-period, are a far better measure of the activities and the services rendered by the Extension Service than are exhibitions favored by poultry fanciers and breed enthusiasts.

(iv) Women's Institutes

The Home Economists in the Extension Service (working in close association with the Director of Extension who was also Superintendent of the Manitoba Women's Institutes) continued to render outstanding service to the Women's Institutes during the Post M.A.C. Sub-Period. Except for the year 1925-26, when Mrs. Lottie Duncan of the Home Economics staff of the University of Manitoba acted as Secretary, the current Director of Women's Work served as Secretary on the Manitoba Women's Institute Advisory Board and, together with the Superintendent, carried on the business of the Department in connection with the Institutes.

In this capacity Miss Esther Thompson served for 15 years (1924-25 and 1926-27 to 1939-40); Miss Frances I. McKay for 15 years (1940-41 to Dec. 1954); Mrs. Evelyn Ames for 3 years (Sept. 1955 to 1957-58); Miss Lois Emmond for one year (1958-59); and Miss M. Loraine Houck served as acting secretary for eight months (Jan. to Aug. 1955).

The number of active Women's Institutes and the number of members during the 1925-1959 sub-period (supplemented by complementary data for the succeeding period) are given in Table 44.

TABLE 44. NUMBER OF ACTIVE WOMEN'S INSTITUTES IN MANITOBA AND TOTAL NUMBER OF MEMBERS IN POST M.A.C. SUB-PERIOD, 1925-1959; AND IN SUBSEQUENT YEARS

Fiscal Year	Number of Institutes	Number of Members	Fiscal Year	Number of Institutes	Number of Members
1925-26	121	3,500	1942-43	145	3,200
1926-27	126	3,500	1943-44	140	3,000
1927-28	—	—	1944-45	135	2,900
1928-29	128	3,500	1945-46	138	2,907
1929-30	132	3,500	1946-47	132	3,000
1930-31	129	3,500	1947-48	148	3,234
1931-32	131	3,474	1948-49	155	3,741
1932-33	132	3,298	1949-50	155	—
1933-34	134	3,413	1950-51	162	3,864
1934-35	135	3,371	1951-52	176	4,217
1935-36	142	3,442	1952-53	176	4,217
1936-37	145	3,702	1953-54	176	4,386
1937-38	148	3,733	1954-55	173	4,110
1938-39	154	4,000	1955-56	175	4,109
1939-40	158	3,545	1956-57	177	4,038
1940-41	158	3,600	1957-58	176	3,747
1941-42	157	3,400	1958-59	176	3,788
1959-60	175	3,651	1964-65	172	3,053
1960-61	176	3,547	1965-66	171	3,337
1961-62	178	3,581	1966-67	166	3,189
1962-63	176	3,554	1967-68	163	3,032
1963-64	175	3,550	1968-69	158	2,939

The figures in Table 44 show an increase of about 45 percent in the number of institutes during this sub-period, and an overall average of 24 members per institute.

The designation of the local Women's Institutes, together with the year of organization and the year the charters were issued, are listed in Appendix VI.

(v) Junior Clubs

In August, 1929, all junior club work (some of which had been taken over by the school inspectors of the Department of Education subsequent to 1914 - Pages 221-222) was transferred back to the Extension Service. Following this transfer the boys' and girls' club work was reorganized under the Assistant Director of Extension. The former policy of organizing central clubs to carry on a dozen or more projects was discontinued. The policy now adopted involved the organizing of specialized 4-H Clubs in which all members undertook one and the same project.

During the larger portion of this sub-period the current Assistant Director of Extension was nominally the Supervisor of Boys' and Girls' Clubs, but as the work grew, other personnel were added to the Extension staff. From 1931 to 1933, J.R. Racine served as Boys' Club Assistant. Later, various students were employed as fieldmen to assist in boys' club work during several summer seasons. In 1949, H. Morley Douglas was appointed to the Extension Service staff, and until 1952 assumed supervision of 4-H Clubs. Finally, in 1952, J.F. Muirhead was appointed Supervisor of 4-H Clubs. In this work he was assisted by G.C. Jenkins, as 4-H Club Agronomist, 1954-1955; and by E.W. Somers, as 4-H Club Specialist, from 1955 to the end of the sub-period.

Following the return of all boys' and girls' club work to the Extension Service Branch, Elsie Mooney was appointed, in 1929, as the Home Economist member of the Extension staff to organize girls' club work. In 1930, Jessie B.L. Stewart was engaged part time in this work, and took charge of girls' clubs from 1931 to 1940. She was assisted and, in turn (until the women's work was reorganized in 1951), was succeeded by a succession of Home Economic graduates, most of whom (chiefly by reason of marriage) served for relatively short terms only. The personnel thus involved are recorded in the annual reports of the Director as:

Elsie Mooney, 1929-1930; Jessie B.L. Stewart, 1930-1940; Ruth Cormack, 1938-1942; Della Lawson, 1941-1944; (Mrs.) Ruth Caldwell, 1942; Maxine Black, 1942-1944; (Mrs.) Ruth Wilson, 1943-1944; Laura Muirhead, 1944-1948; (Mrs.) Olive G. Trinder, 1944-1945; Doris Baskerville, 1944-1950; C.L. Johannesson, 1946-1948; Kristine Anderson, 1946-1948; Leila McDonald, 1948-1950; G. Milner, 1948-1951; Joyce Lee, 1949; Grace Atkins, 1949-1951; Dorothy Sissons, 1949-1951; Ruth Bajus, 1951; and Kay Thomas, 1951.

Subsequent to 1951, District Home Economist centres were established in rural areas which then became convenient centres for local supervision of girls' club work.

The development of the specialized 4-H clubs, and the increase in the number of club members during the 1925-1959 sub-period, are shown in Table 45(a). However, in addition to the junior clubs listed, other clubs were organized which operated under the Extension Service Branch for a few years only during this sub-period, i.e.: Farm and Home Clubs, 4 years; Beef Heifer Calf Clubs, 3 years; Sugar Beet Clubs, 3 years; Sweet Corn Clubs, 1 year; Beekeeping Clubs, 1 year; Orchard Clubs, 1 year; Health Clubs, 1 year; and Canning Clubs, 1 year. (Corresponding data for the succeeding period are presented in Table 45(b) to facilitate continuity comparison.)

(b) Agricultural Extension Personnel

Although the Director of Extension Service was directly responsible, under the Minister, for the routine administrative duties concerned with government grants, financial aid, and business involvement in connection with agricultural and kindred societies (as noted in the preceding section); and for the organization and supervision of the Extension Service Branch as a whole; the educational and inspirational activities in connection with extension work in the country were detailed to a gradually enlarged staff of agricultural and home economics specialists whose activities (in co-operation with agricultural representatives, rural groups and individuals, and through "Farm, Home and Community") were directed to giving departmental leadership to agriculture throughout Manitoba.

(i) Extension Agronomists

For the first half of the 1925-1959 sub-period and up to the close of the war of 1939-1945, the agronomic extension activities of the Extension Service were carried on, in any one year, with only two full time agronomists. During the next nine years the agronomic staff was increased to four agronomists and three soil specialists. The agronomists of the Extension Service Branch, from 1925-26 to the end of World War II in 1945, consisted of:

J.A. McGregor, 1914-1936; R. Whiteman, 1927-1950; R. Clark, seasonal student assistant, 1930; and D.M. McLean, 1936-1946.

From 1946 to 1954 the agronomy section of the Extension Service Branch consisted of:

additional Agronomists: P.H. Ford, 1949-1954+; J.A. Tooth, 1950-1954; C.C. Cranston, 1950-1954+; and J.E.B. Campbell, 1950-1954+.

Soil Specialists: J.M. Parker, 1946-1954+; H.E. Tolton, 1948-1954+; R.A. Wallace, 1953-1954+; and

D. Noton, Assistant, 1948-1950.

In 1954, agronomic extension was transferred from the Extension Service Branch, and all extension work in connection with soils and crops was reorganized and established as a separately directed "Soils and Crops Branch" under J.M. Parker, Director, and P.H. Ford, Assistant Director.

TABLE 45. (a) 4-H CLUBS — KIND AND NUMBER OF CLUBS AND OF CLUB MEMBERS BY YEARS, 1925-1959

Fiscal Year	Swine Clubs		Beef & Dual Purpose Cattle Clubs		Dairy Cattle Clubs		Junior Seed Growers Clubs		Tractor Clubs	
	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members
1925-26	19	486	—	—	—	—	—	—	—	—
1926-27	26	670	—	—	—	—	—	—	—	—
1927-28	32	808	—	—	—	—	—	—	—	—
1928-29	30	762	4	60	1	27	22	302	—	—
1929-30	28	887	4	59	6	115	22	297	—	—
1930-31	24	780	8	136	11	168	29	330	—	—
1931-32	32*	1,162	12	211	12	139	32	319	—	—
1932-33	26	841	27	—	—	404	38	372	—	—
1933-34	21	569	17	224	7	119	34	323	—	—
1934-35	20	564	11	221	7	92	38	378	—	—
1935-36	20	500	21	373	11	124	56	604	—	—
1936-37	28	907	24	474	9	125	76	805	—	—
1937-38	23	595	25	469	11	170	85	932	—	—
1938-39	22	595	24	525	12	189	103	1,124	—	—
1939-40	33	929	35	728	15	184	121	1,310	—	—
1940-41	57	1,212	45	725	12	144	125	1,368	—	—
1941-42	44	753	49	836	9	112	98	1,000	—	—
1942-43	30	504	49	683	12	132	72	708	—	—
1943-44	13	182	40	509	14	197	51	525	—	—
1944-45	14	213	40	535	15	195	54	576	—	—
1945-46	11	177	46	675	27	330	54	599	—	—
1946-47	10	148	49	730	18	204	58	651	—	—
1947-48	11	176	68	951	25	297	84	952	—	—
1948-49	8	127	80	957	23	249	86	1,084	—	—
1949-50	14	150	87	1,104	16	173	82	1,005	—	—
1950-51	12	163	79	995	15	137	82	1,035	20	317
1951-52	21	296	81	950	15	194	85	1,126	32	485
1952-53	17	226	91	1,150	12	145	83	1,037	22	280
1953-54	16	230	94	1,252	14	195	78	984	30	369
1954-55	14	244	103	1,384	13	167	91	1,208	18	206
1955-56	16	230	125	1,725	11	151	74	1,055	14	150
1956-57	17	227	127	1,746	14	185	72	958	10	121
1957-58	16	221	130	1,913	18	228	69	892	13	186
1958-59	21	281	135	1,908	24	265	59	742	9	115

* Bacon Hog Clubs after 1932.

TABLE 45. (a) (Continued)

Fiscal Year	Potato Clubs		Poultry Clubs		Garden Clubs		Food Clubs		Clothing Clubs	
	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members
1925-26	—	—	—	—	—	—	—	—	—	—
1926-27	—	—	—	—	—	—	—	—	—	—
1927-28	—	—	—	—	—	—	—	—	—	—
1928-29	—	—	—	—	—	—	—	—	—	—
1929-30	5	—	9	94	3	34	8	93	30	323
1930-31	5	57	9	94	17	197	9	64	55	788
1931-32	5	70	15	145	18	204	5	59	61	801
1932-33	6	63	19	211	38	435	6	66	64	834
1933-34	19	216	17	193	29	308	7	71	78	1,035
1934-35	26	310	17	245	33	325	10	85	80	920
1935-36	24	274	20	232	48	550	9	74	91	1,129
1936-37	23	233	20	223	66	695	6	65	101	1,306
1937-38	26	260	18	182	71	720	4	47	114	1,224
1938-39	20	195	20	229	78	878	11	99	132	1,560
1939-40	5	48	40	516	97	1,076	17	216	161	2,125
1940-41	3	40	152	2,286*	98	1,171	19	199	181	2,261
1941-42	3	30	113	1,234	100	1,108	8	78	197	2,170
1942-43	—	—	80	815	85	978	7	73	156	1,897
1943-44	—	—	52	529	47	485	14	102	136	1,816
1944-45	—	—	40	381	37	400	7	59	145	1,964
1945-46	1	11	28	263	52	429	7	68	153	2,087
1946-47	2	19	27	278	70	780	5	61	145	2,062
1947-48	—	—	25	275	56	674	17	214	163	2,516
1948-49	—	—	23	227	80	1,012	9	81	174	2,286
1949-50	3	26	23	245	76	896	11	95	186	2,440
1950-51	4	34	18	165	75	868	5	41	231	3,475
1951-52	35	443	25	270	94	1,058	7	75	250	3,232
1952-53	24	240	19	195	102	1,145	15	134	257	3,383
1953-54	31	346	21	210	125	1,483	15	134	257	3,383
1954-55	31	366	21	241	128	1,765	10	108	226	2,876
1955-56	33	391	17	182	115	1,559	13	184	219	3,334
1956-57	30	401	16	161	109	1,449	18	184	235	3,638
1957-58	28	358	10	102	100	1,382	24	266	209	3,199
1958-59	22	256	11	107	79	940	17	172	213	3,370

* Increase due to financial assistance in purchase of 25 chicks from Manitoba Poultry Marketing Association.

TABLE 45. (b) 4-H CLUBS — KIND AND NUMBER OF CLUBS AND OF CLUB MEMBERS SUBSEQUENT TO 1959

Fiscal Year	Beef Clubs		Beef Heifer Clubs		Dairy Clubs		Swine Clubs		Sheep Clubs	
	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members
1959-60	127	1,794	15	112	26	284	25	325	4	51
1960-61	120	1,718	20	156	25	303	20	242	4	47
1961-62	140	2,201	18	126	31	356	18	237	4	45
1962-63	143	2,073	22	138	30	343	14	197	3	28
1963-64	149	2,247	24	168	26	266	14	172	3	26
1964-65	154	2,324	29	251	24	258	13	157	2	27
1965-66	148	2,200	26	193	21	231	11	155	2	29
1966-67	146	2,079	28	187	20	215	7	94	1	11
1967-68	140	1,934	23	183	19	188	6	77	—	—
1968-69	133	1,755	21	157	20	204	7	65	—	—

Fiscal Year	Sugar Beet Clubs		Light Horse Clubs		Automotive Clubs		Woodworking Clubs		Other *	
	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members
1959-60	19	277	—	—	—	—	—	—	3	39
1960-61	18	254	—	—	—	—	—	—	4	60
1961-62	13	158	3	57	1	14	1	9	2	27
1962-63	10	137	14	187	3	55	9	117	1	8
1963-64	11	152	22	289	11	151	13	142	2	13
1964-65	15	241	34	504	10	151	19	254	10	80
1965-66	14	196	30	423	8	72	26	325	4	28
1966-67	11	152	32	458	8	76	30	336	9	65
1967-68	9	106	36	561	9	117	27	228	7	54
1968-69	7	85	47	814	17	218	27	228	26	332

TABLE 45. (b) (Continued)

Fiscal Year	Poultry Clubs		Tractor Clubs		Seed Clubs		Garden Clubs		Potato Clubs	
	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members
1959-60	9	106	11	144	55	711	94	1,203	29	311
1960-61	6	74	13	166	52	700	84	1,101	27	291
1961-62	6	63	14	141	47	629	82	1,107	27	284
1962-63	5	45	10	117	43	561	82	1,081	24	269
1963-64	4	36	10	123	45	513	86	1,133	25	299
1964-65	3	29	11	104	44	474	83	1,080	19	203
1965-66	2	17	7	77	39	436	68	873	18	264
1966-67	2	17	8	71	42	526	56	783	14	172
1967-68	2	15	7	61	37	507	53	678	15	164
1968-69	1	13	5	48	41	495	52	671	10	122

Fiscal Year	Clothing Clubs		Food Clubs		Interior Design Clubs		Handicrafts Clubs		Junior Leader Clubs	
	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members	No. of Clubs	No. of Members
1959-60	221	3,790	12	115	—	—	—	—	—	—
1960-61	210	3,673	12	116	—	—	—	—	—	—
1961-62	223	3,745	16	186	2	11	—	—	—	—
1962-63	237	3,859	31	282	8	23	—	—	—	—
1963-64	210	3,456	41	402	7	26	—	—	—	—
1964-65	220	2,939	89	576	75	240	136	733	—	—
1965-66	215	2,708	83	500	81	229	152	790	162	366
1966-67	214	2,997	83	527	66	195	151	905	230	441
1967-68	215	2,887	89	521	72	260	154	933	224	438
1968-69	211	3,077	92	463	69	242	155	920	205	461

* "Other" clubs include Sweet Corn, Special Vegetable, Small Fruits, Landscaping, Hunter Safety, Photography, Dog Care and Training, etc.

(ii) Soils and Crops Branch

With better financial support, this new branch performed its assigned and assumed tasks with such vigor that the services rendered and demanded were greatly enlarged; so much so, that in the ensuing six years which remained in this sub-period, the staff of this branch had to be more than doubled to keep up with the expanding duties.

The soil specialists and agronomists of the Soils and Crops Branch, from its inauguration in 1954 to the close of the Post M.A.C. Sub-Period in 1959, consisted of:

J.M. Parker, Director, 1954-1959+; P.H. Ford, Assistant Director and Chief of Crops Division, 1954-1959+; R.A. Wallace, Soil Specialist, 1954-1959+; H.E. Tolton, Soil Specialist, 1954-1959+; C.C. Cranston, Agronomist, 1954-1959+; J.E.B. Campbell, Agronomist, 1954-1959+; L.B. Siemens, Agronomist, Special Crops, 1955-1956; G. Bonnefoy, Student Assistant, 1955-1956-1957 and Agronomist, Field Shelterbelts, 1958-1959+; K. Ridley, Student Assistant, 1955; R.L. Burton, Soil Specialist, 1956-1959+; H. McDougall, Student Assistant, 1956; D. Durksen, Agronomist, Special Crops, 1956-1959+; E.A. Poyser, Soil Specialist, 1957-1959+; M.C. McKay, Soil Specialist, 1957-1959+; C.M. Webber, Student Assistant, 1957-1958 and Soil Specialist, 1959+; G.T. Somers, Student Assistant, 1957-1958 and Soil Specialist, 1959+; J.R. Peters, Student Assistant, 1958 and Soil Specialist, 1959+; M. Barnabe, Agronomist, Forage Crops, 1958-1959+; D.G. Green, Student Assistant, Turf Grasses, 1958.

(iii) Extension Horticulturists

The position of Extension Horticulturist, which was established in 1921, was maintained in the Extension Service from 1925 to 1952 when the work of horticultural extension was enlarged by the appointment of a potato specialist, and in 1956 was further extended by the appointment of a vegetable specialist.

The personnel that rendered service in this field during the 1925-1959 period consisted of:

Provincial Horticulturists: J.R. Almey, 1921-1929; John Walker, 1929-1937; Vacant, 1938; C. Ray Ure, 1939-1943; Vacant, 1944-1945; M.R. Bevan, 1946-1947; and F.J. Weir, 1949-1959+.

N. Sandar was appointed Potato Specialist (1952-1955) and was succeeded by P.J. Peters (1955-1959+); and later L.G. Jorgenson was appointed Assistant Potato Specialist (1958-1959+). The position of Vegetable Specialist was created in 1956 and was filled by T.A. Sandercock who had served the Extension Service, formerly, as agricultural representative at Selkirk.

(iv) Extension Apiarists

Extension work in connection with bee-keeping was carried out by a provincial apiculturist, who was first attached to the Extension Service in

1921.* L.T. Floyd served in this position for 25 years, or from 1921 to 1945; and was succeeded by E.C. Martin (1945-1950) followed by D.R. Robertson, who held this office from 1951 to 1957 and then carried on apicultural extension together with the enlarged field of Department Entomologist.

(v) Extension Poultrymen

At the beginning of the 1925-26 fiscal year there was no full time poultry specialist on the staff of the Extension Service and the Director had to depend for assistance on the Poultry Department of the M.A.C. However, during the summer months of 1925, 1926 and 1927, F.B. Hutt was employed as Extension Poultryman. In the winter months, Hutt served as a member of the Poultry Department, M.A.C., until in September, 1927, he left under leave of absence to undertake graduate studies.

J.C. Scholes served as first full time Provincial Poultryman with the Extension Service (1928-1935); followed by D.C. Foster (1935-1954); and, after first serving as assistant in 1951, by J.R. Cameron (1954-1959+). Others who served as temporary or assistant poultrymen were: P.A. Kondra (1945-1946); M. Mitchell (temporary, 1947 and assistant, 1949-1950); and W.J. Lapka (1948).

(vi) Extension Agricultural Engineers

Agricultural engineers were not appointed as full time members of the Extension Service staff until 1939. The personnel that developed this phase of agricultural extension work during the 20 years 1939 to 1959 consisted of:

S.L. Tallman, 1939-1945; G.E. Bryce, 1945-1951; and, after temporary appointment in 1949, G. Holmes, 1951-1956; and E.P. Hudek, 1956-1959.

Others who served as assistant agricultural engineers were:

H.M. Lapp, 1951-1952; D.M. Dewan, 1954-1955; M.D. Thompson, 1955-1958; R.M. Halyk, 1958; and E.T. Oatway, 1959+, formerly Agricultural Representative at Baldur.

(vii) Extension Livestock Specialists and Temporary Fieldmen

At the beginning of the 1925-1959 sub-period the Assistant Director of Extension, H.E. Wood, supervised the livestock activities of Boys' and Girls' Clubs. Subsequent to this, however, and in addition to the projects carried out through the Livestock Branch, livestock specialists were appointed to the staff of the Extension Service Branch largely to carry on extension activities in connection with Junior Livestock Clubs.** These livestock extension specialists included:

W.D. Davies, 1928-1935; J.H. Conner (Assistant), 1930-1931; and F.G. Muirhead, 1935-1941.

* Page 227.

** See also 4-H Club Specialists, Page 358.

TABLE 46.

DISTRICT HOME ECONOMISTS AND DISTRICTS SERVED

1951 - 1959

(T) = Temporary

Year Inaugurated or Established	District	Home Economist	Period of Service	Previously Located At	Transferred To
1951	Dauphin	Shelagh M. Rowlette (1950) Bernice Murray Velma J. Reid	1951-1953 1953-1956 1957-	Winnipeg	Neepawa
1951	Souris	Mary McIntosh Myrna Ryan Mildred Clark Jean E. Renton Sylvia V. Mischuk	1951 (T) 1951-1952 1952-1954 1954-1957 1958-		Brandon
1951	Shoal Lake	Jean Thomson Beatrice Hodgson Elaine Barr Kathleen M. Laycock (Mrs. K.M. Prescott) Isobel Hamilton (Mrs.) Beverley Watts Ann M. Bastic Louise Batho	1951-1952 1952-1953 1953-1954 (1954-1955) (1956 (T)) 1955-1956 1957 (T) 1957 (T) 1958-		
1953	Winnipeg and Southeastern	Joyce Haig (1952) Mary O. Smart	1953-1954 1954-1955	Winnipeg	Supervisor, Home Economics
1953	Morden	Patricia Norris (1952) Mary O. Smart Margaret O. Muir Lessie O. Sawchuk (1951) Elizabeth M. Collyer (1956) Patricia B. Ross	1953-1953 1954-1954 1954-1955 1955-1957 1957-1958 (1957 (T)) (1958-	Winnipeg Portage Winnipeg	Brandon Winnipeg-Beausejour Director

Note: For first attempt to organize District Home Economists, see Page 217.

(Continued)

TABLE 46. (Continued)

(T) = Temporary

Year Inaugurated or Established	District	Home Economist	Period of Service	Previously Located At	Transferred To
1953	Brandon	Patricia Norris (1952) Lois G. Houston Mary E. Matheson (1954) Jean E. Renton (Mrs. J. E. Lang) Fern Soder	1953-1954 1954-1955 1956-1957 1957- 1958 (T)	Morden Teulon Souris	Brandon School Supervisor, Home Economists
1953	Portage la Prairie	Lessia O. Sawchuk M. Loraine Houck Rosie Ann Ling	1953-1953 1953-1954 1959-	Winnipeg	Morden Neepawa
1954	Teulon	Mary E. Matheson (Mrs.) Rhoda Kernsted Doreen McBeath E. Joan Darbey	1954-1956 1955 (T) 1956-1957 1957-		Brandon
1954	Morris	Lula I. MacLeod	1954-		
1954	Neepawa	M. Loraine Houck Shelagh M. Rowlette Lois I. Emmond Frances Lowes	1954-1955 1955-1957 1957-1958 1958 (T)	Portage Dauphin	Supervisor, Home Economists Supervisor, Home Economists Assistant Director
1955	Swan River	Yvonne M. Murray Barbara Mains	1955-1958 1958 (T)		
1957	Boissevain	(Mrs.) M. Pauline Broughton	1957-1958		
1958	Beausejour	Margaret McDole Edna M. Craig	1958 (T) 1958-		

A number of student assistants also were employed as fieldmen during the summer months, including:

C.J. Campbell, 1940; C.E. Goode, 1941; Earl J. McFadden, 1941-1942; Wallace O. Lee, 1943-1944; C.E.G. Bates, 1944-1945; and Ray DePape, 1947-1948.

(viii) Extension Economist

To meet the growing demand for assistance in the field of farm management and agricultural economics, the position of Agricultural Extension Economist was added to the Extension Service in 1957. This position was filled by L.B. Kristjanson during the remaining two years of this sub-period.

(ix) Extension Home Economists

As noted in a section dealing with previous years, extension work in home economics had to be conducted under the inevitable disadvantage of frequent changes in personnel of Household Science staff, due to the staff careers of personally attractive young women graduates, in possession of professional homemaking skills, being interrupted by marriage. Consequently, the Extension Service Branch was indeed fortunate in that, during the 1925-1959 sub-period, the first Director of Home Economics served from 1923 to 1940, and the second Director from 1940 to 1957. Thus for 33 of the 35 years of the 1925-1959 sub-period, the women's work in the Extension Service Branch was under the direction of only two Directors of Home Economics, each of whom gave nearly 18 years of continuous service (except for a few months leave of absence).

All women's work in extension was conducted or directed from the Winnipeg office of the Extension Service Branch. However, in 1951 the policy of locating District Home Economist offices in rural districts was adopted on a similar basis to that of agricultural representatives. To co-ordinate the work of the rural district home economists the position of Supervisor of District Home Economists was established and located in the Winnipeg office of the Extension Service. This position was occupied by five different supervisors from 1951 to 1958, when its function was superseded by the new office of Assistant Director of Home Economics.

The directors, supervisors and home economists of the Extension Service staff, as recorded in the reports of the Director of Extension, are listed below in chronological sequence. An outline of the district home economists and the districts in which they served is given in Table 46.

Directors: Esther Thompson, 1923-1940; Frances L. McKay, 1940-1957; Mary E. Matheson (Acting), 1957-1958; and Elizabeth M. Collyer, 1958+.

Supervisors of District Home Economists: (Mrs.) Evelyn Ames, 1951-1954 (continued after retirement age as Clothing Specialist, 1954-1959); Mary O. Smart, 1955; M. Loraine Houck, 1955-1957; (Mrs.) Shelagh M. Gilmore (nee Rowlette), 1957; and Mary E. Matheson, 1957-1958.

Assistant Director: Lois I. Emmond, 1958+.

Home Economists: Isabelle Alexander, 1926-1935; Gretta Lyon, 1928(T)*; Jessie B.L. Stewart, 1928(T); (Mrs.) Evelyn Ames, 1929-1951; Margaret Calder, 1929-1933; M. Norma Smillie, 1934-1938; Frances I. McKay, 1935-1938; Constance Boyes, 1938-1940; Mabel McCalpin, 1938-1940; Jeanne Simpson, 1938-1942; Edna McConnell, 1939-1940 (Asst. Ag. Rep., Dauphin, 1940); Margaret Bergsteinson, 1940-1946; Bernice Madson, 1940-1942; (Mrs.) Ruth Smythe, 1942(T), 1943(T), 1944(T); Elaine Feldsted, 1944(T); Marian M. Kavalec, 1944-1946; Reta Rabe, 1945-1949; Margaret Dyker, 1947-1949; Doreen Davidson, 1948(T); Mary E. Deacon, 1949-1950; Betty Graham, 1949-1950; Shelagh M. Rowlette, 1950-1951; Grace Douglas, 1950-1952; Beverley Scurfield, 1951-1952; Lessia O. Sawchuk, 1951-1953; Joyce Haig, 1952-1953; Patricia Norris, 1952-1953; Rosemary Brock, 1952(T); Edith Strang, 1953(T); Elizabeth M. Collyer, 1956(T); Patricia B. Ross, 1957(T); Helen J. Aikman, 1957(T); Phyllis Axon, 1958(T); and Carol M. Sanderson, 1959+. (See also Home Economists and Girls' 4-H Clubs, Page 358).

(x) Agricultural and Homemaking School, Brandon

Towards the end of the 1925-1959 sub-period, the educational endeavors of the Extension Service Branch were enlarged through the establishment of an Agricultural and Homemaking School in the city of Brandon. For this purpose the Department of Agriculture acquired the Normal School at Brandon, installed a kitchen, and used one of the classrooms as a dining room. The gymnasium in the basement was turned into a dormitory for girls, and an "H" Hut in the Military Hospital grounds - loaned by the Department of National Defence - was used as a dormitory for boys. Beds, mattresses, kitchen equipment, etc., were purchased from War Assets Corporations, and a large drill hall provided facilities for the farm machinery and farm equipment on loan from Brandon implement dealers for instructional purposes.

The first courses given consisted of (1) a course in agriculture provided by the specialist staff of the Extension Service with assistance from the staff of the Dominion Experimental Farm, Brandon; and (2) a course in home economics, of a practical nature, given by members of the Home Economic Extension staff. Some 92 men (60 veterans) and 20 young women attended those first courses given from January 15th to March 14th, 1947. The fees charged each student consisted of \$50.00 for board and room; \$5.00 for registration fee; and \$5.00 student fee. The students planned and organized their own student activities under a system of student self-government. The course concluded with a banquet, at which certificates of attendance at the school were awarded.

The school was again opened for courses on November 3rd, 1947, and a second winter course was held from January 6th to March 12th in 1948. The instructors for these classes were again drawn from specialists on the Extension Service staff.

* (T) = Temporary.

Subsequently, the Agricultural and Homemaking School at Brandon became an educational centre for general and special short courses, with a resident Principal and a Home Economist who generally served as Assistant Principal and Dietitian. Moreover, as the winter courses in agriculture were enlarged, the students who qualified were given standing that entitled them to be admitted to the second year of the Diploma Course in agriculture at the University of Manitoba.

The Principal of the Agricultural and Homemaking School was assisted both by various members of the Extension staff, according to the short course subject matter, and by various personnel engaged as temporary instructors for the duration of the courses. The annual reports of the Director of Extension record the school personnel from 1948 to 1959 (exclusive of the regular staff members assigned for the duration of courses) as:

Principals: C.E. Goode, 1948-1951; E.H. Lange, 1952-53; C.E.G. Bates, 1953-1956; R.E. Forbes, 1956-1959+.

The Home Economic instructors at the Brandon School (including some regular staff members assigned for the duration of certain courses), as recorded by the Director of Extension Service, include:

Laura Muirhead, 1948-1949; Margaret Dyker, 1949-1953; (Mrs.) V.R. Maunders, 1950-1951; Pauline Tennant, 1950-1951; (Mrs.) D. Graham, 1952-1953; Patricia Norris, 1953-1954; Lois G. Houston, 1954+; (Mrs.) R. Toews, 1953-1954; Joyce McKinnon, 1955; Mary Matheson, 1956-1957; (Mrs.) P. Elviss, 1956; (Mrs.) Olive Trinder, 1955-1956; R. Bajus, 1955-1956; Jean E. Lang (nee Renton), 1957-1959+.

(c) Activities of Extension Service Specialists

Although the activities of the agricultural specialists on the Extension Service staff were primarily concerned with agricultural education, inspiration and leadership; nevertheless, most of them (from time to time and as need required) were detailed to assist, or to carry out field work or other duties, in connection with various administrative and service activities (such as are outlined in the foregoing sections) as departmental projects in which the Deputy Minister and the Director of Extension were directly involved.

Furthermore, although a number of specific endeavors or contributions of historic interest are here recorded as undertaken by various extension specialists to meet peculiar problems or current needs during the 1925-1959 sub-period; there were, in addition, a large number of general activities more or less common to all extension workers which need not be elaborated, but can be noted as including:

judging at fairs and competitions; conducting short courses; giving lectures and demonstrations in their own field of endeavor; working with the agricultural representatives on general and local problems; making surveys or rendering service in respect of drought and flood relief; carrying out investigations; acting as consultants or agricultural

advisors; answering inquiries from farms, homes and schools; preparing bulletins, pamphlets and press articles; and giving radio talks on timely topics; etc.

(i) **Adaptation of Extension Activities to Agronomic Problems
in the Earlier Portion of the 1925-1959 Sub-Period**

Throughout the first 20 years of the 1925-1959 sub-period, and apart from routine duties, the educational activities of the extension specialists were directed to combating the crop production problems peculiar to the times. The problems of cash crop production were of first importance.* These problems were followed by problems of feed and seed shortage, of soil and water conservation, of soil drifting control, and of relief measures incident to the drought years; and then by the war-time production problems of 1939-1945.

Consequently, most of the projects undertaken by the extension agronomists during the first half of the sub-period were concerned with the promotion of crops that could be used as cash crop substitutes for wheat; with seed and crop improvement; and with attempting to arouse interest in the increased production of feed and forage crops on Manitoba farms. In the latter half of the sub-period soil specialists were added as agronomic extension workers to deal with the additional problems of soil and water conservation.

In the approach to the agronomic problems, and despite the limitations imposed during the difficult years of the early portion of the sub-period, the extension agronomists, though few in number, rendered outstanding service to Manitoba, and more especially so as more and more agricultural representatives were appointed through whom their endeavors were greatly enlarged. They also secured and were supported by assistance and voluntary aid from members of the Agronomy Department of the Agricultural College, and of various branches of the Federal Department of Agriculture; by financial assistance and personal aid from service departments of the Manitoba Pool Elevators, the United Grain Growers, and the North-West Line Elevator Association; also by support from malting companies, the Brewing and Malting Research Institute, the railway companies, and various commercial and service organizations.

Attempts to Promote Cash Crop Substitutes for Common Wheat

Early in this sub-period efforts were directed by various means to increase the supply of improved seed of cash crops to replace the currently grown varieties of wheat which were becoming more and more unreliable because of susceptibility to stem-rust. Major efforts also were directed to improving the quality of seed grain sown on Manitoba farms.

One of the crops which appealed to farmers as a cash crop substitute for the wheat varieties currently grown in the prairie region was durum wheat.** The durum variety, Mindum (which originated at the University of

* Page 269 .

** Page 269 .

Minnesota and was brought to Manitoba in 1917), was improved through rigorous selection by Professor W.T.G. Wiener at M.A.C., and in 1924* was the first of the durum wheats to be accepted for registration. In 1925, seed of this crop was distributed by the Field Husbandry Department of the Agricultural College to several seed growers in the districts of Ste. Agathe, Manitou, Melita and Killarney, from which a surplus of 1,850 bushels was produced, of which over 1,000 bushels were registered. In an effort to retain as much of this seed as possible in Manitoba, the extension agronomists organized groups of "Mindum Seed Growers", and through inspection and personal contact with the growers assisted in increasing the acreage and distribution of this crop.

Subsequently, Mindum wheat played a useful role for some years in maintaining the total acreage of wheat in Manitoba,* and for a time this variety was held in high esteem for its high macaroni-making qualities and for its high degree of drought tolerance; but later, races of stem-rust to which Mindum was susceptible became prevalent, and this weakness, together with its habit of lodging when grown on rich soils in wet seasons, led to a rapid decrease in the acreage of this crop as soon as more rust-resistant varieties of wheat were forthcoming.

Other growers, strongly encouraged by Professor T.J. Harrison, turned to the growing of barley as a cash crop. Moreover, there was at this time an increasing demand for barley more suitable for malting purposes than the barley commonly grown as feed grain on Manitoba farms. Furthermore, pure strains were necessary for barley to be eligible for malting grades.

In 1925, a combined seed barley competition was carried on in the Miami district by 10 members, each with from five to ten acres of O.A.C.21 barley, the seed of which had been introduced into the district from the improved strain selected at the Agricultural College by Professor W.T.G. Wiener. From this competition a surplus of 1,800 bushels of Registered and Extra No. 1 seed was secured and distributed chiefly among barley seed growing centres at Birtle, Manitou, Warren, Carman and Ste. Rose. This was followed up by the extension agronomists who, working closely with the Field Husbandry Department, M.A.C., and the Canadian Seed Growers Association, formed seed improvement associations, and thus helped forward the work of improvement, production, and distribution of better seed barley.

As early as 1927 and 1928, comparative tests of five-acre lots of grain, including barley, sown with registered seed in comparison with five-acre lots of seed commonly grown, were carried out through a number of agricultural societies; and special efforts were made by the extension agronomists to increase the amount of registered and certified seed grain through the activities of Junior Seed Growers Clubs.

In 1932, a committee was formed in an attempt to stimulate an interest in the production of malting barley. Two sub-committees were appointed, i.e. a Producers Committee and an Export Committee. The extension

* Page 237 .

agronomists assisted this program by various services and, in 1933-34, barley test plots were secured on 83 farms, on which the land owners co-operated with the agronomists and the Agricultural College in growing seven different varieties of barley. Samples of the plots harvested were forwarded to the College to be tested for malting quality. This work was carried on for a number of years.

In 1936, and for a number of succeeding years, the agronomists co-operated with the Canada Malting Company in sponsoring a "Carlott Malting Barley Competition" among junior seed growers clubs. Carlotts were judged from the commercial grading samples obtained by officers of the Grain Inspection Division before the cars were deferred to the malthouse from the railway yards. After the samples were judged, prizes were awarded by the Malting Company in the cash amount of: 1st prize - \$30.00; 2nd Prize - \$20.00; 3rd Prize - \$15.00.

Variety trials of barley also were continued over a number of years in co-operation with the National Barley Committee, the Agronomy Department of the University, and the Manitoba Pool Elevators. (In 1936 these tests were conducted at 77 points.)

In 1937-38, the results of three years' trials with barley, carried on in co-operation with the Manitoba Pool Elevators, were published in a bulletin entitled "Barley Varieties in Manitoba". This brochure was printed through the courtesy of the Pool Elevators and was widely distributed.

In 1941-42, and again in co-operation with the Canada Malting Company, groups of farmers were organized to grow malting barley under contract. Junior Seed Clubs which decided to undertake this project received 16 bushels of O.A.C.21 barley under agreement. In the fall, the participating growers shipped carlots of barley to the Canada Malting Company, and the company paid a premium on all barley thus shipped which was of malting grade.

In 1946-47, the Malting and Brewing Industry of Canada in co-operation with Dominion and Provincial Departments of Agriculture also undertook to encourage an increase in the production of malting barley by what was designated as the National Barley Contest. With this end in view, the various companies, collectively, made available the sum of \$25,000 - \$18,750 of which was set apart as prizes for carlots of barley grown in the three prairie provinces. Manitoba's share was \$4,580.00. Manitoba contestants were grouped into four regions, in each of which \$895.00 was allocated. In addition, there was an inter-regional contest with four prizes amounting to \$1,000.00 (or of the unit values of \$400.00, \$300.00, \$200.00 and \$100.00), and an inter-provincial contest with four prizes amounting to \$2,000.00 (or of unit values ranging from \$1,000.00 to \$200.00). A provincial committee was set up to organize and supervise the contest. Each contestant seeded at least 40 acres or sufficient to produce a carload of 1,660 bushels. The fields were inspected during the summer. After harvest, carlots were shipped in the usual manner. When they arrived at the regular inspection point, samples were taken by Federal grain inspectors. In the case of growers wishing to retain the barley for seed, samples were taken from the bin by members of the Plant Products Division. Judging took place on December 30th and 31st.

It is of interest to note that, in 1946, George Elias of Haskett, Manitoba, won over 500 competitors; winning first prize in the regional contest, first in the inter-district contest, and first in the inter-provincial contests. Consequently, he was awarded the cash prizes of \$160.00 + \$400.00 + \$1,000, or a total of \$1,560.00.

The National Barley Contest continued until 1956-57 with an all-time high of 733 entries in Manitoba in 1953-54. In 1957-58 the Brewing and Malting Research Institute then decided that this contest be discontinued because of the restrictions imposed on barley shipments.

In an endeavor to reduce the amount of cracking and peeling of barley caused by faulty operation of threshing machines, "Malting Barley Harvesting Field Days" were initiated. These were conducted co-operatively by the extension specialists in agronomy and in agricultural engineering.

Attention also was directed to the improvement of the oat crop in the Province. The northwestern section of the prairie and aspen-grove region in Manitoba was well known for the high yields and quality of the oats produced. In 1923-24, the Solsgirth Seed Oat Growers, inspired by F. Dickinson and his farmer associates, were organized, and in 1925-26 handled 30,000 bushels of Registered and Elite No. 1 seed oats; of which one carload of Registered Banner was shipped to Argentina.

Variety trials of oats were carried out by the agronomists in co-operation with the Agronomy Department of the Agricultural College, the Dominion Rust Laboratory, and the United Grain Growers Limited. In 1937 these trials were carried out at 34 points in rural Manitoba.

Introduction and Distribution of More Rust-Resistant Varieties of Wheat

The problem of selecting the most suitable grain crop to grow on Manitoba farms continued for the first ten years of the 1925-1959 sub-period. Garnet wheat was introduced around 1926 as an early-maturing variety for northern areas, and another variety, Reward, was introduced around 1928. These two new varieties were produced at Central Experimental Farm, Ottawa, but it was not until the mid-1930's that the Provincial Ministry of Agriculture was enabled to aid Manitoba farmers in securing a variety of spring wheat which appeared, at the time, to be an answer to the rust problem.

In 1935, some 1,667 bushels of Thatcher wheat (developed at the University of Minnesota) were distributed in Manitoba. In 1936, H.C. Lillejord of Arnaud was successful in obtaining an excellent crop of this more rust-resistant variety when other varieties were severely affected.

"In order to conserve Mr. Lillejord's crop for Manitoba farmers, 5,500 bushels were purchased by the Minister of Agriculture. Applications from individual farmers, for lots of not more than 10 bushels (each), were forwarded to the Deputy Minister of Agriculture. These were accepted and filled in the order in which they had been received. In addition to this distribution a considerable quantity (of Thatcher wheat) was imported from the U.S.A. by elevator companies and individuals.

"A number of the fields were inspected during the summer and passed for certification. . . . After harvest a questionnaire was mailed to each purchaser of

Thatcher wheat, asking for a detailed report comparing Thatcher wheat with the variety being grown on the same farm. Some 176 reports were received and in only one instance was rust reported as occurring on Thatcher while 39 cases of heavy rust infection were reported on other varieties."*

Of the 176 reports received, 151 supplied comparable data. The average yield from 151 fields of Thatcher was 27.3 bushels per acre, compared to 14.8 bushels per acre as the average of 151 records of all other varieties, including: Marquis, Ceres, Reward, Mindum, Ruby, Garnet and Marquillo.

Early in 1937 a questionnaire was sent to 567 growers of Thatcher wheat with a view to obtaining the names of those to whom sales had been made. The growers whose fields gave promise of being fairly free from weeds were asked to apply for inspection. As a result, 752 fields of Thatcher wheat were inspected for certification (140 fields of Renown - developed by the cereal breeders of the Dominion Department of Agriculture - also passed inspection). To ensure that Thatcher wheat suitable for seed was not lost to the Province, the Ministry of Agriculture asked and secured the co-operation of the Dominion Seed Branch and of the Eastern Terminal Elevator, Transcona. Cars of Thatcher wheat loaded over platforms were purchased and stored in the Transcona elevator. All cars were inspected and any not found sufficiently pure were resold. Thus 72,002 bushels, originally purchased, were reduced to 38,872 bushels of first class seed which was held for a time to ensure that there would be no shortage of seed of this variety in Manitoba.

In 1937 also, some 1,064 growers obtained the newly developed Renown wheat in quantities varying from two to ten bushels. At harvest time a questionnaire was sent to these farmers asking them to list any surplus they might have with the Department. These surpluses were listed and advertised. Later, as new and more rust-resistant varieties were forthcoming, the Dominion plant breeders adopted the policy of increasing the seed supply of new varieties by arranging for the limited quantities of seed available to be grown under contract, thus keeping control until there was enough seed for general release.

The activities noted above indicate some of the procedures adopted by the Provincial Ministry in the distribution of the best seed grain currently available, during a critical period in the history of Manitoba when wheat growing was seriously threatened with extinction.

Seed and Crop Improvement

Among the various endeavors undertaken with the object of general crop improvement that were carried on by or with the assistance of the extension agronomists, reference should be made to Forage Crop, Seed Cleaning and Better Farming Cars; to the Junior Seed Club and the Senior Crop Improvement Club movements; to the Manitoba Crop Improvement Association; to Seed Drill Surveys and Seed Cleaning Plants; to Crop Demonstration Plots; and to the enlargement of agronomic extension activities in the latter portion of the 1925-1959 sub-period.

* Annual Report, Director of Extension, 1936-37; Page 35.

Forage Crop Cars, Good Seed Cars and Good Farming Cars - The Forage Crop Cars which were initiated by the Field Husbandry Department of the M.A.C. in 1923 in connection with the Livestock Special Train, and operated as a separate venture in 1924 (Pages 196-199) were so successful that the extension agronomists continued this form of extension work from 1925 to 1929.

In 1925, "Forage Crop Cars" consisting of a lecture-demonstration coach, and a baggage car (to carry seed for sale to those persuaded to buy seed and grow the forage crops advocated), together with a caboose for the accommodation of the lecturers, were staffed by the extension agronomists with the assistance, part time, of M.J. Tinline, Brandon Experimental Farm.

Forage Crop Cars were again operated for six weeks in April-May, 1926, and for the third time on both the C.P.R. and the C.N.R. lines. J.A. McGregor and R. Whiteman, respectively, were in charge. In this year, a poultry lecture-demonstration coach was added to the itinerant "Forage Crop Cars", one of which was staffed by the poultry extension specialist, F.B. Hutt, and the other by W.J. Rae of the Poultry Department of the M.A.C., and R.M. Hopper, Brandon Experimental Farm.

In February-March, 1927, the extension agronomists undertook to put a "Good Seed Campaign" on rails with the continued co-operation of the two railway companies. On each of the two railway lines a "Good Seed Demonstration Coach" was accompanied by a baggage car equipped with seed cleaning machinery, a line shaft, and a Delco plant to supply the power required to operate the seed cleaning machines provided by courtesy of Winnipeg business firms. In this endeavor the agronomists were assisted by N. Young and J.E. Blakeman of the Dominion Seed Branch, and by George Black of Rosburn. At each station point where the Good Seed Demonstration Cars were spotted, samples of grain, brought in by farmers, were cleaned and information given re the various types of seed cleaning machines and screens. Lectures and demonstrations were given dealing with varieties of grain, seed cleaning, seed treatment for smut, and other phases of good seed management.

For women and others not interested in field crop seeds, a poultry lecture-demonstration coach accompanied the "Better Seed Cars" on the C.N.R. lines, and on the C.P.R. lines a similar coach was attached in which lectures and demonstrations in horticulture were given by the extension horticulturist, J.R. Almey, and by Professor F.W. Brodrick or J. de Jong of the Horticultural Department, M.A.C.

In February-March, 1928, a "Good Farming" lecture car was operated through the agricultural pioneer areas on the C.N.R. lines, and lectures were presented (with discussions in English and Ukrainian) dealing with field crops, livestock, dairying, poultry, bee-keeping and horticulture. Forage crop seeds also were carried for sale in a coach fitted for the accommodation of the staff.

This policy of carrying stocks of recommended forage crop seeds, for distribution by sale at the close of the lectures, was adopted for the reason that merchants at the local station points rarely carried seed stocks of the crops that were being advocated. In fairness to the trade, the seeds carried in

connection with the forage crop cars were purchased from seed houses and seed growers, and were sold at the current retail prices listed in the seed house catalogues.

In February-March, 1929, "Good Seed" and "Horticultural" cars, with baggage cars for seed supplies, and with the usual caboose for the accommodation of the staff, were run on C.N.R. lines. Similar forage cars, accompanied by a poultry coach were run on the C.P.R. lines. In this year also, J.A. McGregor and R. Whiteman carried on their good seed and forage crop promotion programs.

Table 47 shows that through the operation of these itinerant forage crops cars, and over a six-year period, some 47,000 persons were contacted at rural points in Manitoba and over 3,500 persons were persuaded (many of them for the first time) to purchase and to take an active interest in the growing of forage crops.

TABLE 47. SUMMARY OF NUMBER OF STATION STOPS, NUMBER IN ATTENDANCE, AND NUMBER OF FORAGE CROP SEED SALES MADE FROM FORAGE CROP CARS AND GOOD FARMING CARS - 1924 to 1929

Year	Project	Number of Stops		Number in Attendance		Number of Forage Crop Seed Sales	
		C.P.R.	C.N.R.	C.P.R.	C.N.R.	C.P.R.	C.N.R.
1924	Forage Crop Cars	36	38	4,394	4,283	486	541
1925	Forage Crop Cars	40	36	3,275	3,531	348	446
1926	Forage Crop Cars (+ Poultry Car)	36	43	4,864	5,399	486	595
1927	Good Seed Demonstration Cars (+ Horticultural) (or Poultry Car)	31	28	5,811	4,418	Seed Cleaning Demonstrations	
1928	Good Farming Cars	—	32	—	4,329	—	640
1929	Good Farming Cars (+ Poultry Car or) (Horticultural Car)	39	32	4,162	3,184	Not Available	
Totals				22,506	25,144	1,320	2,222
				47,650		3,542	

Junior Seed Clubs - Junior Seed Clubs were first planned in 1928 for the purpose of interesting older boys and young men in the growing and use of good seed with a view to:

- improving the quality of seed used in the Province;
- increasing the amount of seed available for seeding and exhibition purposes;
- developing leadership and fostering the spirit of co-operation on the part of the club members in the life of the community.

These clubs were organized under the auspices of the agricultural societies. Each club had its own officers elected from the membership, with an adult leader or manager in charge. Membership was limited to those resident on farms, between the ages of 16 and 22 to 25 years. It also was planned that each club should be a compact group of 10 to 15 members and only registered or certified seed was permitted to be grown. Instruction was given the club members in grain judging, both of seed grain and standing crops. In the case of members desirous of maintaining the identity of the crops grown as registered or certified seed, the fields were inspected by the agronomists, and their reports, which were forwarded to Ottawa, were accepted in lieu of inspections by Seed Branch Field Inspectors. Grain cleaning demonstrations and judging competitions were held in the fall at a central point convenient for each club. It is of historic interest to note that in 1929, the initial year of operation, 297 members were enrolled in 22 clubs, and 289 members harvested 1,106 acres which yielded a total of 28,433 bushels of the following kinds of seed grain: Marquis, Durum and Reward wheat; O.A.C.21 and Trebi barley; and Banner oats. (In subsequent years these varieties of grain were superseded by other varieties as improved kinds were developed.)

An inter-club grain show was held at Winnipeg during the winter, at which individual exhibits of one-half bushel of grain, taken from the cleaned seed in members' grain bins, were exhibited and judged; and arrangements were made for the following awards:

Cash prizes based on a sliding scale were awarded by the Department of Agriculture for each class of grain at the Seed Grain Show.

Additional prizes awarded were:

- Club Championship - T.J. Harrison Shield for all-round standing on the year's work of the members;
- Championship Wheat - A Carter disk grain cleaner donated by Hart-Emerson Company Limited;
- Championship Oats - Gold watch donated by United Grain Growers Limited; and
- Championship Barley - Gold watch donated by Canada Malting Company Limited.

During the week of the Grain Show, a short course, attended by the member standing highest in each club, was held at the Agricultural College. This was made possible by the Massey-Harris Company Limited who provided transportation for the attending members as well as taking care of all expenses pertaining to their stay in the city.* A grain-judging competition was held in connection with this short course for which the following prizes were obtained:

- 1st Prize - Gold watch donated by Canada Malting Co. Ltd.
- 2nd Prize - Fountain pen and pencil donated by Dickinson Bros., Solsgirth.
- 3rd Prize - Gold cuff links donated by Dickinson Bros., Solsgirth.

* Annual Report, Director of Extension, 1929-30; Page 31-34.

The junior seed club thus launched continued as an important agronomic extension project, and, as the years went by, played an outstanding role in improving the seed grain used in the Province, as well as achieving success as an enterprise in community service.

In succeeding years field days were held during the month of July at the Agricultural College, at the Brandon Experimental Farm and the Morden Experimental Station. These gatherings were attended by the various junior seed clubs, depending on which point was most convenient. The progress subsequently made in number of junior seed clubs and seed club members from inauguration to 1959 is shown in Table 45(a), Page 360.

It is also worthy of record that in 1933 the United Grain Growers Limited placed at the disposal of the Department of Agriculture the sum of \$30.00 for the purpose of assisting clubs when difficulty was experienced in the purchase of seed. A further sum of \$360.00 was advanced by the company in 1935, as well as \$53.00 by the Canada Malting Company. By means of these two revolving funds, nine new clubs were assisted in the purchase of 390 bushels of registered seed. It was by such support that certain agricultural extension projects were enabled to carry on and succeed during times of financial difficulty.

Senior Crop Improvement Clubs - Senior Crop Improvement Clubs were sponsored by the Manitoba Pool Elevators. Commencing with 19 clubs in 1938, the number of clubs doubled during the first ten years and then increased more rapidly until, in 1958-59, there were 124 clubs with a total membership of 2,000. The members of the senior crop improvement clubs undertook to sow five to ten acres of registered or certified seed. Initially all plots were inspected and scored in the field under the supervision of the extension agronomists, but as the number of plots increased, they were serviced by "a well qualified" field staff of the Manitoba Pool Elevators. In the fall, threshed samples from the respective plots were forwarded to Winnipeg where they were judged and scored. For this project the Province was divided into seven districts, and the highest scoring member in each district was awarded a week's trip to Fort William as a guest of the Manitoba Pool Elevators.

The members of these clubs were responsible for great improvement in purity of the grain crops sown in their respective districts, and the clubs provided a medium through which short courses, field days and other extension activities were carried out.

Manitoba Crop Improvement Association - To facilitate the distribution of improved seed, a seed-grain marketing organization was formed on January 19th, 1942, which was designated as the "Manitoba Crop Improvement Association". This was a co-operative undertaking between the Extension Service, the Manitoba Seed Growers Association, and all commercial grain handling firms in the Province. The executive committee was composed of six seed growers from the Manitoba Seed Growers Association, and representatives of the Line Elevator Companies, the Manitoba Pool Elevators, the United Grain Growers Limited, the Board of Grain Commissioners, the Dominion Plant Products Division and Production

Services, the University of Manitoba, and two representatives of the Manitoba Department of Agriculture, one of whom served as secretary.

All registered and certified seed growers were circularized, by letter, inviting them to list their seed stocks with the secretary at the Legislative Building, and a pamphlet was prepared entitled "Pure Seed from Grower to Farmer" which was distributed to all seed growers, elevator agents, and seed growers clubs in the Province.

Orders for seed received by the companies and organizations represented on the directorate, as well as those received directly, were processed through the secretary's office in the Extension Service, which provided office facilities and employed full time and part time stenographic help as needed to cope with the business of the association.

By 1946-47 the administrative work imposed on the secretary had increased to the point that a manager (Ben Luyendyke) had to be appointed by the association to be responsible for the details and routine duties, and thus permit the secretary to devote more time to his duties as extension agronomist. In that year 70,000 bushels of registered seed were sold through the association, and in addition to domestic sales, 14 carloads of registered wheat, oats and barley were exported through U.N.R.R.A. to Belgium and Yugoslavia.

In 1954-55 a committee of the association was appointed to study the activities of crop improvement associations in Canada and United States. The committee reported that the present association was not accomplishing its true purpose and recommended that the present association be disbanded. Ultimately, this was approved and in 1955-56 was replaced by "The Manitoba Seed Growers Co-operative Limited". This organization received a provincial charter and commenced operations in 1956, at which time the Manitoba Crop Improvement Association then ceased to exist. Because the newly formed organization thus became a private business, the Provincial Department of Agriculture and the extension agronomists also ceased to be involved with the business of the reorganized organization and the head office was set up at Portage la Prairie.

Seed Drill Surveys - In 1933-34, representatives of the Manitoba Department of Agriculture, the Faculty of Agriculture and the Dominion Seed Branch planned a seed drill survey to secure reliable data in respect of the quality of seed sown on Manitoba farms. In 1934, agricultural representatives and Dominion Seed Branch personnel co-operated in securing samples from farmers' drills in 27 municipalities. As near as possible, 20 samples of wheat, 15 of barley and 10 to 15 of oats were taken in each municipality. A portion of each sample was forwarded to the Dominion Seed Branch to be tested for purity and the remainder was used to sow two rows of each individual sample (under a designated number) in demonstration plots for observation and comparison. During the summer a field day was held at each local demonstration plot, conducted by the extension agronomists and Dominion Seed Branch staff. All those from who samples were obtained were specially invited to attend and to compare the relative purity of variety and freedom from other grains and weeds. This extension project was continued for a number of years.

A similar survey of wheat varieties grown was undertaken in 1941 by the Farm Service Department of the North-West Line Elevators, which was continued in 1942, 1943 and 1944. In 1945, barley variety, as well as wheat variety samples were collected as sown in farmers' grain drills. From 1946 to 1948 wheat, barley and oats were sampled, and from 1949 to the end of this sub-period, wheat, oats, barley and flax samples were obtained and grown in demonstration plots. D.M. McLean, who transferred from the Extension Service to the Line Elevators Farm Service, took charge of this work in 1946, and F.J. Greaney, formerly of the Dominion Rust Laboratory, carried on subsequent to 1951.

The demonstration plots sown with the samples thus collected provided the background for extension meetings and field days. The results of this work also were presented to the Manitoba Agronomists Conference held annually and were published in proceedings of that organization.

Seed Cleaning Plants - The growing of forage crops for seed led to many inquiries in regard to methods of cleaning grass and clover seeds. As early as 1925-26 the extension agronomists organized seed cleaning programs at Miami and Warren, at which demonstrations were given of cleaning grass and clover seeds with the ordinary fanning mill and suitable screens. In 1927, in addition to the seed cleaning cars operated on the C.P.R. and C.N.R. lines,* seed cleaning demonstrations were held at Killarney and Chatfield, and in the same year a seed cleaning plant was established at Graysville.

During 1928-29 several agricultural societies were induced to take advantage of assistance offered, under the Dominion Subvention Act, to purchase itinerant cleaning machines. By 1938, Dominion-Provincial seed cleaning plants or units had been organized in conjunction with agricultural societies at the following points, i.e.: Graysville in 1927; Eriksdale, Melita, Miami, Swan River in 1929; Durban in 1930; Minnedosa, Elie, Deloraine in 1931; Springfield in 1932; Rackham, Arborg in 1935; Erickson, Sanford, St. Pierre, Souris in 1936; Cartier (replaced), Fortier, Gretna in 1937; and Lac du Bonnet, Boissevain and Strathclair in 1938.

In 1939, S.L. Tallman was appointed to the Extension Service staff as Agricultural Engineer, and the supervision of the seed cleaning projects was transferred from the agronomists to the extension agricultural engineer. However, after the addition of seed cleaning plants at Ashern, Selkirk and Minitonas, the work of seed cleaning plants apparently lost favor as an agricultural society activity.**

Late in the 1925-1959 sub-period, interest was again developed in community plants for the purpose of cleaning commercial seed in local areas. In 1955-56 the areas interested in municipal seed cleaning plants included Baldur, Shoal Lake, Dominion City, Altona and Dauphin. Meetings were attended by extension specialists at Shoal Lake and Altona; and Baldur and Dauphin were furnished with information in respect of the seed cleaning plant construction. In 1956-57, a local committee from Altona made a trip to Saskatoon to observe the type of seed cleaning plant in operation in Saskatchewan. However, financial problems appear to have been the chief deterrent to further action at that time.

* Page 376.

** Page 355.

To assist in this movement "The Community Seed Cleaning Plant Loans Act", (Chap. 57, 1958) was passed by the Legislature, which provided for government loans, not to exceed \$20,000; or half of the total cost of construction and equipping community seed cleaning plants, including the price of the land. The recipient of such loan was required to repay same, with interest thereon, to the Provincial Treasurer within 12 years from the date of issue. The Act further provided that the Minister of Agriculture should not requisition any moneys for such loan unless he has approved the plans and specifications of proposed plants; and is satisfied that there is need of such a plant in the area to be served.

Consequently, a special committee on Zonation of Community Seed Cleaning Plants was appointed by the Minister consisting of: H.J. Mather, Line Elevators Farm Service; F.W. Hamilton, Manitoba Pool Elevators; E.V. Titheridge, United Grain Growers; and P.H. Ford, Agronomist, Provincial Department of Agriculture; with J.E.B. Campbell, extension agronomist, to act as secretary. This committee was instructed to make a study of the Province with regard to suitable locations for Community Seed Cleaning Plants.

Field Crop Variety Demonstration Plots and Field Days - In addition to the demonstration plots sown with seed grain taken from farmers' drills, a further type of demonstration plot was initiated in 1935 and continued as a continuing annual project in agricultural education. Plots were laid out (invariably with co-operation of the agricultural representatives) in which row-rows of the standard varieties of wheat, oats, barley, corn, millet, grasses and clovers, etc., were sown. Other crops and new varieties were added from time to time so that their adaptation to local conditions could be observed by farmers and others who were interested. These plots were background demonstrational material for local field days, at which extension specialists were present to discuss the relative merits or demerits of the various crops, to answer queries, to deal with crop production problems in general, and to obtain first-hand information from farmers present of the local problems in which they were concerned.

(ii) **Enlarged Agronomic Extension Activities in the
Latter Portion of the 1925-1959 Sub-Period**

Beginning with the close of the war in 1945, the activities of the Ministry of Agriculture were extended by new appointments or by the return of staff released from the Armed Services, and by increased financial support provided in the departmental budget. Thus it became possible for the Extension Service not only to enlarge its work with field crops but also to undertake agronomic activities dealing with soils and with the soil conservation problems which the drought years - following on 70 years of fallow-grain culture on the prairies - had accentuated.

Enlarged extension activities in respect of field crops involved forage crop projects and so-called special crops.

Forage Crop Projects

Mineral Content of Manitoba Forage - A forage crop project was undertaken in 1945-46 involving 11 farms, located at Stonewall, Steinbach, Ste. Agathe, Homewood, Holland, Portage la Prairie, Minnedosa, and Basswood. Two farms were added in 1947-48, one at Vita and one at Ste. Rose. Ten acres of fallow on each farm were seeded to a mixture of Brome, Crested Wheat Grass, Kentucky Blue, Meadow Fescue, Creeping Fescue, Alfalfa, Red Clover and Alsike Clover. This mixture was sown at 10 pounds per acre with a nurse crop of wheat or barley.

Eleven farms also were selected where livestock was pastured on native grass, or on old established pasture, on each of which five acres were cultivated by means of a disk or a one-way tillage machine. These strips were seeded to the same grass-legume mixture for comparison with non-renovated pastures and the forage seeded on cultivated fields. Phosphate fertilizers were applied, in the following year, in co-operation with the Consolidated Mining and Smelting Company. Steel cages, enclosing one square yard each, were placed on the fertilized and non-fertilized pasture strips. The growth within the cages was clipped every two weeks during the summer, and the forage samples thus obtained were dried to constant in drying chambers at the university.

In 1948-49, the calcium, magnesium and phosphorus content of dried samples of forage obtained in 1946 and 1947 were analysed by D. Noton (working as a graduate student for the Ministry of Agriculture) in the laboratories of the Soils Department (University of Manitoba). The results of this project were reported in the current proceedings of the Manitoba Agronomists Conference. This phase of forage crop work was continued in 1949-50, when hay samples also were collected by agricultural representatives from 120 fields located in various districts of the Province. The mineral analyses of these samples also were completed by D. Noton.

Demonstration Grass Plots - Plots of various grasses were seeded and fertilized with phosphate fertilizers in 1950-51 as an agronomic extension project, not only to demonstrate the adaptation of such crops, but also to provide for forage machinery demonstrations in subsequent years when field days were held at appropriate times.

Demonstration Forage Seed Distribution - A provincial forage seed distribution policy was instituted in 1951, in southern and southwestern Manitoba, which was extended to the whole of the Province in 1953. Under this policy, seeds of grasses, alfalfa and clover were provided by the Department to supply participating farmers with sufficient seed to sow 10 acres each. Initially the Province assumed one-half the wholesale cost of the seed, but later, the farmers paid two-thirds and the Province one-third of the seed cost. In cases where farmers were unfamiliar with the sowing and management of grass and legume mixtures, instructions were provided in respect of the general management practices.

Simple mixtures only were used in the first year, but by 1956-57 different mixtures were made available for different locations and

conditions. The number of farms taking advantage of this scheme from its inception to the end of the 1925-1959 sub-period, as recorded in the annual agronomists' reports, may be listed as follows:

Year	No. of Farms	Year	No. of Farms	Year	No. of Farms
1951	130	1954	1,445	1957	1,017
1952	310	1955	1,274	1958	578
1953	1,148	1956	1,500	1959	742
9 Year Total - 8,144 Farms					

Soil Conservation Forage Policy - A further forage crop program was initiated as an agronomic project of the Soils and Crops Branch in 1956. The object of this scheme was to encourage the seeding down, or retiring to grass and legume mixtures, cultivated land classified as Class IV or poorer, and hence not considered suited to continued arable culture.

The eligibility of any area under this scheme was determined after examination by a representative of the Soils and Crops Branch, whose decision was based on soil type, topography, evidence of erosion, drainage condition, and presence or absence of salinity. Participating farmers were given assistance in securing seed to sow from 10 to 30 acres (in allotments of 10, 15, 20, 25 and 30 acre units) to one of the following mixtures:

- Mixture 1 - for steep slopes and waterways: Brome, Meadow Fescue and Alfalfa.
- Mixture 2 - for knolls and light soils deficient in moisture and subject to erosion: Brome, Crested Wheat Grass and Alfalfa.
- Mixture 3 - for areas not saline but subject to poor drainage or prolonged flooding: Reed Canary Grass, Meadow Fescue and Alsike Clover.
- Mixture 4 - for areas not saline but with poor drainage and subject to prolonged flooding: Reed Canary Grass, Meadow Fescue, Timothy and Alsike Clover.
- Mixture 5 - for alkali areas: Tall Wheat Grass, Sweet Clover and Alsike Clover.

The number of farms taking advantage of this scheme and the number of acres seeded down under this policy from 1956 to the end of the sub-period are recorded as follows:

Year	Number of Farms	Number of Acres
1956	370	6,515
1957	1,064	21,770
1958	1,175	22,225
1959	1,075	20,672

Canada Forage Seed Multiplication Project - This project was started in 1951-52 when the Dominion Department of Agriculture undertook to work co-operatively with and through the Field Crops Commissioners of the various provinces with the object of:

popularizing new varieties of forage crops produced by forage crop breeders, and

increasing new and useful varieties by means of government contracts with specialized growers and thereby to provide seed in quantities that could then be handled by commercial companies.

The provincial agronomist served as the provincial representative on the Federal committee, and a Provincial committee was appointed to be responsible for the administration of the project in Manitoba. The forage crop varieties made available in 1951 consisted of La Salle red clover; Climax timothy; and Grimm alfalfa. Other varieties introduced later included: Medon timothy; Erector yellow sweet clover; Summit crested wheat grass; Vernal alfalfa; Rambler alfalfa; and Cumino sweet clover. The number of specialized growers of these crops, however, remained few in number, but this scheme was continued as a means of introducing and increasing seed of new forage varieties of Canadian origin.

Provincial Forage Seed Multiplication Project - This project was started in 1957-58 and may be considered as a supplement to the Canada forage seed project. Certain forage crop varieties of importance to Manitoba were not included in the Canada scheme. Therefore, to maintain a supply of pedigreed seed of forage crop varieties in popular demand, and to increase the seed supply of newly licensed forage crops adapted to the Province, seed was obtained by the Provincial Ministry of Agriculture and placed under contract with qualified seed growers. The seed distributed and sown in 1959 consisted of foundation seed of Ensign meadow fescue; Lincoln brome grass; and Primer slender wheat grass.

Pasture Improvement Clubs - Pasture improvement clubs were initiated through the agricultural representatives at St. Pierre in 1953, at Steinbach in 1954, and at Grunthal in 1956. This project was in the nature of a competition undertaken by the members of the pasture improvement clubs. The number of dairymen or farmers in each club ranged from 8 to 17. A score card was used covering the various aspects of recommended forage crop production practices, etc., and each farm was scored by an agronomist and a dairy specialist both in the spring and again in the fall. Suggestions were made to each club member as to how pastures could be improved. Each club held an annual meeting, at which time the individual scorings were

discussed and awards presented. These proceedings were then followed by a general discussion on pasture improvement. This project was continued and enlarged in subsequent years.

Spraying Native Pastures - Aeroplane spraying of woody invasions in native pasture fields located in the Interlake area were undertaken, in 1958-59, by the agronomists of the Soils and Crops Branch, both as a demonstration of brush control and to obtain information as to the cost of improving native pasture by this means.

The contract for this work was awarded to the lowest tender, and some 1,160 acres of pasture (in fields varying from 100 to 310 acres) on six farms, plus 1,150 acres of the Sleeve Lake Community Pasture, were sprayed with 1½ pounds of 2,4-D per acre at the cost of 93 cents per acre, and at a total cost to the Ministry of \$1.91 per acre. This figure is exclusive of the cost of burning the dead wood in the year subsequent to spraying.

Special Crops

With the reorganization of agronomic extension work as a Soils and Crops Branch of the Ministry of Agriculture, and with an increase in the number of agronomic specialists in the later years of the sub-period, a crop specialist was appointed to undertake the task of dealing exclusively with what was designated as "special crops", or field crops not generally or extensively grown on Manitoba farms.

The first agronomist appointed to deal exclusively with special crops was L.B. Siemens, who occupied this position for one year only (1955-1956). He was followed in 1956 by D. Durksen who served in this capacity for the remainder of the sub-period and on into the 1960's.

The crops involved included: sunflowers, corn, rapeseed, mustard, buckwheat, navy beans, soybeans, canary seed, mung beans, lentils, field peas, sugar beets, canning crops, and any other crop not widely grown on Manitoba farms. In this connection the crop specialist undertook the task of obtaining all information possible in respect of these special crops, of keeping in touch with the experiments conducted at experimental stations, of undertaking trials on farm fields, of promoting the growing of such crops as appeared commercially desirable, and of supplying such information as required from time to time in respect of special crops by growers and by the Ministry. These efforts stimulated the growing of sunflowers and corn, and resulted in rapeseed being widely grown as a cash crop and in the trial sowing of other crops on farm fields.

In connection with special crops, the activities of the Ministry of Agriculture in respect of fibre flax and tobacco merit special comment.

Fibre Flax - The growing of fibre flax was not new to Manitoba. Fibre flax (and hemp) were grown in a limited way on two successive agricultural establishments of the Hudson's Bay Company located in the Red River settlements in the 1830's (Pages 44-45). Moreover, the Company offered premiums to encourage the Red River settlers to produce fibre as a commercial commodity (Page 45). Subsequently, however, except for salvaging the fibres in the straw of oil seed flax, the production of flax as a

fibre crop appears to have been more or less ignored until World War I (1914-1918) when linen for aeroplane fabric was in great demand. At this time, seed of fibre flax was offered by the British Government (through government channels) to farmers in western Canada to be grown for seed (at a guaranteed price) which in turn was to be shipped to Ireland where it would be grown for fibre. However, due to low yield of seed (characteristic of fibre flax) and the bad judgment of certain business interests (which undertook to sow this seed on sod land after spring breaking) this project was not a commercial success.

In contrast to this and during the war period, the "Netherlands Translantic", which held peaty meadow land as real estate in the Teulon district, produced highly successful crops of fibre flax under the supervision and direction of a Dutch fibre specialist. The fibre flax thus grown was harvested, dew-retted, broken and scutched on the farm, and produced up to three tons of total crop and yielded in the neighborhood of a ton of line per acre. This was shipped to Europe and gave substantial monetary returns, but at a later date, and following damage to the storage sheds and the processing machines by fire, this endeavor was discontinued.

The improvement, by selection, of the fibre flax introduced by the British Government was undertaken successfully by Professor W.T.G. Wiener subsequent to 1917 (Page 237); but the growing of this crop and the labor involved did not appeal to Manitoba farmers, so that with a falling demand for linen fibre after the war, interest in this crop failed to develop further at that time. However, on February 10th, 1941, at the 34th Annual Provincial Seed Fair held in the T. Eaton Company store, Professor T.J. Harrison, Assistant Grain Commissioner (who was quite familiar with the fibre flax project carried out at the M.A.C.), presented an address on the subject of "Fibre Flax as a Canadian Industry".

Following the 1941 meeting of the National Flax Committee, a meeting of federal and provincial agronomists was held to consider the possibilities of producing fibre flax in Manitoba. A committee was appointed, consisting of representatives of the Dominion and Provincial Departments of Agriculture, and of the Faculty of Agriculture at the University of Manitoba. This committee arranged with the agricultural representatives at Portage la Prairie, Plumas, Selkirk, Arborg and Lac du Bonnet for the growing of 80 acres of fibre flax in each of these districts. At harvest time, one-half acre in each field was pulled by hand and spread out to dry. One-half of each lot was then baled and shipped to Ottawa for retting and breaking in order to determine the amount and quality of line produced. The remaining half of each lot was left to be dew-retted in the field. The balance of the fibre flax was cut, stooked, dried and sold for tow. Despite excessive rains and spoilage at Selkirk and Lac du Bonnet, the fibre produced at Portage and Arborg indicated good quality and fair yields.

In 1942 the same tests were continued at Portage and Arborg; the flax crop from one-quarter acre of each plot was shipped directly to Ottawa after harvesting, and the flax on one-quarter acre of each plot was first dew-retted, then dried and shipped to Ottawa for testing. In both cases the reports indicated that the fibre produced was extremely good.

Similar field trials with fibre flax were continued in 1943. In 1944, 200 acres were seeded to this crop, which was harvested and stacked pending the completion, by the Federal Department of Agriculture, of a pilot flax mill at Portage la Prairie. Flax pulling machines were used in harvesting the 1944 crop. With the completion of the pilot plant in 1945, the previous year's crop was processed.

After the establishment of the pilot flax mill in 1945-46, investigational work with fibre flax, including testing of varieties and crop adaptation to various districts, continued until it was reported that "Europe is now prepared to supply not only fibre but rags at a price which makes it difficult for Canadian farmers to produce fibre flax at a profit."

The Dominion Department of Agriculture then decided to close the fibre flax pilot plant, whereupon the Manitoba Department of Agriculture put in a strong request that the farm and plant involved at Portage la Prairie be set up as a Special Crops Substation. This was agreed to by the Federal Government, and in 1955-56, assistance was provided by the Soils and Crops Branch in the organization and planning of the Portage la Prairie Special Crops Substation for carrying on experimental work with rapeseed, field peas, soybeans, sunflowers, sugar beets and oil flax.*

Historic records of various attempts to produce fibre flax in Manitoba have established the fact (contrary to opinions formerly expressed in eastern Canada) that satisfactory crops of fibre flax can be produced, under good management, on suitable sites in the more humid portions of the Province, but production of this crop on Manitoba farms was not promoted because of unfavorable market conditions and the increasing development of synthetic fibres.

Tobacco - The involvement of the Ministry of Agriculture in investigations connected with tobacco growing in Manitoba extended intermittently over a third of a century. Details of this involvement during the Post M.A.C. Sub-Period are recorded in a typed report prepared by C.S. Prodan, entitled "History of Tobacco Growing in Manitoba, 1931 to 1958", and filed in the library of the Provincial Department of Agriculture. This unique report outlines the endeavors of a valiant and persistent extension worker who was obsessed with a vision of contributing to the financial benefit of settlers on the poorer soil areas of the districts in which he served, through the improvement and development of tobacco as a field crop for small holdings.

C.S. Prodan first entered the service of the Ministry of Agriculture in 1921 as Supervisor of Cow Testing in the Dairy Branch. In this capacity he travelled throughout the Winnipeg milk shed area and noted that a number of individuals in a few districts grew tobacco (of poor quality) for their own use. On being questioned by these people as to how they could improve their tobacco, he resolved to find answers which did not appear, at that time, to be forthcoming.

In 1931 Prodan had the opportunity of visiting Poland and Czechoslovakia, where he made inquiries and observations, and on his return

* Annual Report, Soils and Crops Branch, 1955-56.

brought tobacco seed back with him. This seed, together with tobacco seed obtained from a Winnipeg tobacco merchant, was supplied to 16 growers in the Vita district; and thereby commenced the crop adaptation trials which he continued as long as he served the Ministry.

In 1935 Prodan was transferred to the Extension Service to serve as agricultural representative in Southeastern Manitoba, in which capacity he continued, with the blessing of the Deputy Minister, to procure tobacco seed from many sources. With no facilities for greenhouse production of seedlings, he secured (at various times) the co-operation of, and the use of greenhouse facilities at, the Headingley Gaol farm, the Agricultural College, and the Dominion Rust Laboratory. At other times use was made of improvised facilities at the farmsteads of co-operating settlers.

In the years between 1931 and 1958, Prodan, with the help of local agricultural representatives, carried on crop or variety trials with tobacco at such points as Vita, Sundown, Stuartburn, Tolstoi, Rosa, Zhoda, Medika, Pine Ridge, McMunn, Prawda, Supton, Hnausa, St. Pierre, St. Malo, St. Claude, Selkirk, Hazel Glen, Portage, MacGregor, Gregg, Holland, Marchand, South Junction and Woodridge.

The Prodan report of tobacco growing in Manitoba is a valuable historic document which deals in a matter of fact manner with the difficulties and disappointments that were encountered and which, although they discouraged most of his colleagues, only challenged him to persist until finally, with the support he won from the Ministry, he was able to demonstrate before his retirement in 1959 that tobacco of marketable quality can be grown in Manitoba on specially selected sites if carefully managed and properly cured by trained and informed growers.

(iii) Evolution of Soils Aspects of Agronomic Extension
Under Extension Service Branch, 1946-1953

Until the second half of the 1925-1959 sub-period, the agronomic activities of the Extension Service Branch may appear to have been more or less limited to field crops and crop management projects; and it also might appear that prior to 1945 the Ministry of Agriculture was more concerned with crops and livestock. However, it should not be overlooked that a succession of activities (Pages 243, 297, 301, 302) reflects early interest in Manitoba soils both on the part of the Ministry and the Provincial Government. The interest and concern on the part of the Ministry is further evident in the financial and personnel support, provided annually from 1933 onward, for "Soil Survey and Soil Investigations" carried out by the Soils Department of the Agricultural Faculty, which in turn provided the Ministry with services subsequently carried on and enlarged as provincial soils extension activities after the appointment of soil specialists to the Extension Service staff.

As the sub-period advanced, the manifest problems of combating drought, soil and water conservation, and soil fertility emphasized by the "decade of drought", stimulated the interest in, and a growing concern for, the soils of Manitoba. This concern was made manifest at the close of the war in 1945, when an increase in the departmental budget made it possible

to create the position of Soil Specialist in the Extension Service Branch, to which J.M. Parker was appointed in April, 1946, to undertake the soils aspect of agronomic extension.

The newly appointed soil specialist brought to this endeavor a background of experiences acquired in the service of the Ministry of Agriculture as student assistant in soil fertility and soil management experimental projects, and as graduate assistant in the Manitoba Soil Survey, together with command and war-time experiences with the Canadian Armed Services.

The attention of the soil specialist was immediately directed to "planning, development, establishment and maintenance of co-ordinated practices and measures for the control and prevention of soil erosion, moisture conservation and sound land use". To aid in these objectives a Soil Conservation Committee was appointed by the Minister consisting of:

J.H. Ellis, Soils Department, University of Manitoba;
N.C. MacKay, Director of Extension Service Branch;
D.A. Brown, Dominion Experimental Farm, Brandon;
R. Barrett, Farmer, Deloraine, President of Manitoba
Union of Municipalities;
F.W. Hamilton, Manitoba Pool Elevators; with
J.M. Parker, Soil Specialist, as Secretary.

This committee was more of a gesture and indication of ministerial concern with the increasing importance of soil problems in Manitoba; the soils extension work subsequently undertaken and the progress made must be credited to the efforts and devotion of the soil specialist and of the personnel he was able to attract as assistants and thereby to enlarge and carry out the soils aspects of agronomic extension.

Soil Conservation

An early endeavor of the soil specialist was the formation of the Turtle Mountain Soil Conservation Club in 1946. Seven farms on the rolling terrain of Turtle Mountain were mapped for topography, soil type, and extent of erosion; and, by "on site" consultations between the farm operators and the soil specialist, plans were designed through mutual agreement for soil erosion control measures, cropping practices, and land use programs to be followed on each respective farm. A few of the farm operators in this club became so enthusiastic and successful that their farms became an inspiration and demonstration to others facing similar problems. Moreover, this project, together with the supervision of a similar project initiated three years earlier at Alexander, provided experience which proved of inestimable value in dealing with soil extension programs in succeeding years, and in serving neighboring and other farmers who soon began to request assistance along similar lines. Farm surveys and detailed maps were prepared during 1947 in the Bruxelles and Swan Lake districts, and in the same year, short courses in soil conservation and soil fertility were given at ten rural points.

In 1948, flooding of farm land by surface waters along the Red and Assiniboine rivers, and in the Dauphin, Swan River, Minnedosa, Birch River and The Pas districts was particularly serious, and the southwestern portion of the Province experienced serious wind erosion in early June. These phenomena caused widespread demand for the services of the soil specialist both by agricultural representatives and by individual or groups of farmers, such as Senior Crop Improvement Clubs, in the districts involved. To meet these demands, short courses of one to three weeks' duration were organized and numerous farmers' meetings were attended. Demonstration contour work was carried out on farms at Decker, Kenton and Hamiota; and farm drainage work was initiated in co-operation with the owner on the Gordon Last farm at Brunkild. The latter in a few years time became an inspiration to neighboring farm operators.

Fertilizer Projects

During the winter of 1949-50, the Provincial Fertilizer Board was reorganized and a continuance of fertilizer trials outlined. The reconstituted Fertilizer Board included members from the Provincial and Dominion Departments of Agriculture, the University of Manitoba, and agricultural business organizations.

Further studies of fertilizer requirement were not neglected. To ensure a good covering of the Province with fertilizer trials, the agricultural portion of Manitoba was divided into three regions, in each of which respective parties were detailed to conduct various fertilizer trials with cereal crops and forage crops (and at later date special crops). The information obtained from these trials, together with those conducted by the Soils Department over the years from their inception to the end of this sub-period, became the basis on which fertilizer recommendations were made by the Manitoba Fertilizer Board.

"Save the Soil Campaign"

A new endeavor - designated as a "Save the Soil Campaign" - was introduced at Pilot Mound in 1950. At this point twelve farmers made up the original group which, in 1951, allowed their farms to be inspected and scored. The scoring was based on freedom, or otherwise, from erosion, and on the measures taken to combat soil erosion. A meeting was held at Pilot Mound in November at which prizes were allotted to the winners, and the members were invited to express their opinions concerning this endeavor. The twelve members were unanimous in their opinion that "Save the Soil Campaign" was a worthwhile project, and agreed to solicit new members to build up their membership to twenty-four. The "Save the Soil Campaign" extended rapidly in the next two years. Twelve soil clubs were organized with a membership of 190 in 1952, which increased to 29 clubs with a membership of 430 in 1953.

Assistance in this project was received from the agricultural representatives, the Line Elevators Farm Service, and the Manitoba Pool Elevators. A cup was presented by the Line Elevators Farm Service for annual competition in each club.

A progress competition also was organized to come into effect the second year each club was in operation, for which the Manitoba Pool Elevators donated plaques or gate signs to each winner of the Progress Competition. In addition, a "Certificate of Merit" was presented by the Manitoba Department of Agriculture to any member of a "Save the Soil Campaign" club receiving an annual score of 800 marks or more during the competition. This certificate was to be issued only once to any individual, but if over 800 marks were obtained in succeeding years, a star was awarded to be added to the Certificate of Merit already held.

Although each club was visited by the soil specialist, in company with the agricultural representative whenever possible, the large number of farms made it impossible for the soil specialist and his limited number of assistants to inspect and score all the farms involved. However, additional assistance needed was provided by members of the field staff of the Line Elevators Farm Service, the Manitoba Pool Elevators, and the Veterans Land Act.

Water Erosion Problems

The decade of drought which occurred during the 1930's was followed by years of more plentiful moisture, during which there were times of higher precipitation which resulted in severe water erosion in hilly terrain, and damage by inundation from outwash or overwash (with the accompanying deposition of sediments, especially in the vicinity of the Manitoba Escarpment) on farm lands at lower levels. These phenomena caused ministerial concern and presented further problems for the extension soil specialist.

In 1953 a survey of flood and erosion problems in the Dauphin, Gilbert Plains and McCreary districts was carried out in co-operation with members of the field staff of the Federal P.F.R.A., and with staff members of the Lands Branch, the Drainage Commission, and the Forestry Branch of the Provincial Government. As a result of this survey, plans were made for carrying out a study, by P.F.R.A. field staff in 1954, to determine what procedures could be followed at the headwaters and upper reaches of the various streams to control down-stream flooding of the adjacent lowlands.

More and more time was spent each year with the district agricultural representatives in visiting farmers, in discussing local soil problems, and in spreading the gospel of soil conservation, so that after eight years of endeavor by the soil specialist, additional staff was required to carry on this work.

(iv) Soils Extension Activities Under Soils and Crops Branch, 1954-1959

The expanding activities in both crops and soils extension led the Ministry to the conclusion that the agronomic activities of the Department should be given Branch status. Hence, in 1954 the agronomic activities of the Ministry were separated from the Extension Service Branch and organized as a Soils and Crops Branch under J.M. Parker as Director and P.H. Ford as Assistant Director.*

* Pages 359 and 364.

Under the newly formed Soils and Crops Branch both soil and crop aspects of agronomic extension continued to expand and to render additional service. The crop extension aspects of agronomy were enlarged and carried out under P.H. Ford, the Assistant Director, who also served as the Manitoba Department of Agriculture's representative on the Board of Directors of the Canadian Seed Growers Association and supervised the departmental extension work involving, cereal crops; seed fairs; crop improvement clubs; the Crop Improvement Association; field crop and variety demonstration plots; seed grain surveys; National Barley Contest; forage crops; Provincial forage seed distribution policy; Canadian forage seed multiplication; pasture crop improvement clubs; silage field days; and farmer meetings or short courses dealing with field crops. In these activities the Assistant Director was assisted by cereal crop specialists, forage crop specialists and a specialist added in 1955 to undertake the promotion of special crops.

The soils aspects of agronomic extension were supervised by the Director, J.M. Parker, who co-ordinated the crop and soils extension activities to the common end of service to provincial agriculture, and who also served as liaison officer for the Ministry in connection with P.F.R.A. activities. With the assistance of additional soil specialists the soils extension activities begun in the eight years, 1946 to 1953, were enlarged and carried on together with new projects and services developed to meet additional needs, the most significant of which, during the years 1954 to 1959, may be outlined in the ensuing paragraphs.

Soil Conservation Clubs

The "Save the Soil Campaign" continued under the changed designation of "Soil Conservation Club Program", and after expanding from one club in 1950 to 29 clubs in 1953, increased further under Soils and Crops Branch regime to 56 clubs in 1959. The location of these clubs, the year of establishment, and the number of members, are shown in Table 48 as recorded in the report of the Director for the year ending March 31st, 1959.

Field Shelterbelts

A "Field Shelterbelt Program" was undertaken by the Soils and Crops Branch immediately following a meeting of a special committee in the office of the Minister of Agriculture on May 13th, 1954. This meeting was convened and its members appointed by the Minister, Hon. R.D. Robertson, "to consider the importance of field shelterbelts in controlling wind erosion, and to formulate a provincial policy of tree planting in Manitoba". As this had been the subject of a study previously made and its findings published as a "Report of Post-War Reconstruction Committee",* and as the Lyleton tree planting project had already proved to be a successful venture (Page 319), the members had little difficulty in recommending that a field shelterbelt program should be undertaken forthwith; and in this connection

*"Farm Forestry and Tree Culture Projects for the Non-Forested Region of Manitoba" by Ellis, J.H.; Gill, C.B.; and Brodrick, F.W.; King's Printer, Winnipeg; 1945.

TABLE 48. SOIL CONSERVATION CLUBS
LOCATION, YEAR ESTABLISHED AND MEMBERSHIP
FROM INCEPTION TO MARCH 31, 1959

Club	Year Established	Member- ship	Club	Year Established	Member- ship
Baldur	1952	12	McGregor	1957	16
Basswood	1951	10	Manitou	1954	20
Benito	1954	10	McAuley	1951	5
Birtle	1952	4	Melita	1955	9
Boissevain	1954	12	Miami	1956	35
Bield	—	12	Miniota	1952	9
Bruxelles	1951	17	Mowbray	1957	—
Brandon	1951	10	Napinka	1957	10
Carberry	1952	17	Oak Lake	1954	18
Carman	1952	14	Oak River	1952	13
Carroll	1957	14	Oakville	1952	19
Cartwright	1951	9	Pilot Mound	1950	16
Crandall	1954	9	Poplar Heights	1952	15
Crystal City	1952	8	Portage	1952	20
Cromwell	1954	10	Regent	1955	9
Darlingford	1952	11	Rivers	1951	14
Dominion City	1954	10	Roblin	1951	15
Durban	1957	12	Roland	1954	14
Dutton	1952	14	Sidney	1955	12
Elm Creek	1952	14	Souris	1952	16
Gladstone	1951	14	Springfield	1951	15
Glenboro	1951	16	Springhill	1955	16
Gordon	1954	16	St. Alphonse	1957	—
Greenway	1955	—	Steinbach	1952	10
Hartney	1952	20	Treherne	1951	21
Ile Des Chenes	1954	12	Tyndall	1957	15
Killarney	1954	10	Winkler	1952	11
Lydiatt	1957	10	Zelena	1957	12

the Minister pledged that serious consideration would be given to providing funds for the purchase of tree planting machines to be used in field shelterbelt projects.

Immediate action was undertaken by the Soils and Crops Branch. Seedling trees were obtained from the Forest Nursery Station, Indian Head, while the staff members, in co-operation with agricultural representatives, located farmers who were willing to undertake this project. For the first season's operations tree planting machines were secured on loan from the Provincial Forest Service, the Indian Head Forest Nursery, and the Morden Experimental Station, which made it possible to commence planting of field shelterbelts within one month of inauguration of the project. As a result of this energetic action, 116½ miles of field shelterbelts were planted on 86 farms in 9 agricultural representative districts in the first year of operation.

The Field Shelterbelt Association project for the first few months was placed in charge of J.A. Tooth, until he resigned to be succeeded in September, 1954, by J.E.B. Campbell. However, from 1955 to the close of this sub-period the tree planting projects of the Soils and Crops Branch were carried on by G. Bonnefoy, first as Student Assistant and later as Field Shelterbelt Specialist.

As noted above, tree planting machines were secured on loan in the first year of operation as an emergency measure to ensure immediate action. In subsequent years, custom-made tree planting machines were ordered as required at a price of approximately \$600.00 each, and the Ministry provided a grant of one-half the cost to any municipality undertaking the purchase of such machine. By the end of the first five years of operation, twenty-one municipalities and one agricultural society owned tree planting machines, in addition to the one owned by the Department of Agriculture for demonstrations and for use in districts with insufficient planting to justify the purchase of such a machine by the municipality concerned.

The progress made from inauguration of this project until the end of the Post M.A.C. Sub-Period, and in the succeeding period, is reflected in annual records of the Soils and Crops Branch which are presented in summary form in Tables 49 and 50.

It is obvious, however, from Table 49, that credit must be given to the soil specialists for including utility trees along with caragana to give greater height to the field hedges; thereby not only increasing the efficiency of the hedges in giving an increased measure of protection to crops and exposed soil, but also of introducing plantings to grow into useful woods as they approached maturity.

A further improvement was effected in 1958-59 when native and introduced fruit trees were obtained from Indian Head Forestry Station and Morden Experimental Farm for spot planting in field shelterbelts. These trees included chokecherries, rosybloom crabs, triflora plums and pincherries, which were widely distributed with the object of adding beauty to the countryside and of providing fruit for the enjoyment of the farm families.

Table 49 also shows that 10,000 evergreen trees were planted in 1955. These trees were an experimental planting on exposed shale from which the

TABLE 49. MILES OF FIELD SHELTERBELTS; AND NUMBER AND SPECIES OF TREES AND SHRUBS PLANTED IN SOILS AND CROPS TREE PLANTING PROJECTS - 1954 to 1959 AND 1960 to 1969

Year	Ag. Rep. Areas	Miles of Field Shelterbelts Planted	Number and Species of Trees								Totals
			Willow	American Elm	Siberian Elm	Ash	Poplar	Maple	Caragana	Evergreens and Miscellaneous	
1954	9	116.63	60,820	73,030	—	49,970	8,440	—	99,600	44,140	336,000
1955	13	347.16	155,925	—	—	198,675	—	159,800	650,375	17,825*	1,182,600
1956	15	422.01	176,850	230,760	—	247,210	—	63,625	637,620	2,750	1,358,815
1957	18	277.88	104,775	132,700	—	206,500	—	70,050	535,600	4,725	1,054,350
1958	18	213.52	113,550	131,237	—	116,100	—	17,350	309,450	8,900	696,587
1959	—	364.00	66,200	324,050	4,050	241,175	5,450	28,375	640,120	—	1,309,420
1954-1959		1,741.20	678,120	891,777	4,050	1,059,630	13,890	339,200	2,872,765	78,340	5,937,772
1960	—	321.00	52,525	266,025	675	253,500	2,400	19,100	575,965	580	1,170,770
1961	25	335.46	50,525	304,525	24,775	294,500	5,950	13,100	623,900	1,350	1,318,625
1962	24	278.83	23,400	275,025	11,400	265,150	4,850	5,175	544,375	1,275	1,130,650
1963	—	143.05	161,775	138,375	47,725	164,175	33,400	34,775	468,750	—	1,048,975
1964	—	180.25	171,175	198,775	119,825	223,575	39,525	43,375	585,830	—	1,382,080
1965	35	247.25	157,800	264,325	49,175	230,425	27,175	31,450	615,000	—	1,375,350
1966	38	174.67	184,050	137,875	252,950	156,200	50,125	46,650	458,175	—	1,286,025
1967	38	119.17	250,975	127,050	140,450	102,700	51,200	30,375	341,300	—	1,044,050
1968	37	117.99	84,175	74,825	261,250	133,200	29,750	23,600	469,860	99,485	1,176,145
1969	37	104.64	131,825	53,850	222,850	83,650	51,500	26,525	324,850	79,325	974,375
1960-1969		2,022.31	1,268,225	1,840,650	1,131,075	1,907,075	295,875	274,125	5,008,005	182,015	11,907,045
1954-1969		3,763.51	1,946,345	2,732,427	1,135,125	2,966,705	309,765	613,325	7,880,770	260,355	17,844,817

* Includes 10,000 Evergreens planted for soil erosion control.

TABLE 50. MILES OF FIELD SHELTERBELTS PLANTED, BY
VARIOUS AGRICULTURAL REPRESENTATIVE
DISTRICTS, DURING THE PERIODS
1954 to 1959 and 1960 to 1969

	1954-1959	1960-1969	Total
Altona	54.95	282.49	337.44
Arborg	40.32	9.71	50.03
Ashern	—	.60	.60
Baldur	52.90	—	52.90
Beausejour	—	9.75	9.75
Boissevain	46.58	9.96	56.54
Brandon	57.88	51.91	109.79
Carberry	144.86	101.32	246.18
Carman	253.79	95.67	349.46
Dauphin	—	21.43	21.43
Hamiota	18.90	82.21	101.11
Holland	33.04	20.81	53.85
Killarney	—	17.97	17.97
Melita	237.15	104.19	341.34
Minnedosa	.63	10.59	11.22
Morden	315.48	321.17	636.65
Morris	133.29	111.05	244.34
Neepawa	5.58	41.24	46.82
Pilot Mound	148.57	108.06	256.63
Portage la Prairie	54.81	79.27	134.08
Roblin	—	2.40	2.40
Russell	—	51.11	51.11
Ste. Pierre	46.28	126.69	172.97
Ste. Rose du Lac	—	9.86	9.86
Selkirk	2.63	14.74	17.37
Shoal Lake	—	9.95	9.95
Somerset	—	17.23	17.23
Souris	12.63	16.94	29.57
Starbuck	—	24.83	24.83
Steinbach	6.00	7.65	13.65
Stonewall	.20	15.24	15.44
Swan River	29.57	83.55	113.12
Teulon	12.51	6.97	19.48
The Pas	—	26.50	26.50
Virden	32.65	50.07	82.72
Vita	—	23.71	23.71
Whittemouth	—	.50	.50
Winnipeg	—	37.22	37.22
Field Belt (Dist: N/R)	—	7.50	7.50
New Bowsman Project	—	10.25	10.25
	<u>1,741.20</u>	<u>2,022.31</u>	<u>3,763.51</u>

soil had eroded, on a site located in the east half of Section 1, Township 17, Range 16, on the southeastern portion of Riding Mountain.

Watershed Control Districts

Endeavors to encourage the combating of soil erosion through "Save the Soil" and "Soil Conservation Clubs", which in the case of soil erosion by wind led to the organization of field shelterbelt associations, also led, in the case of soil erosion by water, to attempts on the part of the extension soil specialists to develop watershed control districts.

The districts which appeared to be most in need of group action in the 1950's involved parts of the Riding Mountain and Pembina Hills escarpment and the adjacent terrain. On November 9th, 1956, municipal representatives on the Whitemud River watershed met at Neepawa and steps were taken to organize a Riding Mountain and Whitemud River Watershed Committee. On December 5th, this committee was established consisting of the mayors and reeves of all councils involved, as well as the presidents of the "Save the Soil" clubs in the area, with one additional member from each organization (who in the case of a municipal council would preferably be a councillor elected in a different year to the mayor or reeve), and with J.F. Rogers as Chairman and W.O. Lee as Secretary, assisted by an appointed executive committee of eight.

The objectives of the Riding Mountain and Whitemud River Watershed Committee were outlined as: "to promote and assist in developing . . . co-operation, co-ordination and action" in respect of "soil and water conservation and flood prevention among the municipalities and 'Save the Soil' clubs involved in the watershed; to secure the co-operation of other agencies both Governmental and Commercial; to determine priority for all work which is undertaken; and otherwise to help to further soil and water conservation and flood prevention work in the watershed - on a watershed basis."*

This committee, through its sub-committee on legislation, prepared and presented a resolution to the Select Standing Committee on Agriculture of the 1956-57 Session of the Manitoba Legislature. This resolution requested government approval and recognition of the committee, and necessary legislation under which the Watershed Committee could operate. As a result, the necessary legislation was introduced and "The Watershed and Soil Conservation Authorities Act" (7 Elizabeth II, Chap. 70) was assented to April 10th, 1958. However, this was superseded in the following year by a "Water Conservation Districts Act" (8 Elizabeth II, Chap. 70), August 4th, 1959, which provided for the promotion of conservation and control of water resources within a watershed district by an authorized board.

During 1957-58, E.A. Poyser, Extension Soil Specialist, devoted his entire time to activities in connection with the Whitemud River, which involved work with "Save the Soil" clubs, land use capability mapping, gully stabilization, and promotion of interest in approved watershed management. This work also involved the preparation of maps, assembling of information

* Annual Report, Soils and Crops Branch, 1956-57.

concerning the watershed, presenting addresses or discussions at general watershed meetings, and conducting public tours of inspection. The information assembled during this season was published by the Ministry in a brochure entitled "The Whitemud Watershed", 1958.

In 1957 a group of local farmers and municipal officials approached the Government of Manitoba seeking a solution of the serious soil erosion problem in the Tobacco Creek and Pembina Hills area. Public meetings were held at which the watershed concept was outlined by the soil specialist, which led to the naming of a local committee, comprising representatives of the municipalities of Thompson and Roland, and of the towns of Miami and Roland, together with the soil conservation clubs within the area, and with B. Mustard as Chairman and D.L. Fletcher as Secretary-Treasurer, to further the development of a watershed control project in the Tobacco Creek district.

However, as reorganization of the Ministry of Agriculture was in progress, and legislation in respect of watershed control districts was under revision, active organization of the Tobacco Creek Watershed District was delayed until authority was provided under the new Water Conservation Districts Act in 1959 when the Post M.A.C. Sub-Period of the Ministry of Agriculture came to an end.

Gully Stabilization

An important activity introduced by the extension soil specialists, after the establishment of the Soils and Crops Branch in 1954, was gully stabilization field days at which demonstrations were given of filling-in and converting unproductive water-made gullies on farm fields into productive grassed waterways.

In 1955, a demonstration of erosion control was conducted on a farm in the Morden district in co-operation with Veterans Land Act officials; and in 1956 a tillage and soil conservation demonstration was held at Altona. In the same season, a demonstration of gully stabilization was undertaken by R.A. Wallace at Bruxelles. Gully stabilization field days also were held at Swan River, Dutton, and Springhill. In 1957, similar demonstrations were given at Benito, Grandview, Minnedosa and Harding, in co-operation with farmers and municipal officials. These demonstrations were so successful that this program was repeated in 1958 at Sidney, Swan River, Treherne, Baldur and Deloraine. This soil conservation project was continued in subsequent years, and, in addition, technical advice and assistance were freely given to farmers who applied for this service.

Soil Conservation Farm Plan Books

Booklets were prepared by the Soils and Crops Branch which provided for stocktaking of the current soil and crop management practices, and for organizing a long-range land use program on individual farms. Information supplied by the soil specialists was included, together with forms for recording the program agreed to through consultation between the soil specialist, the agricultural representative and the farmer. Thus the farmers who used the Farm Plan booklet were provided with a plan of action and a

yearly record of performance. The first of these booklets was prepared and supplied to 160 members of the soil conservation clubs in 1958.

Pasquia Land Settlement Project

By agreement between the governments of Canada and Manitoba (approved by Order-in-Council, P.C. 1953-2/571) development of a portion of the Saskatchewan River delta was undertaken as a pilot reclamation and land settlement project. The Saskatchewan River delta comprises a lowland area of approximately 25 to 30 miles in width and 120 miles in length, and involves nearly two million acres, part of which lies in Saskatchewan and part in Manitoba.

The Pasquia project (embracing some 135,000 acres, mostly in Manitoba) involved that portion of this lowland area lying between the Carrot and Pasquia rivers east of Salt Channel and west of the town of The Pas. Because this portion could be isolated, it provided an ideal site for demonstration and for the acquisition of information which would aid in formulating land use policies for the extensive area of the so-called "drowned lands of the Saskatchewan delta".

Under the Canada-Manitoba agreement of 1953, the Federal Government undertook to install the reclamation works involved in dyking to prevent inundation by foreign waters, and in construction of primary drainage channels and pumping installations for removal of excess waters within the protected area. The Government of Manitoba undertook to provide secondary drainage, the construction of roads, and the development and supervision of land settlement.*

The Federal operations were carried out by P.F.R.A. engineers, and arrangements were made for the Federal engineer in charge to supervise the Provincial engineering works installed under contract so that unity and harmony of action were ensured. The Federal works were completed in 1960 and turned over to Manitoba.

Because the lands involved were practically all Provincial Crown land (except for a limited number of Carrot River lots which were disposed of as homesteads prior to 1930 when Crown lands in Manitoba were under Dominion Government administration), Manitoba's commitments in respect of the Pasquia area agreement were under the administration of the Provincial Ministry of Mines and Natural Resources. Consequently, the duties involved under the 1953 agreement were discharged through R.W. Gyles, Director of Lands, who, incidentally, must be given credit for advocating and initiating the action which resulted in the promotion of this project.

Because this project involved the extension of agricultural land use considerably to the north of the established agricultural area of the Province, and because it was also a pilot effort in respect of reclaiming the marsh and meadow lands of a northern lowland area, the Director of Lands and the

* "The Pasquia Land Settlement Project - Interim Report No. 1"; Lands Branch, Manitoba Department of Mines and Natural Resources, Winnipeg; 1956.

Director of the Soils and Crops Branch joined forces to undertake a co-operative approach to the problems incident to the development and settlement of this unique area.

A preliminary soil survey of the undeveloped marsh and meadow land terrain of the Pasquia area was begun by the Manitoba Soil Survey in 1946; but, due to a flood which covered most of the area in 1948, this survey was not completed until 1949. This preliminary survey provided basic information for planning reclamation procedures. It was followed by a more detailed soil survey, made in 1958* after the protective reclamation works (which were commenced in 1953) had been installed and a more favorable environment had been secured.

Further studies were made in 1956 in respect of physical features, geomorphology, climate, native vegetation and soils, which were summarized in a second interim report; and a third report was prepared containing a review of the historic development of the reclamation design.** The third report also contained a revised and modified scheme (designated as the Lands Branch Plan) which was adopted for internal drainage, the location of roads, and the legal land survey of the Pasquia area. This scheme was designed to conform to the terrain instead of conforming to the standardized quadrilateral scheme of the Dominion Land Survey.

To obtain information in respect of the agricultural possibilities of this northern area, a co-operative committee was organized by the Director of the Soils and Crops Branch. This co-operative committee consisted of representatives of the Provincial and Federal Departments of Agriculture, and of the Provincial Lands Branch. An enlarged program of crop experimentation was undertaken by the Dominion Experimental Farm Service on the local Demonstration Sub-station, and an additional experimental field was selected and operated on a different soil type situated in the central portion of the project. Experiments also were undertaken in fields and gardens of co-operating farmers by the Provincial extension workers. These endeavors were designed to provide information in respect of crop adaptation and fertilizer requirements. At the end of each successive season the results of this agronomic work were compiled, with recommendations for the succeeding year, together with general comments and conclusions. These reports were mailed free to each settler or land operator on all lands within the settlement scheme, thereby providing information which otherwise would have been lacking, and which the settlers were able to put to practical use.

A unique scheme also was devised for tenure and disposition of the land in the Pasquia Land Settlement Project. This scheme, which was adopted by the Cabinet, provided for occupancy of settlers on the reclaimed area under a lease agreement for a five-year period, with the option, at termination of the lease, to purchase on a 20-year amortization plan, and at a price stated in

* "Report of Detailed Soil Survey of the Pasquia Area"; Manitoba Soil Survey Report No. 11 (1960); Department of Agriculture, Winnipeg.

** "The Pasquia Land Settlement Project" - Interim Reports No. 2 and 3; Manitoba Department of Mines and Natural Resources, Winnipeg; 1956.

the lease option agreement - purchase to be conditional on the settler carrying out, in a satisfactory manner during the lease period, certain terms contained in the lease option agreement - .

In view of the large public investment in reclamation works, it was considered imperative that some supervision should be exercised over land use, during the early years, when the settlers had to adjust to the special methods of management required. Hence, in the acquisition of land by the settler under agreement for sale, provision was made, insofar as possible, to prevent speculation and traffic in land. To this end a clause was included which gave the purchaser the privilege of paying off the whole or any part of the unpaid purchase price at any time before such became due, but without the right to call for or to receive conveyance of the land until the expiration of ten years from the date of signing the "Agreement for Sale". Moreover, the agreement provided that if the purchaser should undertake to sell the land at any time within ten years, the Crown had the first right of option to repurchase, and the purchaser must not assign or sell the land before first offering to assign or sell the same to the Crown.

Wabowden Experimental Substation

A preliminary investigation of the "Northern clay belt", along the route of Hudson Bay Railway, was made by the Manitoba Soil Survey in 1952, for the purpose of obtaining more reliable information as to the extent of the "clay belt" and of the acreage that could be considered as having agricultural possibilities.

From the information thus gathered, it was estimated that the so-called "Northern clay belt" extended over an area of around 1,500,000 acres, of which 20 percent appeared, from preliminary inspection, to have possibilities for arable culture. However, although it was known that for some time a small amount of land had been under cultivation at Wanless (where Major R.W. Allen had acquired meteorological records for a few years and a degree of experimental data in co-operation with D. Brown of the Brandon Experimental Farm); and although a limited degree of crop production was observed (chiefly at Mission schools or stations), it was apparent that agricultural development had not progressed into the clay belt much above the garden stage - and that at only a few isolated sites - .

Because of the extent of the area involved, and the lack of factual information in respect of crop production under the unknown crop-climate inter-relationship of this region, the problem of obtaining such information was referred to, and discussed with, the Provincial Deputy Minister of Agriculture. As a result, the Manitoba Ministry of Agriculture presented a brief to the Dominion Department of Agriculture, with the request that the Federal Experimental Farm Service extend its activities by providing and operating an experimental station in the Northern clay belt for the purpose of acquiring agricultural information that was sadly lacking.

The Federal authorities responded in 1953 by authorizing a substation for the purpose of assessing the agricultural possibilities in the Northern clay belt; and in 1954, the Wabowden Experimental Substation, comprising 242 acres, was established on Section 29, Township 68, Range 8W.1, under the

direction and supervision of the Brandon Experimental Farm. Investigations were continued on the Wabowden Substation until 1965, at which time the Canada Experimental Farm Service discontinued operation on this site.

In the "Research Report" of the Research Station, Brandon, for the year 1965-66, the work accomplished at Wabowden is summarized as follows:

"The research program which was undertaken at Wabowden in the clay belt of northern Manitoba in 1955 was completed in 1965. The results have provided basic information on methods of land clearing; the beneficial effect of peat on soil structure; adaptability of cereal crops, forage species, and vegetable crops for northern agriculture; response of economic crops to fertilizer applications; and the soil climatic factors which influence agricultural production. These results and recommendations arising from them have been published in Canada Department of Agriculture Publication 1164."

(v) Activities in Horticultural Extension, 1925-1959

During the 1925-1959 sub-period the horticultural extension workers were involved in a wide range of activities and services. As noted in a previous section (Pages 355-356) the administrative work in connection with government grants to horticultural societies, under "The Horticultural Society Act", was a responsibility of the Director of Extension. However, the educational, inspirational and service activities of the Ministry, in respect of horticultural development in Manitoba, were the responsibility of the current Extension Horticulturist who carried on the departmental extension activities of the Ministry (except financial) until, late in this sub-period, the staff was enlarged by the addition of a potato specialist in 1952, a vegetable specialist in 1956, and an assistant potato specialist in 1958-59.

In carrying out the educational, inspirational and service activities in connection with horticulture, the Extension Branch was handicapped, prior to 1952, in not having more than one horticulturist at a time on its staff. It was further restricted by being without a provincial horticultural specialist from July 15th, 1937 to May 1st, 1939, and from October 16th, 1943 to September 30th, 1949, except for a 15 month period in 1946-47. Consequently, during these vacancy intervals the Director had to depend on temporary assistance and on the agricultural representatives in the districts involved to carry out certain duties, while other activities, for the time being, had to remain in abeyance.

A brief review of certain conditions and circumstances of historic interest may be necessary to an understanding of the problems with which the extension specialists in horticulture, during the 1925-1959 sub-period, had to contend and undertake to resolve.

In the Red River Settlement era, soil products were grown primarily for domestic subsistence and hence both fields and gardens played somewhat similar roles in the economy of the settlement. During the succeeding period of pioneer agriculture, field crops in excess of domestic requirements were produced to provide soil products for export outside the Province and the adjoining territories. Commercial agriculture then developed along with farming as a way of life, but with an ever-widening gap in the relative importance of field and garden crops in the provincial economy. The

expansion of field crop acreage, therefore, was determined by available export markets, but the growing of garden crops was determined by domestic requirements and by local domestic markets, which in turn were influenced by the changing ratio of urban to rural population.

At the time Manitoba was inaugurated (1870), town and urban areas were non-existent, and as Winnipeg was merely a village of 215 inhabitants, the population of the newly formed province could be classed at least as non-urban, if not as 100 percent rural. However, along with the development of agriculture, villages and towns came into existence, and with increasing mechanization of agriculture in succeeding periods, the ratio of urban to rural population was profoundly affected (as shown by succeeding census data). In 1881 the urban population was 12 percent of the total; by the beginning of the M.A.C. Sub-Period (1906) it had increased to 37.8 percent; by 1926, or at the beginning of the 1925-1959 sub-period, it had increased to 43.6 percent. Towards the end of this sub-period, as shown in the census year 1956, there was a change in method of reporting, and at this time the population recorded for Winnipeg and Brandon was 51.1 percent of the provincial total.

Furthermore, the number and proportion of the population involved in the various aspects of horticulture varied with time to a marked degree. In the agricultural pioneer years most families on farms, in villages, and in a fair number of homes in the smaller towns, were involved to some degree in vegetable growing or in subsistence gardening; but with the growth of commercial farming, farm operators in general became less concerned with gardening as essential to existence, and although farm women in general maintained varying degrees of involvement in the farm garden, nevertheless, there were commercial grain farms (such as a few large bonanza farms and bachelor homesteads) where farm gardens were practically non-existent.

On the other hand, with the growth of urban population, commercial vegetable growing by market gardeners, as a primary enterprise, or potato growing as an ancillary enterprise on holdings within easy access of town and city, gradually developed and became of growing importance. In addition, with the growth of urban centres, a demand developed for ornamental gardening, so that nurseries and landscape gardening establishments came into existence to supply the bedding plants, shrubs, trees, and ornamental planting material required for this type of domestic and civic horticulture.

Fortunately, throughout the years, and in both town and country, there were a few individual horticultural enthusiasts - to whom the Province should be eternally grateful - who gloried in making "the desert blossom as the rose".

It is apparent, therefore, that by the beginning of the Post M.A.C. Sub-Period, there was a wide range of attitudes as well as involvement on the part of the population of Manitoba in respect of horticulture, varying from that of:

individuals with little or no personal interest in horticulture, and home gardeners, in large numbers, with or without horticultural problems of personal or local concern;

to that of:

commercial gardeners, relatively few in number, made up apparently of individuals with and without group interest in the incidental economic and technical problems, and

horticultural enthusiasts, relatively few in number, who worked with missionary zeal to promote interest in horticulture in their respective local areas or societies, some who were highly skilled, and a few with outstanding ability who achieved national and international fame.

These diverse groups presented the horticultural specialist with a wide variety of problems in personal and public relationship, in addition to the natural problems regionally incident to the production of horticultural crops and the acquired problems incident to the faulty management practices of indifferent individual growers. Moreover, during the first 20 years of the 1925-1959 sub-period, the natural and acquired problems were augmented by the special problems incident to the post-war depression of World War I, the decade of drought, and World War II.

Many of the extension activities in respect of horticulture were carried out through various associations, horticultural and agricultural societies, 4-H clubs, and women's institutes, which drew heavily on the services of the provincial extension horticulturist, while other activities were essentially departmental efforts, many of which, subsequent to 1930, were carried on through, or with the co-operation of the agricultural representatives.

The Manitoba Horticultural Association and the affiliated horticultural societies* were particularly a field of service for the horticultural specialist. From 1924 to 1930, the current Provincial Horticulturist in the Extension Branch served as Secretary of the Manitoba Horticultural and Forestry Association, and as Secretary to the Horticultural Society Advisory Board after that body was established under the revised Horticultural Societies Act of 1930. This Board was created "to assist the Director of Extension in the general direction and supervision of horticultural societies."

Activities of the Manitoba Horticultural Association and the affiliated societies, which involved the services of the current extension specialist to a greater or lesser degree, included, the holding of annual fairs and exhibitions; school grounds beautification, home grounds improvement and garden competitions; field days, general and study group meetings; essay competitions; town beautification, boulevard plantings and establishment of parks; and the packaging, wrapping and mailing of bulbs, perennials, shrubs and tree seedlings which were, for a time, given as premiums to paid-up members until individual societies, which continued the activity, made arrangements with local nursery men for distribution of the plant premiums.

Closely allied to the annual provincial horticultural fair were the Provincial Peony Show and the Provincial Fruit Show.

The Provincial Peony Show was held for the first time in 1926 in the Breen Motors Show Rooms, Winnipeg, under the auspices of the Manitoba Horticultural Association, and the expenses and prize money were taken care

* Appendix V.

of in financing the Winnipeg Garden Show. By 1931, the Brandon Horticultural Society had been granted the privilege of staging the Provincial Peony Show in conjunction with the Provincial Exhibition. In seasons when it was necessary to gather blooms prior to the Brandon Exhibition, the exhibits of peony growers in the eastern area were held in cold storage in Winnipeg and trucked to Brandon.

The Provincial Fruit Show was first held at Morden, August 26th to 28th, 1931, under the auspices of the Morden Horticultural Society. The second annual Provincial Fruit Show was held at Portage in 1932, the third (in conjunction with the Winnipeg Horticultural Society) in the T. Eaton Co. annex, and the fourth under the sponsorship of the Brandon Horticultural Society's Garden Show in August, 1934. The Provincial Fruit Show was cancelled in certain years due to unfavorable seasons. At various times in succeeding years it was held in conjunction with the Provincial Honey Show and variously sponsored by the Winnipeg, Brandon and Dauphin Horticultural Societies.

Working through club leaders and the agricultural representatives, the extension horticultural specialist greatly assisted the Junior Garden Clubs and the 4-H Potato Clubs. This work involved the preparation of study lessons for the club members, the holding of meetings and field days, the procuring and distribution of seeds, the judging of club gardens, exhibits and displays, and the training of selected club members to compete in the National Club contest at the Canadian National Exhibition, Toronto.

Departmental projects involved the current horticultural specialist in many different activities. In 1927, J.R. Almey was responsible for the Horticultural Car which accompanied the "Better Seed Car" on the C.P.R. lines, and of the Horticultural Car which accompanied the "Good Farming Car" on the C.N.R. lines in 1929 (Pages 376-377). Fruit demonstration plantings were started by J.R. Almey in 1924 at Gilbert Plains, Deloraine, Rapid City, Foxwarren, Pinawa, Poplarfield and Treesbank; these were carried on for a number of years, and the results noted in the annual reports of the Department.

Exhibitors of vegetables sent to horticultural shows outside of the Province were given assistance by the Ministry with gratifying results. For example, in November, 1925, at the Royal Winter Fair, Toronto, K. de Jong, East Kildonan, captured the first prize for "Best Collection of Vegetables". At the exhibition of the Vegetable Growers Association of America, held at Cleveland in 1926, at Syracuse in 1927, and at South Bend, Indiana, in 1928, K. de Jong won first prize for cauliflower in each of the three years and was accredited as the Cauliflower King. No exhibits were prepared in 1929, but "assistance was given towards sending potato exhibits to the Toronto exhibition which made creditable showing". In 1930, help again was given in sending exhibits of cauliflower to the exhibition of the Vegetable Growers Association of America at Milwaukee, Wisconsin, at which, William Plantje of St. Norbert won premier prize and K. de Jong, East Kildonan, was awarded second place. This type of assistance in collecting exhibits of growers and forwarding them to exhibitions outside of the Province was continued, as a service by the Ministry, throughout succeeding years. Provincial horticultural exhibits also were prepared and exhibited.

Short courses and schools for exhibitors also were organized. Advice and assistance were given, as required, on request of interested individuals, in respect of farmstead improvement, landscape plantings, and the establishment of windbreaks. Help also was given by the extension horticultural specialist in connection with land utilization on small holdings established under the Veterans Land Act.

Under the Plant Pests Act of 1927 (and its later revisions), all plant nurseries in the Province had to be inspected and registered. Hence, annual inspections of nurseries were carried out as a routine departmental assignment, and the registered commercial nurseries were recorded by the horticultural specialist and published by the Ministry.

In addition to the inspections required under the Plant Pests Act, visits to, and inspections of, commercial and home gardens were made in response to requests from individuals and agricultural representatives, or following reports of disease and insect damage. In such cases, advice was given and recommendations made in respect of control measures. Also, demonstrations of spraying, grafting and other techniques were undertaken as educational endeavors.

A further service much appreciated by members of horticultural societies, and others, was the preparation and periodic revision of a list of vegetable varieties and of other horticultural crops recommended for Manitoba conditions. Timely bulletins also were prepared and published by the Ministry for general distribution.

During the decade of drought, the horticultural specialist rendered service in collecting vegetables grown in the eastern portion of the Province, which were shipped by the government, as a relief measure, to needy areas in the Province where garden produce had failed because of drought (Page 307); and during the war years especial emphasis was given by extension workers to the development of Victory Gardens.

It is noteworthy that, during the 1925-1959 sub-period, the extension horticultural specialists were involved to a greater or lesser degree in some phases of horticultural experimentation and plot demonstration. In the first year of the sub-period, seed growing tests were carried out by J.R. Almey in co-operation with the Horticultural Department of the Agricultural College, and fertilizer tests with celery on peat soil at Matlock were continued in co-operation with the Soils Division. - Incidentally, this project provided an opportunity to demonstrate control of celery blight through spraying. - These endeavors were followed in 1926 to 1929 with fertilizer trials using six vegetable crops (i.e. celery, potatoes, cauliflower, cabbage, tomatoes and greenhouse leaf lettuce) in co-operation with commercial vegetable growers.*

In 1932, trials were undertaken with 25 co-operators to ascertain the possibility of growing vegetable seeds for Manitoba gardens instead of being dependent on imported seed grown under foreign environment. The seeds produced in 1933 were tested for germination and grown on test plots at the

* Reports of these trials are recorded in annual reports of the Extension Branch.

University farm in 1934. In 1934, thirteen kinds of vegetables were under test for seed production, and practical information was obtained in respect of problems in vegetable seed production, storage and marketing. In this year also, arrangements were made with the agricultural representative at Melita for three dependable farmers to sow six kinds of vegetable seeds, in the fall, just before freeze-up. (Due to adverse conditions only one of the three proposed trials was sown, which incidentally proved to be more satisfactory than similar seedings sown in the following spring.)

It was indeed fortunate that the vegetable seed growing project had been initiated and continued by the Horticultural Specialist. Early in 1940, the Manitoba Seed Board received a request from the Seed Supply Committee (Department of Agriculture, Ottawa) urging the local Seed Board to encourage production of certain lines of vegetable seed because overseas supplies had been cut off. Twenty growers were secured who undertook vegetable seed production in 1940. In 1941, twenty-six growers continued this project and produced one and a half tons of seed, including: spinach, radish (3 varieties), onions, beets, carrots, parsnips (2 varieties) and tomato seeds. By 1942, three years of war had practically depleted all reserves of garden seeds so that supply became dependent upon year to year production. The Dominion Government, through the Seeds Administrator, Ottawa, set a vegetable seed production quota for Manitoba. The kinds, varieties and acreage of each, along with the guaranteed price for seed grown under this assignment, were:

Radish	-	Saxa; 2 Acres; Guaranteed price - 30 cents per lb. Icicle; 3 Acres; Guaranteed price - 30 cents per lb.
Spinach	-	Bloomsdale; 10 Acres; Guaranteed price - 25 cents per lb.
Beets	-	Detroit Dark Red; a sufficient acreage of stock seed to produce stecklings to plant 5 acres of beets for seed; Guaranteed price - 45 cents per lb.

The continued heavy demand for other kinds of vegetable seeds prompted the Vegetable Seeds Committee of the Manitoba Seed Board to undertake the production of other kinds of seeds besides those requested, hence the following stocks were obtained by the Ministry and distributed for seed production:

Spinach, radish (4 varieties), beets, carrots
(2 varieties), and onion (5 varieties),

to which some growers added parsnip and tomato.

During the growing season these crops were inspected as required by the Canadian Seed Growers Association. However, a severe frost in September adversely affected the germination of much of the seed produced in this season. "Most of the growers arranged for the sale of their own vegetable seed, but a few lots were left with the horticultural specialist for disposition. These were turned over to the Manitoba Potato and Vegetable Growers Association on consignment. All lots were sold in this way at a satisfactory price."

In 1943, and for the duration, all contracts for vegetable seed production were made between the growers and the Dominion Government, while the Manitoba Seed Committee assumed responsibility for sponsoring and arranging for production within the Province. Thus, in 1943, twenty growers grew vegetable seed under Dominion Government Guaranteed Production Policy contract; the Provincial Government Industrial Farm produced 2¼ tons and other growers produced 10¾ tons of seed from registered seed stocks of beets, carrots, onion, radish and spinach; and, in addition, onion bulbs and stecklings of beets and carrots were produced to grow seed in the succeeding year. This project, however, was an emergency measure which was discontinued when the emergency no longer existed.

The capability of the soils and climate of the settled areas of Manitoba to produce (under good management) the commonly required table vegetables and potatoes of good yield and quality was established in the early days of agricultural settlement. In the Report of the Canadian Red River Exploring Expedition of 1857, H.Y. Hind, in referring to garden produce in the Red River Settlement, wrote in respect of the garden of Oliver Gowler, Headingly, that "his turnips (Swedes) were magnificent. . . . A portion of the potato crop was still in the ground; they far surpassed in quantity, quality, and size any I have ever seen before." In respect of the garden in the Indian Mission village seven miles below the Lower Fort (Garry) he records "the potato crop is here truly magnificent . . . all perfectly clean and sound and of very unusual size and weight - a practical experiment proved them to be an excellent table variety"; and also in reference to the garden of Rev. A. Cowley, "in the garden I noticed asparagus growing luxuriantly, beet, cabbage, broccoli, shallots, and indeed most culinary vegetables."

After Manitoba became a province, J.Y. Shantz of Berlin, Ontario, accompanied B. Warkentin of Russia to investigate the suitability of Manitoba for the settlement of Mennonite immigrants. In a report to the Federal Minister of Agriculture, February 28th, 1873, referring to a visit on the farm of Mr. Grant, eight miles west of Portage, he states: "His potatoes also were of very large size and superior quality, such as I have never seen surpassed." On the Mackenzie farm he was shown "about 100 bushels of onions, measuring two to five and a half inches in diameter. The turnips also were of a very large size."

During the years when the Ministry of Agriculture was engaged in an active immigration program, exhibits of Manitoba grown farm and garden produce (including potatoes) were sent over a number of seasons to Toronto, Quebec, St. John, N. B. (Page 117), and to a number of points in the United States, where the exhibits excited much interest and received wide acclaim.

Many other references indicate the high quality of vegetables commonly grown in Manitoba in earlier periods. It is important, therefore, to note in the annual report of the Extension Horticulturist for 1928-29 that "the Winnipeg market is not favorably disposed towards Manitoba potatoes, due to the fact that they are not well graded, too many varieties are offered for sale, and many late varieties are not sufficiently well matured."

Moreover, potato diseases had become so much of a problem that in 1939 "practically all potatoes grown for seed in Manitoba were rejected because of wilt."

In connection with this apparent reversal of quality in potatoes produced, it may be noted that garden seeds and plants were introduced at various times with the various waves of settlement. Garden seeds and potatoes were brought in by fur traders, by the Selkirk colonists, by early British settlers; and, in later years, by European immigrants, and also in the carlots of settlers' effects brought in by immigrant farmers from eastern Canada and the United States. Garden seeds also were imported by commercial seed houses and distributed through mail order firms and local stores, but potatoes, on the other hand, were more commonly grown from sets cut from stocks (diseased or otherwise) left from the previous crop after winter storage in the grower's or a neighbor's cellar. It is not surprising, therefore, that both suitable and unsuitable varieties of some kinds of vegetables were introduced and that there should develop a reversal from praise to criticism of the quality of Manitoba potatoes due to disease problems acquired through lack of good husbandry.

Thus the extension specialists in the 1925-1959 sub-period were presented with a host of educational and service problems in respect of potato crop adaptation, management, and disease control. Moreover, although demonstration work with garden crops had been under way on the Dominion Experimental Farm at Brandon, it was not until the Agricultural College was moved to the Fort Garry site in 1913 and the Demonstration Farm at Killarney was initiated in 1914 by the Province, and the Morden Experimental Station started in 1915 by the Dominion Experimental Farm Service, that serious efforts to obtain horticultural information (except that acquired through the experience of growers) were undertaken by the Ministry. Consequently, without access to a backlog of experimental data at the beginning of the 1925-1959 sub-period, the extension horticulturists had to undertake further investigational projects in order to obtain specific information in respect of natural and acquired horticultural problems; and to carry on the normal extension activities, prior to 1946, while confronted with the retarding effects and the special problems incident to the drought and war years.

Because of the large number of potato varieties then grown in the Province, and at the request of the Vegetable Growers Association for assistance in this problem, potato variety trials were carried out from 1926 to 1929 by the current Extension Specialist, J.R. Almey. Yields were obtained from trials of 16 varieties initially grown at eight (later 10) different locations in the Province from seed supplied by the Ministry. Samples of the 1926 crop from these plots were kept in cold storage and subjected to cooking tests in the following spring. This project was an attempt to find, if possible, an early, high-yielding white potato of good quality suitable for Manitoba. Because certified seed was not available for all varieties used at the time, this experiment provided a striking object lesson of the superiority of certified seed over common seed in respect of disease infection.

Potato variety trials were continued, with certified seed, by John Walker, who succeeded J.R. Almey in July, 1929. Unsatisfactory varieties were dropped from the trials and new or promising varieties were added to compare with the varieties retained. Certified seed also was secured and distributed to Junior Potato Clubs, to the benefit of the respective surrounding districts. This phase of potato growing investigations was continued until Walker left the Department in 1937.

In 1938, Bacterial Ring-rot in potatoes was reported as occurring and spreading in various parts of the Province, and in 1939, due in part to poor seed used by many growers, and in part to the unfavorable season, practically all seed potatoes were rejected because of wilt. To relieve the situation the Ministry gave financial and administrative assistance in the importation of eleven carlots of certified potato seed from Prince Edward Island. These seed stocks were distributed by the end of May, 1940, to approximately 500 growers in the Province.

When the position of Provincial Horticulturist (which had been vacant from July 15th, 1937 to May 1st, 1939) was filled by C.R. Ure, there appeared to be little agreement among potato growers as to the varieties most suited to Manitoba. The newly appointed Horticultural Specialist, therefore, undertook, in 1940 and 1941, to carry out potato variety demonstration trials with 12 co-operating potato growers. In these trials the yields per acre were recorded and specific gravity tests of samples were obtained to give indications of relative dry matter in the tubers. This project, however, was discontinued in 1942 because it was concluded that the varieties grown were not satisfactory.

The Ministry then called a meeting in the Deputy's office in March, 1942, at which a Provincial Potato Committee was appointed composed of:

Professor S.W. Edgecombe, University of Manitoba;
F.W. Hutton, Morden Experimental Station;
J.W. Scannell, Dominion Certification Service; and
C.R. Ure, Provincial Horticulturist,

with the object of undertaking a more diversified program of potato improvement.

The first objective planned by this committee was the development of high-grade foundation seed to be used by local potato growers. Sets of the best seed available of twelve varieties were planted in isolation plots at the University, and carefully rogued to eliminate disease infected plants. A portion of each variety retained was tuber indexed in the greenhouse in 1943 and used as the starting point. Promising seedlings also were obtained from various research stations in other parts of Canada and abroad, and a potato breeding program initiated.

Unfortunately, following the resignation of C.R. Ure from the Extension Branch in October, 1943, and the resignation of S.W. Edgecombe from the Plant Science Department, University of Manitoba, this potato improvement program was retarded; and although potato breeding work was continued at the university by Edgecombe's successor (with financial assistance from the Ministry of Agriculture), the extension aspects of potato



44. Beginning of the systematic Manitoba Soil Survey - 1927

45. Surface soil eroded from headland to depth of 12 inches at Melita





46. Soil drift on fields north of Melita in Southwestern Manitoba during the drought period of the 1930's

THE DROUGHT OF THE 1930's

47. Soil drifting checked by established shelterbelt in the drought period of the 1930's - Denbow District - Southwestern Manitoba





48. Bennett buggies parked near Lyleton Elevator by school children - 1936

49. Farmers in Turtle Mountain District, with maps of their own farms, planning soil erosion control together with Department of Agriculture Soil Specialist





50. Initial Step

SOIL EROSION CAMPAIGN
GULLY FILLING DEMONSTRATION IN BRUXELLES DISTRICT

51. Gully-filling in progress - when completed, was seeded
down to grass with a nurse crop of winter rye





52. Incipient gullying in Alexander District

53. Deep gully reclaimed by filling-in, and stabilized by seeding down to grass-legume mixture
Alexander District



54.
Tree planting
machine in
action



FIELD SHELTERBELT ASSISTANCE POLICY

55.
Field shelterbelt
well established



LAND CLEARING
ASSISTANCE POLICY



56. Brush knocked down by ball and chain in winter period 1963

57. Brush piled and burned in following summer - 1963





58. Crop sown on same site as 56 and 57 - 1964

59. Brush piling machine used in custom clearing of bushland





60. Fertilizer demonstration on farmer's field by Soils and Crops Branch

SOIL FERTILITY ACTIVITIES

61. Provincial Soil Testing Laboratory Service established 1963-64
Located in Laboratory of Soils Department, University of Manitoba
(Courtesy of P. Fehr, Soils Department, U of M)

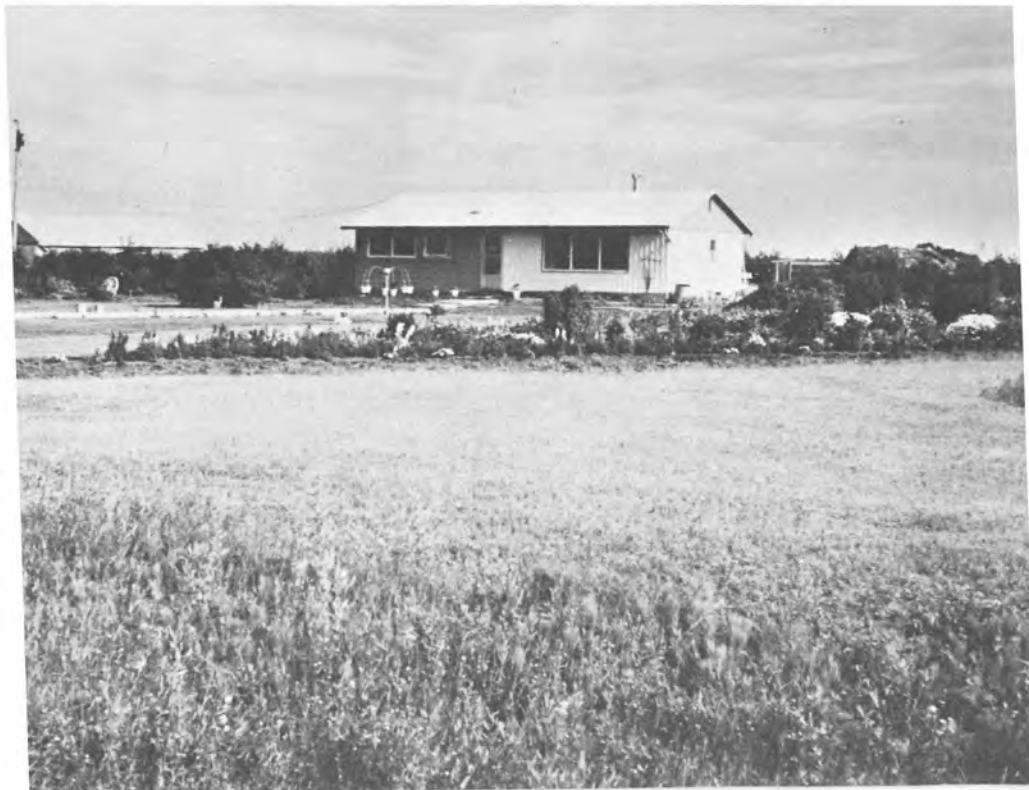




62. Native vegetation and weeds on peaty area of former lakebed prior to reclamation Pasquia Area - 1950

LAND RECLAMATION

63. After reclamation - farmstead on same site as above - Pasquia Area - 1968





64. Reed grass, horsetail and dandelions on hydromorphic area prior to reclamation - Pasquia Land Settlement Project - 1950

65. Demonstration plots of legumes and grass and legume mixtures after installation of drainage works - Pasquia Land Settlement Project, 1964





66. Wheat field in the northeastern portion of the Portage Plains, 1961, after many years of fallow-grain culture. The more vigorous crop across the foreground shows the effect of being sown on a strip of newly-broken headland, or former sod margin of the field.

67. Square yard samples of red clover grown on peat in the Arborg District on plots treated with: Nitrogen and Phosphate; Phosphate; No Fertilizer; Nitrogen, Phosphate and Potash; and Sulphur.



improvement (involving personal and direct contact between an extensor horticultural specialist and the commercial potato growers) were too long suspended at a time when potato diseases were becoming more and more widespread. (A survey of commercial potato fields in 1943 showed that 22 percent of the plants inspected were affected with Bacterial Ring-Rot, 40.1 percent with potato Scab, 47.1 percent with Rhizoctonia, 14.1 percent with Fusarium infection, and definite evidence of hollow heart, spindle tuber and virus disease.)

Happily, subsequent to 1949, departmental leadership in provincial horticulture was resumed, and continuity of horticultural extension activities finally secured through the co-ordinated endeavors of a small staff of dedicated horticultural specialists whose efforts, during the last decade of the 1925-1959 sub-period, enlarged and added to the endeavors formerly limited to a "one-man" horticultural extension specialist. This progressive leadership began with the appointment of F.J. Weir as Provincial Horticulturist in October, 1949, and with the addition, in 1952, of a potato specialist, a vegetable specialist (T.A. Sandercock) in 1956, and an assistant potato specialist (L.G. Jorgenson) in 1958, which permitted P.J. Peters (whose first appointment was as potato specialist) to undertake the additional task of investigating and promoting fruit growing in Manitoba.

With the resumption of active horticultural extension work, close co-operation was re-established between the extension horticulturalists and the Plant Science Department of the University; vegetable variety trials were conducted in each agricultural representative district; fertilizer trials with canning crops were carried out in co-operation with commercial growers; demonstrations were given in the use of sprout-inhibitors and of top-killers on potato crops, as well as in the use of fungicides and weedicides; work with junior garden and potato clubs was renewed with striking results (Table 45(b), Page 363); surveys of market gardens were made each season; field days were organized for vegetable growers to visit experimental projects; vegetable grading clinics were held to familiarize growers with regulations in respect of classifying and grading vegetables; close contacts were maintained with individual growers and growers associations; and valuable services rendered as consultants to commercial firms involved in developing the vegetable canning and potato processing industry. Furthermore, in the later years of the decade, some eight to ten newsletters per season were prepared, outlining current problems and timely recommendations, which were mailed each season to approximately 1,100 to 1,200 commercial growers of vegetables and potatoes.

Credit must be given to the horticultural specialist of the Extension Service who served as Secretary of the Manitoba Horticultural Association and Secretary of the Horticultural Society Advisory Board, and also to the respective specialists who served each year as Secretary to the Vegetable Growers Association of Manitoba, and as Secretary of the "Fact Finding Committee" set up in 1956-57 (consisting of representatives of wholesalers, jobbers, retailers, and growers associations), which continued to meet monthly for the purpose of surveying and discussing the vegetable situation relating to supply, methods of merchandising, and pre-packaging.

Concurrent with (and in large measure influenced by) the enlarged activities of the horticultural specialists of the Extension Branch was the commercial development of the vegetable canning and processing industry which, during the last decade of the 1925-1959 sub-period, became an important factor in the economy of the Province.

An investigation of the marketing facilities for fruit and vegetables, undertaken jointly by the Manitoba and Dominion Departments of Agriculture in 1945,* showed that the major portion of the vegetables grown in Manitoba for commercial distribution, at that time, were marketed through facilities in Winnipeg; and that nearly all the imported fruit and vegetables consumed in the Province were also distributed from this city.

In this connection it is of historic interest to note that, of the produce received in Winnipeg during the year August 1st, 1944 to July 31st, 1945, only 39.9 percent of the vegetables, 57.3 percent of the potatoes, and 0.6 percent of the fruit, were Manitoba grown.

As early as 1933 a few tons of vegetables were processed as pickles by a number of firms in Greater Winnipeg and, commencing in 1946, a packing plant canned vegetables until 1956, and also purchased potatoes, carrots, turnips, and beets, to be used in the manufacture of diced vegetables and in meat and vegetable stew products. However, except for the relatively limited quantities of cucumbers, onions, cauliflower, green tomatoes and peppers used in the manufacture of pickles, and of the small amount of processed mushrooms and horseradish, the vegetables received in the Winnipeg markets were distributed primarily as fresh and cold storage products.

However, by the latter portion of the 1925-1959 sub-period definite progress had been made in the development of vegetable canning as a commercial industry. A canning company had first started canning peas in Kildonan in 1924, which continued to operate until 1930-31. After reorganization of this company in 1933 and again in 1935, the operation of canning peas, beans and spinach was resumed but was finally discontinued in 1957.

A second company was organized to can peas and beans at Winkler in 1945. This concern was taken over by another company in 1947, and at this location the canning of peas, beans, corn and tomatoes continued as a successful co-operative organization.

It was not until 1952 that the canning industry in Manitoba was enlarged by the establishment of a vegetable processing plant at Morden for the canning of peas, beans, corn, tomatoes and carrots. Further enlargement in the commercial processing of Manitoba vegetables commenced with negotiations for a soup factory at Portage la Prairie in 1954. The annual report of the Extension Branch for 1956-57 records that "negotiations were completed (with a commercial concern) early in 1957 for a five million dollar cannery (soup plant) at Portage la Prairie", which after completion

* "The Marketing of Fresh Fruit and Vegetables in Greater Winnipeg" by Elliot, R.S., Manitoba Department of Agriculture; Campbell, B.A., and Thair, P.J., Dominion Department of Agriculture. King's Printer for Manitoba, 1946.

became an additional user of Manitoba vegetables and thereby (together with the Winkler and Morden canneries) contributed to the commercial growing of vegetable crops, and inaugurated the vegetable canning industry as an important factor in the economy of the Province.

The acreage of vegetables grown as canning crops in Manitoba during the last decade of the 1925-1959 sub-period is recorded in the annual reports of the Ministry as ranging from around three to five thousand acres, but it is noteworthy that, whereas the first attempts to develop vegetable canneries were started in districts with clay-textured soils adjacent to Winnipeg, the later canneries were developed at points where the soils of the surrounding districts (as shown by soil survey reports) were not so fine in texture, less subject to periodic excess of moisture, and generally easier to cultivate.

Great strides also were made subsequent to 1949 in the improvement and marketing of potatoes in Manitoba.

The potato breeding work which had been carried on at the University of Manitoba following the appointment of a Provincial Potato Committee in 1942 resulted in the production of a new named variety designated as Manota, which was released in 1950-51 and licensed for distribution in the spring of 1952. Bag lots of this new production were supplied to potato breeding specialists at the universities of Alberta, Saskatchewan and North Dakota; and arrangements were made for three local growers of certified potatoes to increase this variety of potatoes. In 1953-54, some 5,000 bushels of Manota certified seed were produced.

In 1953-54 a unique contribution was made in connection with a "Potatoes for Polio Campaign". Potatoes grown and donated by Manitoba potato growers were graded, packed in 10 pound bags, and sold during the week previous to the Provincial Potato Show.* Proceeds from the sale of these potatoes, plus cash donations, amounting to \$1,693.00 were turned over to the "Polio Campaign" to purchase equipment needed in the Municipal Hospital. As a result of this project, Manitoba potatoes received favorable publicity both in Manitoba and throughout Canada.

Manitoba potatoes received additional favorable publicity, locally, through exhibits at the Provincial Potato Show and at the Red River Exhibition, and nationally, through prizes won from time to time by Manitoba potatoes shown at the Canadian National Exhibition in Toronto.

The greatest progress and improvement in quality of potatoes marketed in Manitoba, however, appears to have been due to enforcement of regulations under the Manitoba Vegetable Sales Act. The annual report of the Horticultural Specialist for 1951-52 records that only one-quarter of the potatoes marketed as Canada No. 1 actually met requirements, but that through increased supervision, inspections, detentions and warning, this condition improved before the new year until nine-tenths of the potatoes examined by federal inspectors qualified for No. 1 grade. By 1955-56 the quality of Manitoba potatoes showed continued improvement, and by

* A Provincial Potato Show was organized in 1951-52 which featured exhibits by members of potato clubs and which was held in the T. Eaton Company store.

1957-58 (when the controlling Act was revised and designated as The Fruit and Vegetable Sales Act, Manitoba, and provision also was made that all Canada No. 1 potatoes were to be marketed in new containers effective June 1, 1957) 90 percent of the Manitoba grown produce which appeared on the Winnipeg market graded Canada No. 1.

Progress, in the initial years of the potato processing industry in Manitoba, was far from spectacular. A Winnipeg company commenced the manufacture of potato chips in 1940, and although operations were continued, this company was taken over, eventually, by another company. A second company was established in 1955 which carried on the successful manufacture of potato chips in Winnipeg. Nevertheless, it was not until the years immediately following the 1925-1959 sub-period that a number of additional plants were established and that the processing of potato products became an important Manitoba industry.

Until the closing years of the 1925-1959 sub-period the commercial growing of fruit had not become a significant factor in the provincial economy. In the days of the fur trade, wild fruit played an important role as a constituent in the making of pemmican; and in the homestead and pioneer days, wild fruits (saskatoons, chokecherries, plums, strawberries, blueberries, etc.) provided an earlier generation of farm and country women with material for preserves and (especially in the case of cranberries at harvest time) with filling for pies as long as these wildlings were readily available.

However, although domestic fruits were introduced in the early days of agricultural settlement by a number of settlers inspired with a love of horticulture, and fruit seedlings were given as premiums by horticultural societies; and although greatly improved stocks were made available through new introductions, selection and plant breeding, as a result of the labor by devoted horticulturists and experimental stations, the production of domestic fruit obviously had progressed little beyond inclusion in farm and home gardens. Furthermore, while a limited number of growers located at various points must be credited with the production of certain small fruits, such as raspberries, in quantities more than enough for their own use (which they sold or shared with neighbors on a "pick your own" basis), the facts are that, after 75 years of agricultural development, only 0.6 percent of the fruit that passed through the Winnipeg market in 1944-45 was Manitoba grown, and that fruit growing had not become of commercial importance in the main agriculturally developed portion of the Province.

An attempt therefore was made by extension horticulturists to encourage the commercial growing of certain fruit crops as an economic industry in pioneer portions of the Province. From 1950 to 1955, C.S. Prodan initiated studies in respect of the performance of blueberries, under various methods of management, in southeastern Manitoba; following which, work with cultivated species of blueberries was transferred to a site on the Provincial Forest Nursery at Reynolds. In 1956-57 the extension specialists began demonstration work with small fruits at Hadashville, and in 1957, raspberry canes were obtained by the Provincial Horticulturist for demonstration and variety trials on the Pasquia Land Settlement Project. By the end of the sub-period, preparation and plans were made for additional

trials and demonstrations with strawberries and raspberries in pioneer areas, and with tree fruit demonstration plots in agricultural representative districts. It is therefore of historic interest to note that the work with small fruits in the Hadashville district, which was undertaken by P.J. Peters in the closing years of the 1925-1959 sub-period, led to the commercial production of strawberries by the Reynolds Fruit Growers Co-operative in the next decade, thereby showing the way to the establishment in Manitoba of fruit growing as a commercial enterprise.

(vi) Activities of Extension Apiculturist

Extension activities in respect of apiculture were well organized, by the beginning of the 1925-1959 sub-period, by L.T. Floyd, who had been appointed Extension Apiculturist in 1921, and who subsequently served the Ministry in that capacity for 25 years. The harmonious and close contact of the Extension Apiculturist with the honey producers of Manitoba which had been established by the beginning of this sub-period is indicated by the following notation in the annual report of the Extension Branch for the year 1925-26:

"The year 1925 will be remembered in apiary circles as the year when our first carload of honey was produced by one apiary concern and sold to a broker. This was a definite achievement and to Bissonnette Bros. of St. Jean, Manitoba, the honor is due, but of far greater importance to the industry is the fact that 1925 was the year when, for the first time, we filled the Winnipeg stores with honey of superior quality, and the grocery trade freely accorded it all the praise due it."

During the 1925-1959 sub-period the current extension apiculturist (Page 364) served as Secretary to the Manitoba Beekeepers Association (which had been an active organization since 1904) and, as Provincial Apiculturist, continued to work in close co-operation with Manitoba beekeepers to further production and to maintain the high quality of Manitoba honey. To these ends, local beekeepers associations were formed and educational activities extended.

Regulations were devised by the Ministry which, under a revised Animal Husbandry Act, required all beekeepers, before or during the month of June in every year, to apply for certificate of registration. Thus from 1934 onward the Ministry maintained an accurate record of honey producers and thereby facilitated the inspection of apiaries and the examination of hives and premises for the presence or absence of disease.

In the early years, beekeepers attempted to carry colonies of bees through the winter months, but the death rate frequently was heavy. To eliminate this problem, the practice of procuring package bees and queens in the spring was introduced early in the 1925-1959 sub-period. This practice was gradually expanded and by 1940-41 the apiculturist placed orders for 3,814 packages of bees. In addition, queens to the number of 1,901 also were imported. By 1958-59, most bee colonies in Manitoba were established from package bees imported in the spring from southern United States. Approximately fifty percent of these bee packages were transported by truck.

During and immediately following the war years (1939-1945) sugar was in short supply and beekeepers had difficulty in obtaining sugar for apicultural use. At first the Federal sugar officer for Manitoba controlled the issue of sugar permits to beekeepers, but this procedure proved to be very unsatisfactory. Later, arrangements were made with the Dominion Sugar Controller for all beekeepers' sugar permits to be issued through the Provincial Ministry of Agriculture. The services rendered by the current Extension Apiculturist in this connection were greatly appreciated and the readjusted procedure of 1945 can be credited with playing some part in the production of 4.8 million pounds of Manitoba honey in that season.

Over the years, assistance was given by the Ministry and the Provincial Apiculturist in connection with exhibits of honey prepared and submitted by Manitoba beekeepers, which were forwarded through the Extension office to the Royal Winter Fair at Toronto. In 1930, Manitoba exhibits won first prize for granulated honey at the Toronto exhibition for the third time in succession, and in 1931, six entries of honey from Manitoba secured the first six placings.

Over the years of the sub-period, honey exhibits were shown at numerous agricultural and horticultural exhibitions, and at various shows inside and outside of the Province. As early as 1928, members of the Beekeepers Association attempted to arouse local interest in the use of honey by donating 5,000 half-pound samples of Manitoba honey which were distributed free to visitors of all ages on the Friday in the week of the Winnipeg Garden Show. In 1931, a trial shipment of honey was sent to England which was favorably received by retailers and customers alike. Honey exhibits also were shown regularly at the Provincial Exhibition held annually at Brandon, and the annual departmental report for the fiscal year 1951-52 records that:

"A Provincial Honey Show was held for the first time on August 30 and 31 (1951) in Winnipeg. This is planned to be an annual event to be held in conjunction with the Provincial Horticultural Show."

In 1948-49 the Ministry further undertook to ensure the high quality of Manitoba honey by preparing Provincial regulations in respect of grading, marking, and marketing of honey; and arrangements were made with Dominion authorities for the inspection work in this connection to be conducted by Federal inspectors when the new Provincial regulations became effective in 1951.

Further, in connection with the marketing of honey, the Manitoba Beekeepers Association requested the Minister of Agriculture for permission to set up a Honey Marketing Plan under the Natural Products Marketing Act. The Ministry responded by carrying out an educational program and by holding a plebiscite of the producers to ascertain if the proposed plan was generally acceptable. The results of this plebiscite led to the issue of an Order-in-Council, in 1954, which authorized a Honey Marketing Plan for Manitoba, to operate under a five man board with a permanent secretary in Winnipeg. The money for operation of the plan was to be obtained by means of a two cent per case levy on all honey containers sold in Manitoba.

A further service provided by the Ministry, subsequent to 1953, involved the testing of color and moisture content of honey samples submitted by Manitoba producers to the Provincial Apiculturist. A survey of honey houses was instituted, in 1954, under which visits were made annually to premises of beekeepers with over 50 colonies of honey bees. These surveys were instituted for the purpose of consulting with the operators in matters relating to improved equipment and to improving the sanitary condition in honey houses.

Historically it is worthy of note that, during the 1925-1959 sub-period, the data in respect of apiculture indicates that beekeeping, in the early and mid-portion of this sub-period, was more or less an ancillary occupation involving relatively small operators. Further, although the number of beekeepers increased during the drought and war years, there appears to have been little change in type of operation until the last twelve years of the sub-period when apiculture became more and more of a commercial enterprise involving fewer operators with larger apiaries.

This is shown in Table 51 by the average number of beekeepers and the average number of colonies kept per apiary operator for the nine years 1925 to 1933 (prior to the required registration of beekeepers); for the 14 years (1934 to 1947) which were influenced by drought and war-time conditions; for the six year transitional period (1948 to 1953); and for the closing six years (1954 to 1959) of the sub-period.

TABLE 51. AVERAGE NUMBER OF BEEKEEPERS AND OF COLONIES PER OPERATOR - 1925 to 1959

Date	No. of Years	Average Number of	
		Beekeepers	Colonies
1925-1933	9	1,974	15
1934-1947	14	3,458	15
1948-1953	6	1,990	25
1954-1959	6	1,160	36

The honey and beeswax production in Manitoba during the years 1925 to 1959 are shown in Table 69 (Page 516).

(vii) Activities in Poultry Extension

In the Pre M.A.C. Sub-Period, and as early as 1894, a grant varying from \$300.00 to \$500.00 per annum was made by the Provincial Ministry of Agriculture to the Manitoba Poultry Association (Table 13, Page 123), but poultry extension activities, as such, do not appear to have been recorded in departmental records prior to the establishment of the Manitoba Agricultural College. Furthermore, there was no poultry specialist on the staff of the M.A.C. until M.C. Herner was appointed to organize a poultry department in 1911. In the meantime, from 1907 to 1911, arrangements were made with Dr. A.W. Bell, Secretary of the Manitoba Livestock Associations, to give

lectures on farm poultry to the students at the M.A.C., and presumably to give whatever extension services were given by the Ministry in respect of poultry management; but apparently Dr. Bell was only able to give a very limited amount of time to poultry promotion.

With the appointment of a Professor of Poultry Husbandry at M.A.C. in 1911, poultry extension work was undertaken as a normal duty of the M.A.C. Poultry Department. This work was enlarged following the appointment of J.E. Bergey as assistant in the M.A.C. Poultry Department, 1914 to 1917, and as Poultry Specialist with the Extension Service from 1918 to 1921. From 1921 until the M.A.C. was absorbed by the university in 1924, the Director of Extension relied on Professor Herner and his departmental assistants, i.e. H.C. Grant (1920-21) and F.B. Hutt (1921-1923), to carry on the poultry extension work of the Ministry.

For the first three years of the 1925-1959 sub-period, F.B. Hutt served during the summer months as Extension Poultry Specialist, and as assistant in the Poultry Department, M.A.C., during the fall and spring sessions of the College. The first full time Poultry Specialist appointed to the staff of the Extension Service in this sub-period was J.C. Scholes, who occupied this position from 1928 to 1935. He was followed by D.C. Foster, 1935 to 1954, who in turn was assisted by P.A. Kondra in 1945 and 1946, by M. Mitchell in 1947 and 1949-1950, by W.J. Lapka in 1948, and in 1951 by J.R. Cameron who succeeded to the position of Extension Poultry Specialist in 1954.

It is of particular interest to note that, at the beginning of the 1925-1959 sub-period, poultry and poultry products were produced mainly on Manitoba farms from relatively small "farm flocks" - many of which were nondescript - and to a lesser extent from "backyard poultry flocks" in villages and urban centres - some of which were kept as a hobby by a limited number of enthusiastic poultry breeders and fanciers. Nevertheless, although few in number, there were enough enthusiastic poultry keepers that poultry associations were already in existence at Brandon, Winnipeg, St. James, Portage, Neepawa, Dauphin and Swan River.

The general improvement of poultry was a challenge to the earlier extension poultry specialists, and in their efforts to develop and improve Manitoba poultry, the extension specialists undertook various services in addition to the duties involved in educational and inspirational activities. In 1923 the Manitoba Co-operative Poultry Marketing Association shipped two carloads of live hens to markets in U.S.A., and in the fall of the same year this association requested the Extension Service to grade all the dressed poultry marketed by the association. This service was arranged through the Extension Service Branch and carried out under the direction of Professor Herner, with the co-operation of the Dominion Poultry Promoter for Manitoba.

One of the early endeavors undertaken was an intensive poultry culling campaign carried out on Manitoba farms. The culling service in July to September, 1925, was conducted by F.B. Hutt, with the assistance of J.C. Scholes of M.A.C., David Russell of Two Creeks, and F. Moore of Roland. During these months, 1,227 flocks were examined in 27 different districts.

This required the handling of 71,248 birds, 37 percent of which were culled and discarded. The culling of poultry flocks was continued and enlarged in succeeding years, and consequently a larger number of temporary assistants had to be engaged and trained to carry on this seasonal work. The training of the graders was given through short courses held at the M.A.C.

Commencing in 1928, a charge was made in districts where culling had been done in previous years. This charge was three cents for each bird handled in flocks of 50 birds or less - for every bird in flocks of over 50, the charge was two cents per bird - . It is recorded that in the culling work undertaken in 1925, only one flock in three was pure-bred; two-thirds were classed as "mongrel".

As a follow-up project, and to encourage better management of farm poultry, a Demonstration Flock Program was designed and put into operation by the Ministry in November, 1925. This program had the following objectives, i.e.:

- (1) to demonstrate proper methods of housing, feeding, breeding, disease control, chick-rearing, marketing, and general flock management under Manitoba conditions;
- (2) to secure and make available breeding stock and hatching eggs from pure-bred flocks of known quality; and
- (3) to demonstrate by simple records and accounts that farm poultry could be a profitable side-line on Manitoba farms.

A form of agreement was drawn up between all flock owners and the Extension Service. After establishing Farm Demonstration Flocks, the Extension Poultry Specialist visited each poultry keeper involved twice per year and culled each flock at least once each year. Assistance also was given in securing male birds; and a circular letter, of current interest, was prepared by the extension specialist and sent out each month to the flock owners. On the other hand, flock owners in the project undertook to send a monthly record of their respective poultry business to the Extension Poultry Specialist.

The Demonstration Flock Project was continued until 1933-34, after which it was superseded by a further scheme designated as the Manitoba Approved Flock Policy, which came into effect in 1934-35. Under this policy, the Demonstration Flocks under the supervision of the Extension Service, and the Approved Flocks under the Poultry Division, Dominion Live Stock Branch, together with as many additional outstanding flocks as could be secured, were united under the Manitoba Approved Flock Policy.

Following the announcement of the policy, applications were received and the respective flocks visited, at which time the housing, feed supply, and personal care and management were carefully checked. If these were satisfactory the birds were then examined, and those coming up to the required standard were leg-banded with a numbered band. Culls were marked and disposed of. Federal Record of Performance cockerels, and others of a high standard, were secured to mate with the banded birds. Agricultural representatives were of great assistance in supervising this work, and Manitoba commercial hatchery men co-operated by purchasing, from owners of Approved Flocks, all the eggs used in their hatcheries.

In addition, a new movement, designated as "District Poultry Improvement Project", was organized in 1938 to meet the needs of adult poultry keepers interested in poultry improvement apart from policies already in operation. Some of the objects were:

- (1) To standardize poultry breeds in a district;
- (2) to improve methods followed in rearing of chicks, such as housing, feeding and range pasture;
- (3) to demonstrate proper methods in fattening and preparing poultry for market;
- (4) to improve the quality of eggs marketed;
- (5) to demonstrate proper methods in disease control, sanitation and housing; and
- (6) to popularize the importance of balanced rations for laying hens.

To further improve Manitoba poultry, a program of disease control was inaugurated. In 1929 a project was initiated to check for the presence or absence of tuberculosis in poultry flocks by means of the intra-dermal wattle test, and in the winter months of January and February, 1930, four poultry flocks were blood tested (on an experimental basis) for the presence or absence of bacillary white diarrhoea or pullorum, by means of the agglutination test. The antigen used in the pullorum tests was prepared by the Department of Bacteriology and Animal Pathology at the Agricultural College. In subsequent years, testing for specific diseases in poultry flocks was continued and enlarged; and the combating of disease became a notable service to the poultry industry by the Ministry.

From 1935 to 1938, blood testing of poultry was carried out in the old University Building on Kennedy Street under the supervision of Dr. J.K. Morrow, V.S. However, when the Provincial Laboratory of Animal Pathology was equipped and established by the Ministry at the University, Fort Garry site, in 1938, the testing work, formerly carried on at the Kennedy Street laboratory under Dr. Morrow, was transferred to the new laboratory on the Fort Garry site with Dr. A. Savage as Director. At this time, the poultry disease control program was enlarged by the testing of turkeys for pullorum.

The blood testing laboratory on the Kennedy Street site, with a staff of five technicians, was equipped to test approximately 2,000 samples per day, for which a fee of seven cents per sample was charged in the case of birds in Manitoba Approved Flocks, and a fee of four cents per test for samples collected and submitted by Federal inspectors in the case of birds in the Dominion Record of Performance (R.O.P.) Flocks. Later, the fee was changed to eight dollars for the first 100 birds, five cents for each additional bird, and three cents per bird for all re-tests. In later years the agglutination pullorum test was replaced by a whole blood test, and still later by the serum plate test.

A compulsory Hatchery Approval Policy was introduced in 1936 at the request of the Provincial Ministry of Agriculture. This was a Federal policy, national in scope. At this time, the provinces operating under this Federal

scheme included: Alberta, Saskatchewan, Manitoba, Nova Scotia, New Brunswick and Prince Edward Island. Under this scheme, hatcheries were subject to unannounced inspection; this involved checking the cleanliness of the plant, the size and source of the eggs set, the disposition of the chicks sold, and the dealings with egg shippers and chick purchasers. Also, under this scheme, and to further safeguard the health of Manitoba poultry, hatcheries were required to purchase eggs only from approved flocks, and chicks were not permitted to be shipped into the provinces involved unless supplied from approved hatcheries and provinces, or from only four specified states in the U.S.A., i.e. New Hampshire, Connecticut, Massachusetts and Pennsylvania.

Extensive improvement work also was undertaken in respect of turkey development and improvement. In 1927 the Manitoba Turkey Breeders Association was organized by Professor M.C. Herner, M.A.C., who was then elected Secretary-Treasurer. Subsequent to 1935, the current Extension Poultry Specialist served as Secretary.

In 1928, at the request of the Manitoba Turkey Breeders Association, 125 farm flocks of turkeys were inspected, after which the Extension Service was requested by this association to undertake fall inspection, grading, and handling of breeding turkeys. The grades in this case were defined by the association and approved by the Ministry. Birds of breeding size and quality were divided into three grades, "A", "B" and "C", according to merit. Later, grades "AAA", "AA" and "A" were established, but in 1949 the grades were again revised and the "AAA", "AA" and "C" grades were discarded and grades "A" and "B" retained.

A Manitoba Approved Turkey Flock Policy was inaugurated in 1937 with the following objectives:

- (1) to increase the number of approved turkeys in each inspected flock;
- (2) to improve the quality of turkey flocks;
- (3) to improve the method followed in housing, feeding and rearing;
- (4) to gather more information concerning the commercial qualities of the turkeys marketed from the approved flocks;
- (5) to study the relationship between hatching eggs produced and poults hatched and reared;
- (6) to provide a source of government inspected birds for breeding purposes; and
- (7) to have these flocks act as demonstrations in the communities where they were located.

Rules and regulations governing this policy were drafted together with a schedule of fees to cover part of the cost of inspection. Initially, 59 flocks were inspected and an individual filing system for each flock was set up in the Extension Service office recording the breed; number of breeding birds kept; number of poults hatched; the source, the quality, and the grade of the breeding stock; and the methods of management practised.

A movement was started in the mid-1940's which had a significant effect on the raising of turkeys in Manitoba. Up to that time, many farms kept a few turkeys. In such cases it was common practice to allow the few turkeys to roam the fields in search of grasshoppers, and to lay and hatch their eggs under an old abandoned binder or other such site in a fence corner. Under these conditions each turkey hen raised her brood as she saw fit.

In 1945 a new turkey project was organized with the poultry-men at Steinbach, in co-operation with the Agricultural Representative, J.E. Lafrance, and the Brookside Hatchery. This brought to three the turkey hatcheries in operation in Manitoba compared with two such hatcheries which were in operation in the previous year. In this connection the annual report of the Extension Poultry Specialist for the year 1946-47 records that,

"The turkey project organized at Steinbach by turkey producers in co-operation with departmental officials and the Brookside Hatchery enjoyed a satisfactory year. Valuable information was secured on the artificial brooding and rearing of poults. There was a keen demand on the Winnipeg market for birds from that area and at premium prices. There will be two commercial poult hatcheries in that area - Brookside and the Steinbach Hatchery, while three new turkey poult hatcheries have been organized at other points in the Province, giving a total for the current season of seven turkey hatcheries as compared with three in 1945-46."

In 1943-44, and in response to a request from owners of approved flocks, the Manitoba Approved Flock Owners Association was organized, with a Board of Directors, one from each of eight districts. The Extension Poultry Specialist served the association as Secretary-Treasurer. One of the achievements of this organization was a study of co-operative hatcheries located in Quebec. This study led to the establishment of co-operative hatcheries in Manitoba.

In connection with the part played by hatcheries in poultry improvement, it is of historic interest to note that by 1946 poultry improvement had progressed to the extent that 95 percent of the chicks raised on Manitoba farms were obtained from commercial hatcheries and that the eggs hatched were obtained exclusively from approved stock.

Over the years of this sub-period, poultry promotion involved the respective poultry specialists in many other services and educational activities such as:

Surveys of chick mortality, summer egg quality, and the occurrence of diseases; combating poultry diseases; arranging for the exchange or sale of breeding stock; arranging and assisting with live and dressed poultry shows; acting as advisers to 4-H or Junior Poultry Clubs; and help in individual problems by personal contact. These and similar services were carried out, more or less, with the co-operation of the agricultural representatives. Educational activities undertaken also included: co-operating with the Poultry Department of the Agricultural College in holding short courses for poultry keepers, egg-station operators, poultry inspectors and egg graders; the giving of lectures and holding discussions at meetings sponsored by various societies and poultry associations; and the preparation and distribution of bulletins dealing with poultry production and marketing.

It also should be noted that on most prairie farms in the earlier part of the 1925-1959 sub-period, poultry (often nondescript) played a useful, if relatively minor, role in the farm economy. They were a means of using as feed (and turning into profit what otherwise would have been waste material) the screenings which consisted of undersized, shrivelled and broken grains, white caps, and weed seeds removed by the fanning mill in the operation of cleaning seed grain on the farms, or obtained from the screening machines at the elevators when wheat was hauled by wagon and shipped through grain elevators at country points.

Turkeys, and to a lesser extent geese, were kept in fewer numbers and on fewer farms. They were generally given free range, during the growing season, to pick up a living from the farm fields and, in the late fall, to fatten on grain at threshing sites and in stubble fields. In the drought years - when other pickings were scarce - the turkeys had a busy time feeding on grasshoppers, while geese paid more attention to growing barley and to grasses growing on headlands and road allowances.

During the first half of the 1925-1959 sub-period, the various services and educational activities undertaken by the respective extension poultry specialists, together with the co-operation of the agricultural representatives and poultry breeders, and the government policies in respect of hatchery regulation and disease control, produced outstanding improvement in the quality of Manitoba poultry and poultry products.

However, in the latter half of the sub-period, the status of poultry on Manitoba farms was profoundly affected by changes in production and merchandising of poultry and poultry products.

Due to economic conditions, poultry production on Manitoba farms had been decreasing in value from the beginning of this sub-period until the drought years when feed on prairie farms was scarce, but during the years 1939 to 1945, both prices and demand increased due to war-time food requirements.

In 1939, the total production value of eggs and poultry in Manitoba was 4.5 million dollars; by 1945, the value of these products had increased to 16.5 million dollars. A further boost was given in 1946 when J.A. Peacock, Director of Egg Supplies, British Ministry of Foods, was again brought to Canada to study the possibility of obtaining an increased supply of Canadian egg products - especially of fall and early winter fresh shell eggs -. He contracted to purchase from Canada 450,000 cases of 30 dozen each during the period September 1st, 1946 to January 31st, 1947, with a further contract for one million cases of eggs in the fall of 1948-49. In addition to shell eggs, Great Britain undertook to take all the dried egg powder Canada could produce. Besides the contract eggs, the British Ministry of Foods also agreed to purchase a sizable volume of dressed poultry.

This enlargement of export demand for poultry products declined as British agriculture was reoriented in the years immediately following the war. However, as export demand fell off, the domestic market increased due to a progressive increase in the number of non-farm population and a decrease in farm population coincident with the growing increase in farm mechanization. Moreover, as the years passed, a substantial trade developed in the shipping of surplus poultry products to other provinces.

The change in ratio of non-farm to farm population in Manitoba, from the beginning of the drought years to the end of the 1925-1959 sub-period and the succeeding decade, is shown by population data recorded in the Census of Canada for the years 1931 to 1966 inclusive and here submitted as Table 52.

TABLE 52. NUMBERS OF TOTAL AND FARM POPULATION IN MANITOBA; AND FARM POPULATION IN PERCENT OF THE TOTAL POPULATION FOR THE CENSUS YEARS 1931 to 1966

Census Year	Total Population	Non-Farm Population	Farm Population	Farm Population in Percent of Total
1931	700,139	443,834	256,305	36.6
1936	711,216	450,049	261,167	36.7
1941	729,744	480,145	249,599	34.2
1946	726,923	502,004	224,919	31.0
1951	776,541	557,308	219,233	28.2
1956	840,040	637,877	202,163	24.0
1961	921,686	750,214	171,472	18.5
1966	963,066	801,404	161,662	16.8

The decrease in farm population (which, as indicated in Table 52, became apparent in the 1940's and continued in succeeding years) was accompanied by a decrease in number of farms, an increase in the size of farms, and a tremendous decrease in the number of farms reported as keeping various types of poultry.

TABLE 53. TOTAL NUMBER OF FARMS, AND NUMBER AND PERCENT OF MANITOBA FARMS RECORDED AS KEEPING (a) HENS AND CHICKENS; AND (b) TURKEYS, IN SPECIFIC CENSUS YEARS

Census Year	Total Number of Farms	(a) Farms Reporting Hens and Chickens		(b) Farms Reporting Turkeys	
		Number	Percent	Number	Percent
1946	54,448	41,516	76.2	14,303	26.3
1951	52,383	38,328	73.2	7,537	14.4
1956	49,201	33,097	67.3	6,447	13.1
1961	43,306	25,102	58.0	5,172	11.9
1966	39,747	17,181	43.2	2,864	7.2

Census data also indicates that striking changes took place in the size of farm poultry flocks during the last half of the 1925-1959 sub-period and the years immediately following. The approximate number of farms with flocks of hens and chickens in various size classes, for the same five census years as in Table 53 is given in Table 54. A similar presentation, giving the approximate number of farms with turkeys in various flock size classes, is given in Table 55.

TABLE 54. NUMBER AND PERCENT OF MANITOBA FARMS REPORTING FLOCKS OF HENS AND CHICKENS, GROUPED INTO VARIOUS RECALCULATED FLOCK SIZE CLASSES, IN CENSUS YEARS - 1946 to 1966

Flock Size Class	1946		1951		1956		1961		1966	
	1 - 25	12,848	31.0%	4,831	12.6%	4,847	14.6%	3,398	13.5%	2,873
26 - 50	11,394	27.4	5,206	13.6	5,162	15.6	3,593	14.3	2,812	16.4
51 - 100	11,193	27.0	7,683	20.1	6,540	19.8	5,166	20.6	3,738	21.7
101 - 250	5,452	13.1	12,623	32.9	9,651	29.2	7,325	29.2	4,742	27.6
251 - 500	489	1.2	5,868	15.3	4,644	14.0	3,245	12.9	1,629	9.5
Over 500	121	0.3	1,696	4.4	1,684	5.1	1,433	5.7	649	3.8
Over 1,000	14	Tr	37	0.1	442	1.3	580	2.3	340	2.0
Over 2,000	5	Tr	384	1.0	127	0.4	174	0.7	146	0.8
Over 4,000	-	-	-	-	-	-	188	0.8	158	0.9
Over 10,000	-	-	-	-	-	-	-	-	65	0.4
Over 20,000	-	-	-	-	-	-	-	-	29	0.2
Farms Reporting	41,516		38,328		33,097		25,102		17,181	

TABLE 55. NUMBER AND PERCENT OF MANITOBA FARMS REPORTING FLOCKS OF TURKEYS, GROUPED INTO VARIOUS RECALCULATED FLOCK SIZE CLASSES, IN CENSUS YEARS - 1946 to 1966

Flock Size Class	1946		1951		1956		1961		1966	
	1 - 5	2,609	18.2%	1,607	21.3%	995	15.4%	876	17.0%	581
6 - 15	3,542	24.8	1,976	26.2	1,990	30.9	1,751	33.9	1,161	40.5
16 - 25	2,697	18.9	905	12.0	715	11.1	548	10.6	326	11.4
26 - 50	3,664	25.6	1,690	22.5	1,035	16.1	643	12.4	303	10.6
51 - 100	1,518	10.6	780	10.3	739	11.5	420	8.1	143	5.0
101 - 250	239	1.7	424	5.6	542	8.4	391	7.6	109	3.8
251 - 500	27	0.2	97	1.3	228	3.5	220	4.3	59	2.1
Over 500	5	Tr	58	0.8	203	3.1	111	2.1	35	1.2
Over 1,000	2	Tr	-	-	-	-	100	1.9	40	1.4
Over 2,000	-	-	-	-	-	-	43	0.8	21	0.7
Over 4,000	-	-	-	-	-	-	69	1.3	86	3.0
Farms Reporting	14,303		7,537		6,447		5,172		2,864	

The figures in Table 54 show that the number of farm poultry flocks ranging from 1 to 100 birds in 1946 was 35,435; and that the number of small flocks of this size class was reduced in 1951 to 17,720; in 1956 to 16,549; in 1961 to 12,157; and in 1966 to 9,423. On the other hand, the number of flocks composed of over 1,000 birds increased from 19 in 1946 to 421 in 1951, to 569 in 1956, and to 942 in 1961. Moreover, by 1966 the size of flocks continued to increase so that there were 65 flocks of over 10,000 and 29 flocks of over 20,000 birds.

Table 55 also shows a progressive reduction in small turkey flocks and a marked increase in the number of large turkey flocks during the same years. Farm flocks of from 1 to 15 birds were reduced from 6,151 in 1946 to 2,627 in 1961, and to 1,742 in 1966; whereas flocks of over 500 turkeys increased from 7 in 1946 to 58 in 1951, and to 203 in 1956. Moreover, there were 254 flocks of between 500 to 4,000 birds in 1961, and although there were 96 flocks of turkeys recorded in this category in 1966, the size of flocks continued to increase in the decade following the 1925-1959 sub-period, as indicated by 69 flocks of over 4,000 birds recorded in 1961, and 86 flocks recorded in this category in 1966.

A further important point is of historic interest; namely, that together with the reduction in number and the increase in size of poultry flocks, the production of eggs, the hatching of eggs, the raising of broilers, the finishing of birds for meat, and the eviscerating and dressing of poultry became more and more specialized. Thus in respect of poultry and poultry products, hatcheries, egg producers, feeders, feed dealers, eviscerating plants, packers, retailers and chain stores, became more and more integrated in a highly organized system of production and marketing in which commercial concerns, such as hatcheries, feed mills, and packers, became more and more financially involved.

(viii) Activities of Extension Livestock Specialists

As already noted, when the Extension Service Branch was reorganized with N.C. MacKay as Director in 1923, the supervision of junior or boys' and girls' club work was assigned to the current Assistant Director of Extension. Various home economists were detailed to assist and to be responsible for the girls' clubs, while the successive assistant directors assumed the direct responsibility for boys' clubs (Pages 341 and 358).

However, to meet the increasing activity in junior club work, a Livestock Specialist was added to the Extension staff in 1928 to be responsible for livestock extension and junior livestock activities. The first of these was W.D. Davies, who served as "Dairy and Junior Livestock Specialist" from 1928 to 1931, and as "Cattle Specialist" from 1931 to 1935. For one year (1930-31) he was assisted in junior livestock activities by John H. Conner. Davies was succeeded by F. Gordon Muirhead who served as Junior Livestock Specialist from 1935 to 1941. The only other regular staff member listed in the Extension Service records as Junior Livestock Specialist was C.E.G. Bates, who served from May, 1945 to March, 1946, and was then transferred to the Neepawa Agricultural Office. Nevertheless, although extension work with livestock became more closely integrated with

the Livestock Branch, a succession of undergraduates were employed as temporary fieldmen, during various summer seasons, to assist in junior livestock and other phases of 4-H Club work. These temporary personnel included:

C.J. Campbell, 1940; C.E. Goode, 1941; E.J. McFadden, 1941 and 1942; Wallace O. Lee, 1943 and 1944; C.E.G. Bates, 1944; and R. De Pape, 1947 and 1948.

However, more and more as extension work was extended, the junior livestock clubs were directed by the district agricultural representatives. These men worked in close harmony with the livestock specialists during the years the latter were members of the Extension Service, and with the respective beef cattle, dairy cattle, sheep and swine fieldmen who, in and subsequent to the 1950's, served as livestock specialists in the Livestock Branch.

The activities of the Extension Livestock Specialist were many and varied.

Boys' and girls' swine clubs were first organized during the preceding sub-period, and at the beginning of the 1925-1959 sub-period there were already 19 swine clubs with a total of 486 junior members under the supervision of the Assistant Director (H.E. Wood).

Following the appointment to the Extension staff of W.D. Davies as "Dairy and Junior Livestock Specialist" in 1928, the extension work with livestock clubs was enlarged through the organization of dairy, beef, and dual purpose cattle clubs. The progress made in this enlarged venture is indicated in Table 45(a), Page 360. Furthermore, a "Baby Beef Feeding Project" was organized and supervised by the Extension specialist. This endeavor was sponsored and financed by the Hudson's Bay Company. Heifer clubs also were organized with the understanding that this project would be continued over a period of at least three years - the calves of the first year to be shown as yearlings in the second year, and as springers or fresh cows in the third year - .

In addition, connections were established with livestock breeders, and services were rendered the Livestock Branch in the promotion of dairy cattle and in related activities with other farm livestock. Herd inspections and calf selections for livestock clubs were undertaken, and junior livestock clubs were selected and trained to compete in 4-H Club judging competitions held annually at the National Exhibition, Toronto. Short courses in the feeding, management and breeding of livestock were held at various points and numerous demonstrations were given of procedures to follow in dehorning cattle; in inoculating and vaccinating hogs; and in drenching, docking, and dipping sheep, etc.

The livestock specialists and the agricultural representatives worked co-operatively in carrying out certain district livestock improvement projects, such as:

Stallion clubs, colt clubs, bull clubs, boar clubs, and ram clubs; the purchase of pure-bred sires and female breeding stock to replace grade animals; and the holding of lamb fairs.

The current livestock specialists also served as judges at local agricultural fairs, and developed exhibits in connection with the larger exhibitions held at Winnipeg and Portage.

During the drought years, when the Department of Public Works had to carry out certain relief measures, the current livestock specialist of the Extension Service was detailed to make surveys of Forest Reserves and Crown lands to ascertain their suitability and availability as sources of fodder and as relief pasture areas.

(ix) Activities in Agricultural Engineering

The 1925-1959 sub-period was one in which important changes took place on Manitoba farms in respect of mobile power, general mechanization, and rural electrification; but more especially so in the last two decades, at which time agricultural engineering specialists were added to the staff of the Extension Service Branch to give leadership and service in these phases of agricultural development. For example, in respect of farm mobile power, it can be shown that, in 1925, there was an average of 37 horses but only one tractor for every five farms in Manitoba; in 1959, however, for every five farms there were six tractors but only seven horses.

Prior to this sub-period (except for better farming trains, and for demonstrations and lectures on gas engines given at rural points by temporary assistants) the Extension Service was not particularly involved in the field of agricultural engineering. Such activities were centred at the Agricultural College, where "farmer short courses" were given in gas and steam engineering, as well as courses of instruction in farm machinery, forage work, woodwork, and building construction; and where questions were answered, by correspondence, in respect of farm and home building problems, farm machinery and farm engineering.

Farm building construction exhibits, prepared by R. Mitchell, Woodwork Instructor at M.A.C., were often included in the Manitoba Department of Agriculture exhibit which was a feature at the Brandon summer fairs. Staff members of the Agricultural Engineering Department also conducted "horse-power brake test" competitions for steam and gas tractors exhibited by farm implement companies on the Exhibition grounds.

These endeavors, however, were started by the College during the M.A.C. Sub-Period, and it was not until 1939, and after the decade of drought, that a full time agricultural engineering specialist was added to the staff of the Extension Service. (The successive personnel that served in the capacity of Extension Agricultural Engineer during the years 1939 to 1959, and the respective assistants engaged during the last decade of the sub-period, are shown on Page 365).

With the appointment of an agricultural engineering specialist, the technical supervision of seed-cleaning units formerly carried out by the extension agronomists (Pages 355 and 381) was transferred to the agricultural engineer, who, as an initial project, undertook a comparative study of grain cleaners used in government cleaners, grain elevators, and farmer-owned seed cleaning plants.

A new endeavor was undertaken in the spring of 1939 when the Manitoba Seed Growers (realizing the need for a specialized machine for threshing foundation and elite stock seed without contamination by seeds of other varieties derived from previously threshed crops) set up a committee to look into the construction of a small, portable, easily-cleaned thresher. At this time also the plant breeders of the Dominion Rust Laboratory were interested in a similar type of threshing machine to be used by the seed growers who had contracted to multiply the newly-developed rust-resisting varieties of wheat. To secure such a machine, the Manitoba Seed Growers Committee and the officials of the Rust Laboratory involved agreed to combine their efforts with the help of the Provincial Ministry of Agriculture. A machine (constructed at the Swift Current Experimental Farm) was obtained by the Provincial Ministry, mounted on a four-wheel trailer, and towed from seed grower to seed grower under the supervision of the extension agricultural engineering specialist. Later, in 1944, an operator was engaged to operate this machine and to do most of the threshing, of elite stock seed, for the specialized seed growers.

During the two decades (1939 to 1959) the engineering specialists of the Extension Service rendered many different types of service, including:

- (i) assisting farmers and others with plans for farm buildings, such as farm homes, barns, milk houses, livestock shelters, loose housings for cattle, machine sheds, and structures for storing potatoes and vegetables, as well as advising re building construction, water systems and sewage disposal;
- (ii) co-operating with various organizations such as the Manitoba Weed Commission in experimental spraying of weeds; with the Manitoba Rural Housing Committee in preparation of pamphlets on various aspects of rural housing; with Farm Business groups in farm organization and mechanization; with agricultural representatives in local district problems; and with the Agricultural Engineering Department of the Agricultural College in such projects as "investigating the usefulness of home-made grain dryers"; and
- (iii) assisting farmers by surveying individual farms in connection with the drainage or irrigation of farm fields, and assisting agricultural society officials in holding or judging one-way disk competitions and plowing matches.

Various educational projects also were conducted, including:

- (i) holding field days on farms or rural points at which instruction and demonstrations were given in adjusting, operating and caring for farm tillage and harvesting machinery; in the harvesting of malting barley and fodder crops; in hay drying; and in the making of silage;
- (ii) holding "Tractor Club" achievement days and rallies, and tractor driving contests;
- (iii) conducting short courses;

- (iv) organizing and accompanying conducted tours for groups of farmers, who were transported by buses or other means to visit farms in the Winnipeg milk-shed, or to points in Minnesota and North Dakota to observe what was being accomplished on large and small farms in respect of reducing costs and labor in handling livestock through mechanization and loose housing; and
- (v) preparing bulletins and answering questions asked through correspondence about farm mechanics, and giving radio talks or appearing on TV programs in connection with problems in that field.

In 1946, the Ministry set up a Farm Electrification Committee consisting of one member from the Department of Agricultural Engineering, Agricultural Faculty, U. of M.; one member from the Manitoba Power Commission; and the Agricultural Engineer of the Extension Service. This committee was appointed to ascertain the research that should be undertaken at the University of Manitoba in regard to the use of electricity on Manitoba farms. A report was submitted by this committee to the Hon. D.L. Campbell, in September of the same year, and in the subsequent year the agricultural engineer of the Extension Service was appointed to serve as a member of the Manitoba Rural Electrification Committee.

In regard to farm electrification it is noteworthy that the 1931 census gives the number of farms reporting electric power as a little less than 2,000. However, electric power on farms at that time was more or less limited to individual lighting systems consisting of generators operated by gas engines. On the other hand, the rural electrification policy initiated by the Manitoba Government in the 1940's involved hydro electric power; and after preliminary steps, the Manitoba Power Commission, with the support of the Ministry of Agriculture, prosecuted rural electrification so vigorously that approximately 90 percent of Manitoba farms were served by hydro electric power by the end of the 1925-1959 sub-period.

(x) Activities of Extension Agricultural Economists

In 1957, the position of Extension Agricultural Economist on the staff of the Extension Service Branch was created by the Ministry. It should not be assumed, however, that, prior to this date, the Ministry of Agriculture or the extension specialists were unconcerned with the pecuniary aspects involved in the husbandry of soils, crops, domestic animals and farmsteads, or in the inter-related housewifery of farm-home and fireside. On the contrary, the financial aspects of husbandry and housewifery had been, and were, included in the subject matter dealt with by the respective agricultural and home economics specialists in their specific extension activities.

Neither should it be assumed by later generations of trainees and graduates in academic theory that managerial ability was lacking in the large numbers of settlers and settlers' wives of earlier days, who arrived in the country with little or no material wealth; but who progressed from sod shack to comparative and comfortable affluence after financing churches, schools, and municipal improvements, and raising their families with virtuous and worthy devotion through years of depression, drought and adversity.

Nor should it be forgotten that leaders in farm marketing movements - such as the grain growers association and rural co-operatives - were not unacquainted with the problems of rural economics. Rather, this new phase of specialization in extension activities may be considered as a move, by the Ministry, to help rural people adjust to changing economic conditions incident to a growing invasion and exploitation of farming by business and industrial interests concerned more with the commercial than with the human and husbandry aspects of agriculture.

As early as 1916, and while the Agricultural College was an integral part of the Ministry of Agriculture, G.G. White (as Professor of Farm Management and Rural Economics) prepared a bulletin entitled "Farm Cost Accounting", which was published and distributed by the Ministry as M.A.C. Bulletin No. 21. In 1918, Professor White was killed in an accident on his farm and was succeeded by Professor A.H. Benton, who prepared several booklets entitled: "Cost Accounting Record No. 1", "No. 2" and "No. 3". The first dealt with "How to figure the cost of producing various crops"; the second with "How to figure how much a given livestock enterprise pays"; and the third with "How to figure the cost of operating a tractor". A "Farm Account Book" also was prepared by Professor Benton which was sponsored and published by the Grain Growers Guide.

At various times other institutions, such as commercial organizations and the chartered banks, entered this field of endeavor by publishing and distributing farm record books and farm account books, one of which, circa 1916-17, contained such gems of advice as:

"Too much land has ruined many farmers";
"Go slow in buying implements on credit";
"Take the bank into your full confidence"; and
"Don't let your note at the bank go past due".

With the imposition of the income tax, some method of farm bookkeeping was essential, and many agencies undertook to provide (as they believed) a substitute for granary and stable doors as a place for farm records. The Canada Commission of Conservation published a "Farmers Account Book", circa 1919; and the Dominion Experimental Farms issued an undated booklet under the same title. In 1948, the Economic Division, Marketing Service, Dominion Department of Agriculture, also published and distributed a "Farm Account Book".

Under the direction of Professor A.H. Benton (1918-1922) a detailed study of farm accounting, involving a number of farms in Manitoba, was undertaken. This study in farm bookkeeping was supported by Hudson's Bay Company with a research fellowship awarded to H.C. Grant who supervised the farm account books kept by the co-operating farm operators, and wrote a thesis designated as "A Detailed Study of the Economic Factors Affecting the Production of Crops and Livestock on Thirty Manitoba Farms".

For a time farm management studies, such as the foregoing, were continued within the Agricultural Economics Department of the Faculty of Agriculture, but in 1936 Agricultural Economics was absorbed by the Department of Political Economy of the Faculty of Arts and Science of the

University. In 1945, Agricultural Economics was transferred back from the Department of Political Economy to the Faculty of Agriculture and Home Economics, and in 1946, the re-established Department of Agricultural Economics commenced a number of farm management studies in different parts of Manitoba.

In July, 1957, L.B. Kristjanson was appointed to the newly authorized position of Agricultural Extension Economist in the Department of Agriculture - a position he occupied for the next three years - .

One of the early activities undertaken by the Extension Economist was to extend farm account clubs such as were being maintained by the Department of Agricultural Economics. Thus, "in addition to six Farm Account Clubs maintained by the University, ten (Farm Account) clubs were established by the Extension Service.* These were tributary to: Morden, Teulon, Vita, St. Pierre, Fisher Branch, Carberry, Stonewall, Marquette, Dugald and Beausejour", and "plans for a proposed Farm Business Association (which will come forward in the fall of 1958) were made during this time."**

Additional activities of the Agricultural Economist included, the establishment of an information file on Farm Management; the preparation and presentation of a brief on Price Spreads of Food Products; and assistance in teaching the Farm Management Section of an In-Service Training Course.

The annual report for the succeeding year records***"The first test of the Farm Account Clubs begun in the previous year was possible after January 1, 1959. The result was rather discouraging as had been expected. It became evident during the year that it was not possible to maintain the necessary interest in groups sufficiently large to warrant increasing the program. Accordingly, in co-operation with the Extension Agricultural Engineer, the Extension Economist developed an adult educational program for young Manitoba farmers. . . . The program operated at five centres: Carberry, Boissevain, Morden, Morris and Stonewall. The response, to date, has been gratifying."

The Farm Business Group project thus initiated was designed as a four year program for groups of farmers, ranging from 20 to 35 years of age, who were either managing their own farms or were co-operating in the operation and management of a farm unit. During the first year of this project the participating members were required to keep a complete set of General Farm Business Accounts in a University of Manitoba Farm Account Book, and a detailed set of farm machinery cost accounts. In the second year, the participants were required to continue the same record of accounts as in the first year, together with an additional detailed set of crop enterprise records. In the third year, the participants were required to continue the same record of accounts as in the second year, together with an additional set of livestock

* See Page 453 re Farm business studies conducted by the Dairy Branch.

** Annual Report of Extension Service Branch, Department of Agriculture and Immigration, 1957-1958; Page 48.

*** Annual Report of Extension Service Branch, 1958-1959; Page 29.

enterprise records. In the fourth year, the general business account was dropped and the participant was required to keep a complete set of detailed enterprise accounts, based on the three previous years' experience. Nine meetings with the club members were made each year by the Agricultural Economist, except that in the fourth year 12 meetings, devoted to farm management, were arranged.

(xi) Extension Activities of Home Economics Specialists

Extension activities of Home Economics Specialists, and the organization and activities of Women's Institutes, were well developed during the preceding sub-period (Pages 216-221); but although the staff of the Home Economics section of the Extension Service had been reduced by the beginning of the Post M.A.C. Sub-Period due to financial stringency, the Women's Institutes continued their activities, with a fairly constant membership, all through the depression and on throughout the 1925-1959 sub-period (Page 357). The Women's Institutes therefore provided a medium through which the Extension Home Economics Specialists were able to carry on activities that otherwise (for some years at least) would have been seriously curtailed.

The Extension personnel involved, as directors of Home Economics Extension and secretaries of the Women's Institute during the 1925-1959 sub-period; as specialists detailed to supervise Girls' 4-H Clubs, 1929-1951; as District Home Economists at rural centres, 1951-1959; and as instructors at the Brandon Agricultural and Homemaking School; have been reviewed in an earlier context (Pages 357-358 and Pages 366-370).

The activities of the Women's Institutes can be summarized by quoting from a report submitted by the Extension Home Economist,* as Secretary of the Women's Institutes of Manitoba, in respect of money raised by the various local institutes:

"This money has been raised through donations, membership fees, teas, suppers, banquets, meals served at agricultural fairs and plowing matches; bazaars, pantry sales, apron, linen, novelty, parcel post and fish pond sales; dances, carnivals, whist-drives, moving pictures and guessing contests; concerts, plays, debates and lectures; rent from use of hall, club room, piano and dishes.

"Most of the money has been used in the community to equip and maintain local hospitals; to build community halls and equip these with chairs, piano, stove and dishes; to build and maintain club rooms (and rest rooms); to develop community libraries; to build open and covered skating rinks, tennis courts and bathing houses; to provide schools with equipment for classroom and playground which cannot be obtained through the usual channels; to promote boys' and girls' club work by donations for prizes and assisting in many ways at the boys' and girls' club fair; to organize the hot noon lunch in the schools; to promote the health of children through health conferences, tonsil, adenoid and dental clinics; to support the Agricultural Fair and Horticultural Society; to cheer the sick by gifts of flowers, books, magazines and toys for children; to help those in need by giving clothing, food, furniture, and frequently caring for them while sick; for Christmas hampers and Christmas trees; to assist the local church, where all members belong to it, and to beautify cemeteries. While this is a comprehensive summary of the activities which reflect how the money was spent, the summary does not embrace all the

* Annual Report, Extension Service Branch, 1925-26; Page 38.

activities supported by the Institutes during the year. The annual reports show that donations of money and various gifts were sent to:- the Prohibition Alliance, Children's Aid, Salvation Army, Red Cross, Fresh Air Camps, Robertson Memorial House, Old Folks Home, Save the Children Fund, Social Hygiene, Social Service, Empty Stocking Fund, and the League of Nations."

Although the foregoing quotation was written by Miss Esther Thompson in respect of the activities of the Women's Institutes in the first year of the 1925-1959 sub-period (when the Extension Service and rural women at large were struggling through a time of economic depression), this summary provides a passing glance at a continuum of activity and service. It is also a tribute to devoted women who met the challenge of austerity and continued, in co-operation with the Home Economics Specialists, to serve their respective communities along similar lines throughout the Post M.A.C. Sub-Period.

An additional project undertaken by a number of Women's Institutes was the gathering of local historical material and the publishing of such material in book form; a further endeavor was the organization of Vacation Camps for Rural Women.

An important activity of the Extension Home Economists, that was continued and enlarged as soon as increased financial support permitted the increase in staff, was the conducting of numerous short courses, which varied in content as the years progressed. These short courses may be enumerated progressively by their titles as:

Feeding the Family; Foods and Nutrition; Clothing; Home Management; Canning and Gardening; Clothing and Home Management; Economical Cookery; Rug and Quilt Making; Homemaking for Girls; Canning Demonstrations; Preservation of Foods; Home Craft; Community Libraries; Repairing the Home; Family Health (in co-operation with the Department of Health and Public Welfare); Food and Health; Kitchen Improvement; Living Room Rearrangement; Growing Food and Beautifying the Home; Fixing the House; Salvage Sewing; Remaking, Dressmaking and Tailoring; Quick Freeze Food Preservation; Kitchen Remodelling; Leather Craft; and Housing Short Course in co-operation with Agricultural Engineering for men and women.

Short courses such as these, some of which were organized in co-operation with, or sponsored by, Women's Institutes; United Farm Women; Y.W.C.A., etc., brought the Home Economists in contact with, and provided the means of bringing inspiration and encouragement to, thousands of rural women.

Under a "Dominion-Provincial Youth Training Scheme" a number of Homemaking Schools were organized and conducted in Manitoba in 1937 by the Director of Home Economics. In this connection, the experience gained from homemaking courses given by the Home Economics Specialists in previous years was invaluable. Sites for the schools were arranged, essential equipment installed, and study programs designed. Additional personnel with aptitude and experience were secured as temporary teachers, and two conferences were arranged for the instructors. Nine of these homemaking schools were conducted during the 1937-38 fiscal year, particulars of which were recorded in tabular form as:

Location of School	Duration of Course	Enrolment	Average Age of Pupils	Average Grade Left School
Altona	5 Months	19	19.6	7
Manitou	14 Weeks	26	20	9
Souris	11 Weeks	28	19	11
Minnedosa	11 Weeks	43	20	10
Dauphin	10 Weeks	33	20	10
Arborg	7 Weeks	38	19	9
The Pas	6 Weeks	31	19	8
Swan River*	8 Weeks	18	18	9.5
St. Norbert*	7 Weeks	40	20	8

* Resident schools - remainder non-resident.

This special homemaking course, with the austerity of the drought period as background, included various aspects of:

Foods; Clothing; Child Care; Home Nursing; the Care, Management, Furnishing and Buying a Home; Laundry; Social Customs and Courtesies; Citizenship; Homecraft; Horticulture; Poultry; and Dairying.

Although this special project for young women did not reach such large numbers as the regular Home Economics short courses, it was, nevertheless, a highly successful venture, and when it was learned that the jointly sponsored homemaking schools were to be continued for another year, steps were taken accordingly. In 1938-39, the project was transferred from the Extension Service to the Department of Education, nevertheless, much of the responsibility for directing the work remained with the Director of Home Economics Extension until the end of the year.

A further special service rendered during the drought period by the Home Economics Specialist was the assistance given to the Supervisor of Relief, Department of Public Works, in analysing the various food schedules used in connection with relief in other cities. A series of food budgets, submitted to the Deputy Medical Director by recipients on relief in Brandon, also were analysed, and some assistance was given to the Canadian Council on Child and Family Welfare in the preparation of a bulletin on relief. Other service activities included the sponsoring of a travelling art exhibition, the preparation of newsletters to Girls' Clubs, assistance to leaders of junior projects, assisting in drafting plans for the "Prairie Housing Committee", helping in rehabilitation of homes and household goods damaged by floods, and serving on the Flood Restoration Committee. These are submitted as examples of services rendered and are by no means a complete listing of activities undertaken by the Home Economics Specialist.

In 1951 an important change was made in the procedure previously followed in Home Economics Extension and 4-H Girls' Club work. District Home Economists were appointed, but instead of working from the Head Office of the Extension Service, three were located at points in the north and west of the Province (Dauphin, Souris and Shoal Lake) and three in Winnipeg.

The Province was divided into six districts and one worker assigned to each district, to which her duties were chiefly confined. Instead of one staff member doing 4-H Club work with girls, and other staff members working largely with women, each District Home Economist was made responsible for both aspects of Extension activities. The respective District Home Economists were provided with office accommodation in association with the District Agricultural Representative. In succeeding years the number of District Home Economists and the districts served were enlarged, as shown previously in Table 46, Page 366.

(3) DAIRY BRANCH - 1925 TO 1959

The Dairy Branch which came into being in 1917, (after the Ministry had been involved since 1885 in administering the Dairy Act - part of the time through a Provincial Dairy Superintendent, 1895-1914, and part of the time through a Dairy Commissioner, 1915-1917 - Pages 88 ,127 -130, and 159-162) continued through the 1925-1959 sub-period as a highly efficient administrative service; and, by a remarkable demonstration of leadership and educational activity combined with the regulatory duties required under The Dairy Act (and with the co-operation of the Manitoba Dairy Association), played the major role in elevating Manitoba dairy products to a level unexcelled for quality elsewhere in Canada.

The duties and activities of the Dairy Branch throughout the 1925-1959 sub-period were carried out by various classes of personnel, including: Dairy Specialists designated as Inspectors and Instructors; District Supervisors of the licensed Cream Graders and Testers; and the technicians employed in the Dairy Branch Laboratory.

(a) Directors and Assistant Directors

During the years 1925 to 1949, the chief administrative officer of the Dairy Branch continued to be designated as the Dairy Commissioner, and from 1947 to 1949 was assisted by an Assistant Commissioner; but from 1949 to the end of this sub-period, and on until the Dairy Branch was incorporated with the Livestock Branch into a newly formed Animal Husbandry Branch in 1964-65, the chief administrative officer of the Dairy Branch and his assistant were designated as Director and Assistant Director respectively.

The position of Dairy Commissioner was occupied by L.A. Gibson from 1917 to 1945, and from 1945 to 1947 by D.E. MacKenzie, who became Commissioner after 25 years of service as Creamery Instructor. He, in turn, was succeeded by C.H.P. Killick, who after serving as the first Assistant Commissioner from 1945 to 1947, served as Dairy Commissioner until 1949, from which date he continued as the Director of the Dairy Branch. C.A. Kerr became Assistant Commissioner in 1947, after previously serving for 22 years as a District Supervisor, and from 1949 onward continued as Assistant Director throughout the remainder of the sub-period.

(b) Dairy Branch Specialists

The Ministry was particularly fortunate in the associated personnel who served as specialists in the Dairy Branch, most of whom gave many years of continuous and faithful service to the Province. The specialist position of Creamery Inspector and Instructor was occupied from 1925 to 1945 by D.E. MacKenzie, and throughout the remainder of the sub-period and onward by H.R. McRae; that of Cheese Inspector and Instructor was occupied by I. Villeneuve (Page 160) from the inception of the Branch until 1944, by A.N. Ouellette from 1946 to 1955, and by D.M. Macauley from 1955 on into the succeeding period.

**(c) Activities of Dairy Branch Specialists
and District Supervisors**

In this connection it is of significance to note that there was no Cheese Inspector during the year 1945; and that the annual report for the fiscal year 1945-46 records a marked reduction in the quality of cheese produced during the year, due to the lack of a qualified instructor and inspector; to a lack of qualified cheesemakers because of enlistments in the armed forces; to poor roads making milk deliveries irregular; and to occasional deliveries of excessive quantities of milk as a result of delayed delivery.

The duties and activities of the Dairy Specialist who served as the current Creamery Inspector and Instructor included:

the supervision of the Provincial cream grading service (which was the major continuing project of the Dairy Branch and a basic factor in maintaining and improving the quality of Manitoba butter); inspection of creameries; regular checking of creamery products; conducting experimental work in connection with factors causing metallic flavor in cream and butter; taking samples to be tested for mould and yeast counts; giving assistance to personnel engaged in the dairy industry; giving special instruction to creamery workers; holding meetings with buttermakers at various times and at various rural points; holding dairy producer meetings in co-operation with creamery operators and District Agricultural Representatives; assisting with the Manitoba Dairy Convention and supervising milk and cream competitions in connection with same; judging dairy products at local Manitoba fairs; and supervising the selection and assembly of Manitoba butter from Manitoba creameries, and its transportation to the Canadian National Exhibition and the Royal Winter Fair at Toronto, and to the major exhibitions held at Ottawa, London, Brandon, Edmonton, etc.

To carry out the cream grading service the Province was divided into districts, each under a District Supervisor. The districts were increased from four in 1925, to five in 1940, and to ten in 1942. During this 17-year period the total number of creameries increased from 50 to 71. However, because the number of supervisors was reduced by enlistments in the armed forces during the war years, the districts had to be rearranged into fewer and larger areas, with a larger number of creameries under the supervision of the smaller number of remaining supervisors. Thus the districts were reduced to

eight in 1943 and to seven in 1945; they were subsequently stabilized into six districts during the later years of the 1925-1959 sub-period.

The personnel that served as District Supervisors and their years of service during the 1925-1959 sub-period may be enumerated as:

M.C. Jamieson, 1925-1926; J.A. Farrell, 1925-1945; J.M. Shewfelt, 1925-1926; C.A. Kerr, 1925-1947; M.H. Walker, 1926-1947; H.S. Anderson, 1926-1929; L.R. Hall, 1927-1934; D.G. Adderley, 1930+; C.A. Gibson, 1934-1936; G. Johannesson, 1936-1944; K.S. Collins, 1942+; J.F. Palmarchuk, 1942-1946; K. Johnson, 1942+; M. Kersey, 1942-1943; R.N. Hutton, 1942-1945; W. Danish, 1942+; A. Vanstone, 1945-1946; J.J. Ritchie, 1946-1949; G. Bell, 1947-1954; O.J. Krett, 1947(T); P. Herner, 1950-1951; A.W. Wagner, 1952+; L.A. MacKay, 1954+.

The district supervisors carried out their duties under the current Creamery Inspector and Instructor. The duties of the supervisors included:

the supervision of licensed cream graders; giving instruction to buttermakers; grading cream with the graders; testing the temperature of refrigerators; checking butterfat tests; testing buttermilk; making tests of salt, moisture and sediment; checking the tinning on pasteurizers and coils; checking general sanitation control in dairy plants; taking samples of dairy products to be tested at the Provincial Bacteriological Laboratory for mould and yeast; calling on producers where necessary; and recommending applicants for cream grader and other licenses.

The Provincial cream graders were licensed under the Dairy Act after passing the required written, oral and practical examinations. In the earlier years the licensed cream graders were assigned to a specific creamery for a period of one month and then interchanged with the grader at a different creamery. Subsequent to 1942-43, however, the system was changed, and the grading at individual creameries was done by an employee at each respective creamery, who, after being trained and qualified, was duly licensed.

The Dairy Act further required each buttermaker, cheesemaker, and milk and cream tester to be licensed yearly. Cream grading courses for applicants were given at the Agricultural College until 1931. In succeeding years the new graders were trained in creameries in Winnipeg under the direction of the Dairy Branch specialists. The Dairy Commissioner was responsible for examination of applicants and for the granting of licenses to those who qualified. If the licensee performed his work satisfactorily, his yearly license was renewed.

The duties and activities of the Dairy Specialist who served as the current Cheese Inspector and Instructor included:

inspection of cheese factories and milk receiving stations; holding educational and demonstrational sessions for cheesemakers; supervising the marketing and quality of cheese as it goes to market; visiting farms supplying milk to cheese factories in connection with sanitation,

handling of milk, and the production of feed; helping farmers to obtain registered stock to improve dairy herds; maintaining correspondence with farmers and producers of dairy products; judging at fairs; lecturing at meetings; and supervising or assisting in, or judging at, the major and the smaller dairy produce exhibitions. The cheese specialist also assisted in the cheese manufacturing sessions at the annual dairy conventions.

As a further incentive to improve the quality of Manitoba cheese, a cheesemaking competition, which covered the work of cheesemaking throughout the year, was organized in 1932-33. A silver cup was donated by the Banque Canadienne Nationale. Prizes were given to the cheesemakers with the highest percentage of No. 1 grade cheese, and with high scores for the condition of the factory and its surroundings during the current year. First prizes were distributed to the cheesemakers who scored at least 92 out of 100 points for efficiency in cheesemaking, and for achieving a total of 415 (later 420) points out of a possible score of 450 points (370 out of 450 were required to qualify in the second prize group).

A second competition was organized for the best box of factory produced cheese, consisting of triplets weighing not less than 26 pounds each, made during the month of October prior to the date of judging. These competitions were supervised by the Cheese Specialist of the Dairy Branch.

In 1940-41, all cheese factories were organized to sell cheese co-operatively, and subsequently most of Manitoba factory-produced cheese was sold through the Manitoba Co-operative Cheese Producers Association. Cheesemakers and their helpers also formed an association to hold district study groups for the purpose of improving the quality of Manitoba cheese.

The educational and inspirational activities of the Provincial Dairy Branch during this sub-period were directed towards achieving higher quality of dairy products, and of encouraging greater efficiency in production on dairy farms, as well as in dairy manufacturing plants. The success achieved by the industry in the improvement and maintenance of quality is shown by the prizes won by Manitoba dairy exhibits. For example, at the Canadian National Exhibition in 1951-52, Manitoba dairy exhibits were awarded 65 percent of all first prizes, as well as the Grand Championship and the Reserve Championship for butter. In the same fiscal year, Manitoba dairy exhibits won 75 percent of all first prizes and the highest aggregate score at the Royal Winter Fair, Toronto; 63.7 percent of all first prizes at the Central Exhibition, Ottawa; and 84 percent of all firsts at the Western Fair, London, Ontario.

The high standard achieved by Manitoba dairy products was not confined to exhibition samples. As early as 1942-43 the quality of cheese made in Manitoba was shown to be 93.12 percent first grade; and in 1958-59, Federal Dairy Branch inspectors graded 89.2 percent of the total make of butter, 98.3 percent of which qualified for "Canada First Grade". Moreover, in the same year and in the case of butter regraded after storage, only 0.7 percent was given a lower grade by the Federal inspectors. Thus the small amount of revised grades indicates the keeping quality of the butter placed in storage. These and similarly praiseworthy records, in other years, reflect the efficiency acquired by the dairy industry in producing products of high quality.

In addition to general extension services, such as farm visits, farmers' meetings, correspondence, timely radio talks, and the issuing of "Dairy News" bulletins, leaflets, and press articles; specific efforts also were made to encourage and assist dairy farmers through the cow testing service, a farm cream and milk improvement program, pasture improvement clubs, and dairy farm cost accounting.

The cow testing service which was initiated in the previous sub-period (Page 160) was continued by C.S. Prodan, along with the extension activities for which he was responsible in southeastern Manitoba, until he was transferred from the Dairy Branch to the Extension Service Branch in 1935.

In 1948 a cream and milk improvement program was started on a number of dairy farms by Professor M.C. Jamieson, Bacteriology Department of the Faculty of Agriculture, University of Manitoba, with the assistance of A.G. McLeod of the Dairy Branch. Farms were visited and the various pieces of farm equipment used in handling milk were subjected to sanitation tests in the presence of the producers. The bacterial and mould cultures made were left on the farm so that the operators could observe the subsequent growth made on the culture media. At the same visit, a thorough clean-up also was made and practical work in respect of cleanliness and sanitation demonstrated.

The specialists of the Dairy Branch also co-operated with the forage crop specialists of the Extension Service in assisting the local Agricultural Representative, J.E. Lafrance (Page 385), in conducting Pasture Improvement Clubs in the St. Pierre, Steinbach and Grunthal districts.

(d) Dairy Farm Cost Accounting

In 1942, H.L. Patterson, together with colleagues in the Marketing Service, Dominion Economics Division, undertook the study of a number of dairy farms in Manitoba, and after compiling data secured from the next few years, a report was prepared entitled "The Dairy Farm Business in Manitoba", which was published by the Dominion Department of Agriculture as Technical Bulletin 76.

In 1948-49, M.R. Daciw was appointed to the staff of the Manitoba Dairy Branch as Research Analyst, and on April 1st, 1949, Dairy Cost Account studies were taken over under the supervision of the Dairy Branch with M.R. Daciw in charge of this work. Cost accounting studies were undertaken in the Winnipeg and Brandon areas with the co-operation of 50 to 60 dairy farmers, and detailed analyses of data acquired by the Dominion Marketing Service in 1947-48 were made by the Dairy Branch Research Analyst, who continued this work year by year thereafter. The results obtained yearly were distributed to the respective co-operating farmers, and to the Milk Control Board, the Milk Producers Association, and the general public. Thus it is apparent that Dairy Farm Cost Account studies were undertaken by the Provincial Dairy Branch nearly a decade before Farm Business Groups were organized as a farm cost account project sponsored by the Agricultural Extension Service Branch (Pages 445-446).

(e) Innovations and Regulatory Actions

In connection with the regulation of the dairy industry, two Provincial Boards (i.e. the Milk Control Board of Manitoba and the Manitoba Dairy Board), and the Margarine Act, are of historic interest.

(i) Milk Control Board

During the years 1900 to 1925 (as outlined in the Report of the Milk Control Board of Manitoba, 1938), the fluid milk market, in the City of Winnipeg and adjoining urban municipalities, experienced winter shortages lasting from four to eight weeks, so that milk had to be imported into the Province. In an effort to provide a supply of milk adequate to consumer requirements at the low point of winter production, and also to encourage development of the industry within their own area, some of the distributors undertook to provide farmers, interested in dairying, with good type milk cows on a non-profit long-term payment basis. The result was that some fairly large herds were built up in districts closely contiguous to Winnipeg, and supply and demand for market milk on a year-round basis became, for a time, more in balance. Farmers who thus were sharing in the assistance provided by distributors naturally headed the distributors shipping lists.

In the continuing years of economic depression, additional distributors took advantage of low prices to acquire land, buildings, machinery, equipment, horses and wagons; and to produce and distribute milk with low priced labor. Also prior to 1930, milk was delivered in the city chiefly by door to door "milkmen", several of whom would be delivering milk on the same street. Furthermore, the milk sold through general retail stores at this time was reported to be limited to four percent of the total volume sold to city consumers.

However, although production was for a time increased, competition between distributors resulted in low prices, so that the returns to the producer did not pay for the cost of production, the fluid milk business was thrown into chaos, and producers began to cut down on production or to go out of the dairy business.

The situation became so critical that in 1932, by amendment to 'The Municipal and Public Utility Board Act', "any plant, premises, equipment, service or organization for the production, handling, bottling, furnishing, delivery, keeping for sale or the sale of milk, including products thereof in liquid form" was deemed to be a public utility. Under this amended Act, the Public Utility Board was given "jurisdiction, upon its own initiative, or upon complaint in writing, to inquire into any matter relating to the production, supply, distribution or sale of milk"; and further that if the Board found "that the milk supply is likely to be interrupted or impaired in quality to an extent affecting the public health or convenience, or the distribution, sale or disposal is subject to discriminatory, unfair and unwarranted competition, and that measures should be adopted to insure the continuity of adequate milk supply, the Board shall have power to make regulations or orders deemed necessary in the public interest."

After holding public hearings of evidence presented by producers, consumers and distributors, and to evidence presented by the Winnipeg and

District Milk Producers Association, the Municipal and Public Utility Board issued orders regulating the distribution of fluid milk, the area to which the regulations applied, the schedule of prices for milk to consumers and shippers, and the quotas allocated to individual shippers. Systematic monthly returns by distributors were required of all distributors. These were verified by the Board's Milk Administrator. As a result, although the first schedule of prices established in 1932 was in effect reached by compromise, subsequent schedules were supported by statistics, facts, and experience covering all aspects of the industry, and steps were taken to keep all pertinent data up-to-date.

After five years of milk control under The Municipal and Public Utility Board, "An Act respecting the Production, Supply, Distribution and Sale of Milk" was passed by the Manitoba Legislature, under which milk control was transferred and placed under the jurisdiction of the Ministry of Agriculture. "The Milk Control Act" of 1937 provided for the appointment, by the Lieutenant-Governor-in-Council, of an administrative board of three members to be designated as "The Milk Control Board of Manitoba", which was required to report annually to the Minister of Agriculture and Immigration. The duties of this Board were outlined as:

- (a) to investigate and study co-operative, municipal and other systems of distribution and conditions of the dairy industry in Manitoba or elsewhere, and report thereon to the Minister;
- (b) to adjust and settle disputes arising between processors and distributors of milk, or between any two or more classes of persons engaged directly or indirectly in the milk industry or any branch thereof;
- (c) to fix, by order, within the limits of any territory designated by it . . . schedules of prices at which milk shall be supplied by producers, suppliers, distributors and any other class or classes in the milk industry . . . and to prohibit the supplying of milk otherwise than at the prices fixed in the schedules;
- (d) to prohibit, by order, within the limits of any territory designated by it . . . any sale or delivery of milk or of cream, . . . at a price lower than the current price of milk or cream or of a combination of milk or cream with any other article;
- (e) to supervise the industry for the purpose of enforcing its orders and regulations; and
- (f) to supervise the weighing and butterfat testing of milk for use in fluid form.

One of the first orders of the Milk Control Board required "all persons engaged in, or who carry on the business of producing, supplying, distributing, processing or selling milk and cream for consumption in fluid form be licensed" as and from August 1st, 1937 until July 31st, 1938, and annually thereafter. The Board also instituted check testing of weights and the systematic check testing of the butterfat content of milk.

In these and allied activities the Board worked in close co-operation with the Department of Health and Welfare and with civic authorities, but it

was recognized that public health regulations affecting milk were the responsibility of municipal authorities. For example, the Department of Health of the City of Winnipeg required that before the milk of any cow is offered for sale or sold in the "raw state", it must be subjected to a test for tuberculosis and certified by a veterinary inspector to be T.B. free. The Health Department of the City of Winnipeg was also responsible for inspection of the premises, equipment, washing and sterilization of containers, cans and utensils in dairy plants; for the maintenance of proper sterilization of all milk sold within the city proper, together with the making of bacteriological analyses of milk entering the distributing plant; and for checking the health condition of employees in respect of carrying contagious disease through milk offered for sale. Health conditions and sanitary standards of the municipalities adjacent to Winnipeg were recognized as being in the hands of such municipalities.

The initial members of the Milk Control Board of Manitoba appointed in June, 1937, consisted of A.O. Marrin, Chairman, 1937-1941; J.M. Brown, 1937-1959; and B.E. Lewis, 1937-1958. The work these men initiated, as summarized above, was carried on in subsequent years under the chairmanship of R. McPhail, 1941-1961; J. Paxton, 1961-1968; and R.W. Scott, 1969+, assisted respectively by J.T. Trimble, 1959-1967; J.M. Nesbitt, 1959+; R.W. Scott, 1967-1968; and R.J.G. MacPherson, 1969+.

Although the Winnipeg area was the first to come under the jurisdiction of the Milk Control Board of Manitoba in 1937 (after being under The Municipal and Public Utility Board Act from 1932 to 1937), three other areas became involved by Milk Control Board orders, i.e.: Brandon, effective February 19th, 1940; Portage la Prairie, effective October 19th, 1940; and Neepawa, effective April 26th, 1946.

(ii) Manitoba Dairy Board

A second board under the Ministry of Agriculture came into being on the authority of legislation passed in 1935. The Manitoba Dairy Board thus authorized was appointed, by the Lieutenant-Governor-in-Council, to investigate and pass on all applications for new creameries, cheese factories, milk and cream distributing plants, and skimming stations; and to certify to the Minister as to the necessity of such, having regard to the proposed location and to the supply of milk and cream available from the district involved.

When it was made apparent to the Minister that a creamery, factory, plant or station was constructed and equipped in accordance with regulations prescribed by Orders-in-Council, and the erection was certified by the Board, the Minister in his discretion issued a permit for its operation. Furthermore, no person was permitted by legislation to operate a creamery, cheese factory, plant or station, or to carry on dairy business without a permit from the Minister.

The initial Manitoba Dairy Board consisted of three members, but it was enlarged to four members in 1948, and to five members in 1957, plus the addition in each case of the Dairy Commissioner who acted in the capacity of Secretary to the Board.

(iii) Regulation of Oleo-margarine

About the middle of the 1925-1959 sub-period, a conflict arose between those concerned with the introduction, sale, and use of oleo-margarine, and the creamery interests which put forth strenuous efforts to make its sale illegal. The manner in which this conflict was resolved in Manitoba is summarized in the annual report of the Director of the Dairy Branch for the fiscal year 1949-50 as follows:

"The decision of the Supreme Court of Canada on December 14th, 1948 declaring section 5 (a) of the Dairy Industry Act, regarding the prohibition on the manufacture of margarine, ultra vires, had an immediate impact on the dairy industry, and on January 6th, 1949 margarine was manufactured in Canada. In the calendar year of 1949, 73,958,000 pounds were manufactured. Per capita consumption of butter was reduced in Canada from 29 pounds in 1948 to 23½ pounds in 1949 and by the end of the year a surplus of 20,000,000 pounds of butter was in sight.

"The Manitoba Legislature assented to an Act called the Margarine Act on April 22nd, 1949. This (Dairy) Branch was charged with the administration of the Act which prohibits the use of color in Margarine to resemble butter. This should prevent fraud in allowing margarine to be mistaken for butter by consumers and tend to keep the price of margarine at a low point for those who need to use it as a substitute."

(iv) Innovation and Regulation of Handling Milk in Bulk

An innovation was introduced, in connection with the transportation of milk and cream from farm to factory, when the Lucerne Milk Company, Winnipeg, began to use bulk milk tank trucks in 1956-57. Three milk tank trucks and one cream tank truck were in operation in Manitoba in 1957. To regulate this innovation, the Ministry drew up regulations and issued licenses for bulk tanks, milk tank trucks, and milk tank truck drivers, which were filed on March 11th, 1958. Training also was arranged, by the Dairy Specialists, for milk truck drivers to enable them to qualify for a Tank Milk Grader's License.

(4) LIVESTOCK BRANCH - 1925 TO 1959

The Livestock Branch, which like the Dairy Branch came into being during the previous sub-period (Pages 162-170), was well established by the beginning of the 1925-1959 sub-period; and with a relatively small but efficient staff continued the regulatory duties of the departmental and the co-operative ventures involving the livestock associations, as well as initiating and conducting promotional, educational, and inspirational activities with the object of developing and improving the livestock industry on Manitoba farms.

(a) Personnel Involved

The staff of the Livestock Branch during this sub-period consisted of:

The senior officer responsible to the Minister and the Deputy Minister for the activities of the Branch - first designated as Livestock Commissioner but later as Director - assisted from 1931 to 1950 by an Assistant Commissioner and subsequent to 1950 by an Assistant Director, and by a succession of general fieldmen or livestock specialists.

The position of Livestock Commissioner was occupied from 1925 to 1949 by J.R. Bell, followed by John H. Connor who, after serving as Commissioner for one year, was designated as Director of Livestock Branch from 1950 to 1956. Subsequently, J.H. Clark served as Director from 1956 to the end of the sub-period.

The first Assistant Commissioner was G.O. Watkins who, after serving as Swine Fieldman for some years, was appointed Assistant Commissioner in 1931, followed in 1945 to 1950 by John H. Connor, and in turn by T.L. Klinkhammer from 1950 to 1955, and by J.H. Clark for the fiscal year 1955-56.

The earlier livestock specialists or fieldmen were G.O. Watkins; T.A. Johnson, 1929-30 only; and W.S. Frazer, 1931-1933. Later, the cattle fieldmen who followed in succession included C.E. Goode, 1943-1947-48; George De Pape, 1948-1950; J.H. Clark, 1951-1955; D.H. McCausland, 1957 (transferred to the Brandon centre January 1, 1959); J.J. De Pape, 1957-1958; and A.J. Church, 1958 to the end of the sub-period.

Dairy cattle fieldmen also were added to the staff during the latter portion of the sub-period, namely, T.L. Klinkhammer, 1946-1950; W.E. Jarvis, 1956+; and P.M. Herner, 1958+. Other fieldmen who worked with swine and sheep, included D.A. Foster, 1950-1952; and M.W. Palmer, 1953 to the end of the sub-period.

(b) Activities of Livestock Branch

The activities of the Livestock Branch during the 1925-1959 sub-period involved not only administrative and promotional services in connection with the livestock projects of the Provincial Ministry of Agriculture, but also involved duties carried out in close harmony with federal livestock officials whenever joint provincial-federal co-operation was required in carrying out the several livestock projects that were largely under federal jurisdiction (Page 336).

Promotional services rendered to Manitoba cattlemen involved organization and operation of Bull Rental Clubs; assisting with Bull Sales, Cattle Breeders Sales and Cattle Breeders Shows; Fat Cattle Sales and Shows; the operation of a Bull Exchange Policy and a Pure-Bred Sire Purchase Assistance Policy; the supervision and promotion of Artificial Breeding Units, and of Beef Cattle Performance Tests; and the carrying out of educational work in connection with Dairy Herd Improvement and with such problems as Bang's Disease and Warble Fly Control.

Promotional work in respect of the swine industry involved the organization and development of Boar Rental Clubs; Bacon Litter Competitions; Swine Exhibitions; Field Days and Sales; Bacon and Carcass Competitions; Auction Sales; Breeders Sales; Hog Producer Competitions; and operations under the Federal-Provincial Bacon Boar Policy, the Federal-Provincial Brood Sow Policy, and the Sow Exchange and Distribution Policy.

Promotion services in respect of sheep husbandry involved the organization and development of Lamb Fairs and Sales; Sheep Fairs; Ram

Purchase and resale to farmers under the Livestock Purchase and Sales Act; Ram Rental Clubs; Ram Grading Programs; Sheep Breeders Sales; Parasite Control; Sheep Shearing Demonstrations; and Sales and Field Days.

Promotional services rendered in respect of horses included Colt Competitions; Horse Breeders Clubs; Auction Sales; Stallion Clubs; Artificial Insemination Horse Breeding Projects; and the control of Bot Fly and other parasites.

The decade of drought and the war of 1939-1945 involved the Livestock Branch in special problems. For example, the scarcity of feed in the drought areas made it necessary for the Ministry and the affected municipalities to undertake feed relief projects (Page 304). Feed for livestock had to be located and transported to the drought areas, and livestock had to be transported from areas where feed and water could not be obtained in adequate amounts, to areas where livestock and particularly valuable breeding stock could be saved from liquidation.

Feed relief, therefore, involved the staff of the Livestock Branch in strenuous emergency services on a regional basis during the drought period; but in addition, and at other times, similar services were rendered Manitoba stockmen where emergency problems of feed relief resulted from local disasters such as inundation by aperiodic flood waters.

The war years also brought various livestock problems, but particularly so in respect of hog production. It should be recalled, however, that as early as the closing years of the previous sub-period, various steps had been taken under the Ministry of Agriculture to effect the improvement of swine and the production of better quality bacon hogs on Manitoba farms. Professor G. W. Wood of the Animal Husbandry Department, M.A.C.; and the management of the provincial institutional farms at Brandon, Portage and Selkirk, as well as a number of outstanding swine breeders, had already developed pure-bred high grade bacon-type pigs which, fortunately, were available as breeding stock of good quality when an increased Hog Production Campaign was instituted in 1918 (Page 256) and when piglets were required for 4-H Swine Clubs (Page 360). Moreover, one of the features of the Livestock Improvement Trains of 1923 (Page 199) was the bacon hogs and bacon sides carried on the demonstration cars, and the lectures that were given on breeding, feeding and management of hogs in an educational endeavor to influence the production of Wiltshire sides. The promotional activities of the swine fieldmen, therefore, during the 1925-1959 sub-period were essentially a continuation and enlargement of departmental swine policies already initiated.

A further swine improvement program was undertaken in co-operation with the Federal Department of Agriculture during the decade of drought, when, in 1935-36, a swine testing station was established at University Farm, Fort Garry. This program, under Federal Livestock Branch regulations, was inaugurated to test sows for Advanced Registry. Breeders of pure-bred swine were encouraged to make application to have a sow or sows entered in the registry. To be accepted, a sow had to farrow a litter of at least eight pigs, four of which must be entered in a feeding trial to be carried out at the testing station, where all pigs entered were fed on a standard ration and were

required to reach the weight of 200 lbs in 200 days. When the pigs reached this weight they were slaughtered, and the respective carcasses were graded and scored. If grade and score were satisfactory, the sow in question was then qualified for Federal Advanced Registry.

The testing station at University Farm was a co-operative undertaking insofar as both Federal and Provincial Departments of Agriculture shared in the cost of its establishment, and although the operation of the station was directly maintained and supervised by the Dominion Department of Agriculture, the Manitoba Ministry assumed responsibility for paying express costs and doing publicity work among the producers.

This project, therefore, may be considered as the climax up to that date of extensive efforts put forth earlier by the swine promoters of the Provincial and Federal Departments of Agriculture, in co-operation with swine breeders, which by the beginning of the 1939-45 war years had already resulted in the production of quality bacon and pork products based on the requirements of the British market.

The war of 1939-1945, however, brought the problem of expanding the swine industry to meet agreements contracted between Canada and the U.K. Ministry of Food. A Bacon Board and an Advisory Committee were appointed by the Canadian Government on December 20th, 1939, to implement the terms of agreement made with the Government of the United Kingdom for delivery of bacon. Under a new agreement with the British Ministry of Food, Canada undertook to deliver, weekly, 5,600,000 pounds of bacon at an agreed price of \$18.01 per 100 lbs, F.O.B. port of export, for Grade A Wiltshire sides, and relative prices for B Grade and various other cuts. This first war-time agreement was more than fulfilled and, by October 31st, 1940, a total volume of 331,481,636 lbs of bacon, or 12 percent over the contracted volume, had been exported.

A second agreement which became effective November 1st, 1940, called for a yearly minimum of 425,000,000 lbs of pork products, at a slightly reduced price, to be delivered on the Canadian sea board. The third 12 month agreement, 1941-42, provided that Canada supply a minimum of 600,000,000 lbs of bacon. Under a new bacon agreement Canada was committed to supply Britain with 675,000,000 lbs of bacon in 1943; consequently, Manitoba hog producers, in common with those of other provinces, were requested to increase hog production by 25 percent over the 1942 quota.

The Bacon Agreement with the British Ministry of Food continued in effect, and in December 1944, the life of the contract was extended to the end of 1946 and was based on Canada exporting at least 450,000,000 lbs per year. These agreements therefore assured an export market for all exportable surplus of hog products at stable prices with only occasional minor changes in the market due to local conditions.

The effect of the hog production campaign on the swine husbandry in Manitoba at this time is indicated by the following comparisons. The hog population of Manitoba farms for the six years prior to the war (1934-1939) averaged 242,000 per year; for the six war years 1940-1945, in spite of shortage of farm help, it averaged 611,000 per year; but for the six subsequent years 1946-1951, the hog population was reduced to an average of 316,000 per year.

A further important action was taken by the Federal Government during the first year of the war. Prior to 1940, hogs at central markets could be sold on either live grade or on rail grade basis. On October 1st, 1940, the Dominion Government announced that on and after this date, hogs sold at central markets would be paid for on a rail grade basis.

The increase in the number of hogs was accompanied by an increased demand or need on the part of hog raisers for the services of the Swine Specialist in the Livestock Branch and for information in respect of the care, feeding and management of swine. In 1943, the Livestock Branch, in co-operation with the agricultural representatives, initiated a survey to determine the extent of swine diseases and malnutrition. This was followed by an educational campaign to foster proper feeding and management of breeding stock and of young pigs, and the adoption of effective measures in the control of Hemorrhagic Septicemia, Erysipelas and Anaemia.

Action also was taken to reduce or eliminate losses incurred through improper loading or careless handling of livestock in transit to market and, by reducing losses from such causes, to conserve every pound of meat possible for overseas shipment or for domestic consumption. To this end a Livestock Protection Society was organized to consider ways and means of reducing these losses. An inspector was employed by the Society whose duty it was to inspect as many loads of livestock as possible as they arrived by rail or truck at the stockyards and packing plants. Damage to livestock was reported to the Secretary of the organization, following which, the respective shippers involved were warned that, in case of severe damage, prosecution proceedings may be instituted.

Various members of the Livestock Branch served in the capacity of secretary to provincial livestock organizations, and at such times the Livestock Branch offices functioned as headquarters for:

The Manitoba Cattle Breeders Association; The Manitoba Dairy Cattle Breeders Association; The Manitoba Shorthorn Breeders Club; The Holstein-Friesian Breeders Club; The Aberdeen Angus Association; The Hereford Association; The Jersey Cattle Club; The Manitoba Horse Breeders Association; The Manitoba Sheep Breeders Association; and The Manitoba Swine Breeders Association.

Thus the work of organizing field days, breeders sales, conventions and meetings incident to each of these livestock organizations, involved officials of the Livestock Branch in a variety of services. In addition, the contracts incident to such activities provided ideal opportunities for the exchange of information between the Livestock Branch and those directly involved in the livestock industry.

Except for the war years, the Ministry of Agriculture continued the policy of sponsoring an exhibit of Manitoba livestock at the Royal Winter Fair, Toronto. Committees appointed by the breeders associations, accompanied by a specialist from the staff of the Livestock Branch, selected animals of outstanding quality to make up the shipments. In connection with this endeavor the transportation costs for the animals selected, the livestock exhibitors' fares to and from Toronto, the entry fees and an

TABLE 56.

(a) SUMMARY OF ROYAL WINTER FAIR WINNINGS BY MANITOBA EXHIBITORS
PRIOR TO WAR YEARS - 1925 to 1938

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Firsts	14	15	29	28	36	25	19	18	21	11	12	10	24	25
Seconds	10	10	11	26	32	20	28	13	15	10	6	14	14	22
Thirds	6	2	9	12	12	24	20	12	12	6	7	12	11	18
Fourths	7	6	10	9	11	17	22	10	6	7	8	7	20	13
Fifths	6	3	4	12	10	18	13	7	6	7	6	3	12	8
Sixths	1	3	4	8	5	10	10	7	10	4	6	5	15	15
Sevenths	2	2	1	2	4	4	6	3	7	2	5	2	7	12
Eighths	1	1	—	1	2	5	2	3	2	—	2	4	6	8
Ninths	—	—	—	1	2	2	3	—	—	—	—	2	5	9
Tenths	—	—	—	—	1	1	1	—	—	—	—	2	3	1
Elevenths	—	—	—	—	1	2	1	—	—	—	—	1	1	2
Twelfths	—	—	—	—	1	—	1	—	1	—	2	1	—	1
	47	42	68	99	117	128	126	73	80	47	54	63	118	134
Championships	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Grand Championships	1	6	5	4	6	3	2	5	4	3	—	2	2	1
Reserve Grand														
Championships	4	1	3	6	8	9	2	2	5	1	—	—	2	2
Senior Championships	1	4	6	1	4	—	2	2	1	1	—	1	1	1
Reserve Senior														
Championships	3	—	—	3	2	4	3	—	2	1	—	—	2	2
Junior Championships	1	2	2	4	3	3	1	2	3	1	—	—	3	—
Reserve Junior														
Championships	1	2	1	5	5	4	3	2	3	1	—	1	2	2
Reserve Championships														
(Ram)	—	—	—	—	—	—	—	—	—	—	—	—	1	—
	11	15	17	23	28	23	13	13	18	9	—	4	13	8

TABLE 56.

(b) SUMMARY OF ROYAL WINTER FAIR WINNINGS BY MANITOBA EXHIBITORS
SUBSEQUENT TO WAR YEARS - 1946 to 1959

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Firsts	19	22	19	20	22	28	34	22	23	24	34	22	22	16
Seconds	16	25	22	20	17	27	43	26	19	27	22	21	23	11
Thirds	16	19	22	22	26	15	27	19	27	20	21	14	20	12
Fourths	14	16	23	22	17	22	28	24	17	18	12	13	15	18
Fifths	8	13	20	19	18	14	18	22	23	11	17	25	22	10
Sixths	11	11	18	16	13	19	19	19	18	10	19	20	20	10
Sevenths	3	8	9	11	14	4	11	10	17	9	15	11	13	18
Eighths	3	6	9	11	13	5	9	15	10	9	17	9	14	8
Ninths	1	2	5	8	9	6	8	8	12	4	8	3	14	15
Tenths	1	2	4	5	5	9	2	6	6	6	6	4	11	6
Elevenths	1	5	4	3	3	3	2	12	5	6	8	2	5	6
Twelfths	1	1	—	5	4	2	4	4	10	3	2	—	10	4
	94	130	155	162	161	154	205	187	187	147	181	144	189	134
Championships	—	2	1	1	1	1	1	1	—	—	1	—	—	—
Reserve Championships	—	3	—	—	2	2	—	1	2	1	2	—	—	—
Grand Championships	2	2	—	2	4	6	3	3	2	3	4	2	4	3
Reserve Grand Championships	1	2	—	2	2	5	4	5	6	3	5	6	3	4
Senior Championships	1	1	—	3	3	2	2	3	1	1	—	—	2	4
Reserve Senior Championships	2	1	2	2	—	3	2	1	2	1	4	2	4	2
Junior Championships	2	1	—	1	2	3	1	3	2	2	4	1	1	3
Reserve Junior Championships	1	3	3	2	3	2	6	1	1	1	2	2	2	—
	9	15	6	13	17	24	19	18	16	12	22	13	16	16

allowance for feed, were borne by the Manitoba Government. These livestock exhibits served an important function in advertising Manitoba livestock as well as creating an incentive for Manitoba farmers to produce livestock of high quality. The winnings awarded to Manitoba livestock exhibited at the Royal Winter Fair over the years of this sub-period from 1925 to 1938 are shown in Table 56(a). During the war years, 1939 to 1945, the policy of sponsoring livestock exhibits was temporarily discontinued, but was resumed in 1946. The winnings awarded Manitoba livestock exhibited at the Royal Winter Fair from 1946 to 1959 are shown in Table 56(b).

In addition to sponsoring and assisting Manitoba livestock breeders to exhibit livestock at the Royal Winter Fair, Toronto, the Ministry, at various times, also gave support to Manitoba livestock exhibits shown at the International Exhibition at Chicago, and at regional fairs held in Eastern and Western Canada.

(c) Cattle Brands and Stallion Enrolment

The recording of cattle brands and stallion enrolment, for which the Livestock Branch had been responsible since its inception, was continued as a routine duty during the 1925-1959 sub-period.

The number of cattle brands issued from 1924-25 to 1958-59 were reported in the respective annual reports as follows:

Fiscal Year	No. Issued During The Year	Fiscal Year	No. Issued During The Year	Fiscal Year	No. Issued During The Year
1924-25	36	1936-37	25	1948-49	67
1925-26	41	1937-38	28	1949-50	67
1926-27	48	1938-39	11	1950-51	109
1927-28	33	1939-40	53	1951-52	77
1928-29	47	1940-41	35	1952-53	92
1929-30	42	1941-42	56	1953-54	112
1930-31	27	1942-43	77	1954-55	90
1931-32	27	1943-44	54	1955-56	121
1932-33	26	1944-45	76	1956-57	135
1933-34	48	1945-46	75	1957-58	128
1934-35	31	1946-47	87	1958-59	165
1935-36	28	1947-48	84		

During the previous sub-period (as shown on Page 168), the number of cattle brands issued in Manitoba increased during the years 1915 to 1921, coincident with the farm labor shortage caused by World War I. However, the number of brands issued annually then fell during the next two decades until, as indicated in the above tabulation, the number of cattle brands issued annually again increased when community pastures for summer grazing by farm cattle (Pages 319-320) came into use in the Province.

The number of stallions enrolled by the Livestock Branch during the 1925-1959 sub-period, as recorded in the annual reports of the Ministry of Agriculture, are tabulated and presented here as Table 57 (a) and (b). The data in these tables show that the initial decline of interest in horse breeding on Manitoba farms (which was first noticeable towards the close of the previous sub-period - Pages 169-170) was to some extent retarded or arrested in the decade of drought and the early years of the 1939-1945 war. However, commencing in the mid-1940's, the unmistakable decline in the total number of stallions enrolled shows the continuing accelerated replacement of horse power by tractor power, characteristic of the latter portion of the 1925-1959 sub-period.

By subdividing the Post M.A.C. Sub-Period into seven successive five year periods, the average annual five year means show more clearly the "overall" reduction in the number of registered stallions of draft horse class in the latter portion of the sub-period. These mean figures also show an initial increase in stallions of the light horse class during the decade of drought, followed by a reduction of driving and riding horses in the 1940's, and another marked increase in the number of stallions of light horse class in the closing years of the sub-period. The percentage of horses of draft horse class, in comparison with the percentage of horses in the light horse class, as shown in Table 58, is particularly striking.

(d) Veterinary Services

The services of the Ministry of Agriculture in respect of Manitoba livestock involved not only duties for which the Livestock Branch was directly responsible, but also veterinary services which were closely associated with the activities of the Provincial Livestock Branch. In this connection certain government regulations, pertaining to diseases and to the marketing of livestock, were, and continued to be, under federal legislation and jurisdiction. Nevertheless, in this connection, the Provincial Livestock Branch, from its inception, together with the practising veterinarians in the Province, worked in close co-operation with the Dominion Health of Animals Branch and the Dominion Department of Agriculture to ensure provincial-federal harmony in furthering the control of animal diseases in Manitoba.

The concern of the Provincial Ministry of Agriculture with diseases of domestic animals, prior to the M.A.C. Sub-Period, is shown in the legislative action taken in 1880, 1881 and 1890, and in the appointment of Dr. S.J. Thompson as Provincial Veterinarian in 1893, and of Dr. H.D. Smith in 1904 (Pages 126-127). During the M.A.C. Sub-Period (1906-1924), when the Agricultural College was the major activity of the Ministry of Agriculture, a succession of professionally qualified veterinarians were engaged by the College Board of Directors, on a part-time basis, to give lectures on animal anatomy and the diseases of farm animals, and on obstetrics and materia medica. The personnel thus involved consisted of Dr. F. Torrence, 1906-1913; Dr. C.D. McGilvray, 1913-1919; Dr. W.E. Martin, 1919-1921; and Dr. W.A. Shoultz, 1921-1922.

TABLE 57.

STALLION ENROLMENT — DRAFT HORSE BREEDS
(a) DEPARTMENT OF AGRICULTURE AND IMMIGRATION — 1925 to 1959
(Listed by Numbers of Each Respective Breed)

Fiscal Year	Clydesdale	Percheron	Belgian	Shire	Suffolk Punch	French Canadian	Total
1924-25	238	233	47	6	1	2	527
1925-26	338	272	56	5	2	2	675
1926-27	268	277	51	6	1	1	604
1927-28	310	270	53	4	1	1	639
1928-29	252	250	51	5	1	1	560
1929-30	241	243	56	3	—	1	544
1930-31	182	222	49	2	1	1	457
1931-32	162	194	49	1	1	1	408
1932-33	176	261	58	2	1	1	499
1933-34	188	253	60	—	1	—	502
1934-35	210	259	76	—	—	1	546
1935-36	197	259	71	—	1	1	529
1936-37	261	331	81	—	—	1	674
1937-38	227	335	107	—	—	—	669
1938-39	233	409	90	—	—	2	734
1939-40	251	462	124	—	—	1	838
1940-41	217	389	124	—	1	1	732
1941-42	127	331	102	—	2	1	563
1942-43	120	310	78	—	—	—	508
1943-44	53	254	61	—	2	—	370
1944-45	30	185	70	—	1	—	286
1945-46	22	120	51	—	—	—	193
1946-47	12	71	32	—	1	—	116
1947-48	4	48	17	—	—	—	69
1948-49	9	60	34	—	—	—	103
1949-50	7	58	29	—	—	2	96
1950-51	6	44	20	—	—	2	72
1951-52	5	46	20	—	—	2	73
1952-53	5	44	17	—	—	3	69
1953-54	5	30	12	—	—	2	49
1954-55	6	25	8	—	—	1	40
1955-56	4	23	5	—	—	2	34
1956-57	4	22	11	—	—	2	39
1957-58	7	19	12	—	—	1	39
1958-59	5	18	9	—	—	2	34

TABLE 57.

STALLION ENROLMENT — LIGHT HORSE BREEDS
 (b) DEPARTMENT OF AGRICULTURE AND IMMIGRATION — 1925 to 1959
 (Listed by Numbers of Each Respective Breed)

Fiscal Year	Hackney	Standard Bred	Thorough-Bred	Morgan	Kentucky Saddle	American Saddle	French Coach	Arabian	Palo-mino	Tennessee Walking	Quarter Horse	Total
1924-25	8	18	3	1	—	—	—	—	—	—	—	30
1925-26	10	22	3	1	—	—	—	—	—	—	—	36
1926-27	5	25	4	1	—	—	—	—	—	—	—	35
1927-28	6	25	10	1	—	—	—	—	—	—	—	42
1928-29	6	28	8	1	—	—	—	—	—	—	—	43
1929-30	3	21	9	2	—	—	—	—	—	—	—	35
1930-31	—	18	13	2	1	—	—	—	—	—	—	34
1931-32	3	16	8	2	1	—	—	—	—	—	—	30
1932-33	4	25	6	2	1	—	—	—	—	—	—	38
1933-34	5	27	11	1	1	—	—	—	—	—	—	45
1934-35	8	31	11	1	2	—	—	—	—	—	—	53
1935-36	5	33	13	1	1	—	—	—	—	—	—	53
1936-37	6	33	13	1	2	—	—	—	—	—	—	55
1937-38	11	29	9	—	3	—	—	—	—	—	—	52
1938-39	7	29	15	1	1	1	1	—	—	—	—	55
1939-40	8	43	13	1	1	2	1	—	—	—	—	69
1940-41	10	36	12	1	1	2	1	—	—	—	—	63
1941-42	8	26	5	—	1	2	—	—	—	—	—	42
1942-43	7	24	2	—	1	—	1	—	—	—	—	35
1943-44	3	24	5	—	1	1	1	—	—	—	—	35
1944-45	9	23	2	—	—	—	—	—	—	—	—	34
1945-46	1	28	4	—	—	—	2	—	—	—	—	35
1946-47	5	17	2	—	1	—	—	—	—	—	—	25
1947-48	3	14	4	—	—	—	1	—	—	—	—	22
1948-49	6	18	4	—	2	—	—	—	—	—	—	30
1949-50	7	22	7	—	—	2	—	—	—	—	—	38
1950-51	10	18	8	—	—	1	—	1	—	—	—	38
1951-52	11	22	8	—	—	1	—	1	—	—	—	55
1952-53	13	25	7	—	—	2	—	1	12	—	—	58
1953-54	11	20	8	—	—	1	—	1	10	—	—	54
1954-55	12	19	8	—	—	—	—	1	13	—	—	55
1955-56	9	15	10	—	—	—	—	—	15	—	—	49
1956-57	8	14	13	—	—	—	—	1	15	—	—	53
1957-58	5	10	8	—	—	1	—	—	16	1	—	38
1958-59	7	12	10	—	—	2	—	—	14	—	1	48
									16	—		

TABLE 58. COMPARISON OF THE NUMBER OF REGISTERED STALLIONS OF DRAFT HORSE CLASS WITH THE NUMBER OF REGISTERED STALLIONS OF LIGHT HORSE CLASS, AND THE RELATIVE PERCENTAGE OF EACH CLASS BY FIVE YEAR PERIODS - 1924-25 to 1958-59

Years	Average Annual Number of Registered Stallions of Draft Horse Class	Percentage of Total Number of Stallions Registered	Average Annual Number of Registered Stallions of Light Horse Class	Percentage of Total Number of Stallions Registered	Average Annual Number of Stallions Registered
1924-25 to 1928-29	601	94.2	37	5.8	638
1929-30 to 1933-34	482	93.0	36	7.0	518
1934-35 to 1938-39	630	92.1	54	7.9	684
1939-40 to 1943-44	602	92.5	49	7.5	651
1944-45 to 1948-49	153	83.6	30	16.4	183
1949-50 to 1953-54	72	60.0	48	40.0	120
1954-55 to 1958-59	37	43.0	49	57.0	86

Subsequent to 1921, Dr. A. Savage was appointed to the full time position of Animal Pathologist on the College staff, in which position he also served as veterinary consultant to the Ministry of Agriculture. In 1938, under the sponsorship and jurisdiction of the Ministry, Dr. Savage established the Provincial Veterinary Diagnostic Laboratory on the Fort Garry site (Page 331). Annual reports of the Ministry, in the early portion of the 1925-1959 sub-period, refer to practising veterinarians serving or co-operating with the Department in the capacity of inspectors. Specific reference also was made to individuals who served as provincial veterinarians, or as consulting practitioners, including:

Dr. S.A. Cox, Inspector, Horse Breeding Act (1915-1936);

Dr. M.T. Lewis, Provincial Veterinarian (1929-1932);

Dr. J.K. Morrow, Director of Provincial Blood Testing Laboratory, Old University Building, Kennedy Street (1935-1938) (Page 433); and

Dr. E.L. Houck, Provincial Veterinarian (1939-1957).

From its inception in 1938 to 1955, the Provincial Diagnostic Laboratory on the Fort Garry site was under the direction of Dr. A. Savage, with the assistance of Dr. J.M. Isa, who in turn served as Provincial Animal Pathologist for the remainder of the sub-period, and who carried on in that capacity in succeeding years.

To facilitate close co-operation between the various branches of the Department of Agriculture, the veterinary profession and the Veterinary Laboratory, the Ministry, in 1955-56, appointed a co-ordinating committee consisting of:

John Connor, Livestock Commissioner; E.L. Houck, Veterinary Surgeon, Livestock Branch; C.H.P. Killick, Dairy Commissioner; E.W. Stringham, Professor of Animal Science, University of Manitoba; E. Clark, Veterinary Surgeon, Morden; and J.M. Isa, Provincial Animal Pathologist.

In the work of the Provincial Veterinary Laboratory subsequent to 1955, Dr. Isa was assisted by Assistant Animal Pathologists Dr. N.E. Stanger (1956+) and Dr. Val B. Kjærsted (January to August, 1957); and by a succession of laboratory technicians.

In 1945, to encourage and assist students to study veterinary medicine, a "Veterinary Science Scholarship Fund Act" was passed by the Legislature. Under this Act authority was given the Ministry to grant financial assistance to Manitoba students attending veterinary college. The grant consisted of \$300.00 per year per student for each of four years. Provision was made for the money advanced to be remitted after graduation at the rate of 20 percent per year, provided the graduate veterinarian involved entered rural practice in Manitoba. However, should the graduate seek employment elsewhere, the money advanced became due and payable. A report on the students from Manitoba taking advantage of this assistance was included in each annual report of the Livestock Branch throughout the remaining years of the sub-period, but in the sixth year of the succeeding period the responsibility for administering and reporting on this project was transferred to a reorganized Veterinary Services Branch.

In hope of further encouraging the practice of veterinary medicine in Manitoba, a "Veterinary Services Act" was passed (SM 1949, Chap. 70). Under this Act a municipality could pass a by-law and enter into an agreement with other municipalities (if contiguous) to form a Veterinary Services District. Each such agreement had to be submitted first for examination and approval to a Provincial Veterinary Commission consisting of three commissioners appointed by the Lieutenant-Governor-in-Council; after which the commission was required to forward a copy of the agreement, together with a recommendation for authorization or otherwise, to the Minister. Only if approved by the Minister would a local Veterinary Services District be established by Order-in-Council and a local District Veterinary Services Board appointed. Each such Board was to consist of one member appointed by the Minister and two members appointed by the local council if only one municipality was concerned, or one member to be appointed by the council of each municipality where two or more municipalities were involved.

The financial assistance to a District Veterinary Services Board provided for under the Act involved a grant from the Ministry of \$1,000 per year, to which the district concerned would add \$1,000 per year. The District Board was required to pay a practising veterinarian not less than \$2,000 per year, for a three year period, to encourage him to practise veterinary medicine and surgery in the district. There does not appear, however, to have been much enthusiasm on the part of municipal councils, as a whole, for the support of this scheme during the 1925-1959 sub-period.

(5) WEEDS COMMISSION - 1925 TO 1959

Prior to 1923 the work with weeds, as a unit activity of the Ministry of Agriculture, went through various stages of evolution (as outlined previously in Pages 65, 70, 87, 131-133 and 171-172). Subsequently, the three man Weeds Commission, appointed in 1923, continued into the 1925-1959 sub-period under the somewhat unique arrangement whereby the Secretary, G. Batho, served as the administrative officer of the Weeds Commission and directed the activities of the Commission from the office of the Publications Branch. The other two Commissioners, Dr. S.A. Bedford and Professor T.J. Harrison, served more or less in the capacity of consulting associates.

This arrangement, of carrying out the duties of the Weeds Commission conjointly with the duties of the Publications Branch, appears to have been due in part to the financial stringency of the post-war depression years and the decade of drought, and due in large part to the enthusiasm and devotion of the Secretary of the Commission, who also served, until retirement, as Editor of Agricultural Publications and Agricultural Statistician. However, despite the improvement in financial conditions subsequent to the drought years, the departmental work with weeds continued to be directed conjointly with the Publications Branch, and with enlarged activity, until the close of the sub-period when it was transferred to, and made a division of, the Soils and Crops Branch in 1959-60.

The successive administrators of the Weeds Commission during the years of joint operation with the Publications Branch consisted of G. Batho,

Secretary, 1923-1940; H.E. Wood, as Secretary, 1940 to 1945, and as Chairman, assisted by H.A. Craig as Secretary, 1946 to 1956; and H.A. Craig, Chairman, assisted by J.O. Forbes as Secretary, 1956 to 1959.

(a) Personnel of Weeds Commission - 1925 to 1959

As noted above, the personnel of the Weeds Commission in 1925 consisted of Dr. S.A. Bedford, Professor T.J. Harrison and Geo. Batho. With the retirement of Dr. Bedford in 1927, J.A. McGregor, Provincial Agronomist, was appointed to fill the vacancy; but following the resignation of Professor Harrison in 1929, the Weeds Commission carried on as a two man Commission until the retirement of G. Batho in January, 1940. Moreover, although R. Whiteman replaced J.A. McGregor, following the death of the latter in 1933, the Weeds Commission remained a two man body from 1930 to 1940-41.

Following the retirement of G. Batho, H.E. Wood succeeded to the position of Editor of Publications and Secretary of the Weeds Commission, and with R. Whiteman the Provincial Agronomist, and D.M. McLean, Extension Agronomist, the Commission reformed as a three man body which continued as such from 1941 to 1946.

In the fiscal year 1946-47, the personnel of the Weeds Commission was increased by the addition of Professor P.J. Olson (who was carrying on chemical control of weeds as a project of the Plant Science Department of the University of Manitoba), and of H.A. Craig, who on September 1st, 1946, was transferred from the position of Agricultural Representative to the position of assistant in the Publications Branch.

From 1946-47 to 1955-56, H.E. Wood was designated Chairman of the Commission, in which capacity he continued until his retirement in March 1956, and H.A. Craig was designated as Secretary and served as Assistant Weeds Commissioner. During this interval the changes in the personnel of the Commission involved the substitution of P.H. Ford, Provincial Agronomist, for R. Whiteman who retired in 1950, and the replacement (due to retirement) of Professor Olson by Professor L.H.J. Shebeski. However, D.M. McLean (who transferred from the provincial service to that of the Line Elevators Farm Service in 1946, and later to that of Agricultural Director, Pioneer Grain Company) continued to serve as a member of the Weeds Commission throughout the remainder of the sub-period. With the retirement of H.E. Wood in March 1956, H.A. Craig was appointed Chairman, and J.O. Forbes became Secretary to the Commission.

Up to 1950-51, the Weeds Commission submitted a separate annual report of its activities to the Minister, but from 1951-52 to the end of the sub-period, the work of the Commission was reported and included as part of the annual report of the Director of Publications, Statistics and Weeds Branch.

(b) Activities of the Weeds Commission - 1925-1940

The activities of the Weeds Commission during the Geo. Batho regime, 1925-1940, included:

the duties involved in the administration of the Weeds Act; the conducting of essay competitions in the schools on the subject of "The

Worst Weed in our District" for which prizes were awarded in each school inspection district; the examination and identification of plant specimens submitted by the public; the preparation and exhibition of weeds and methods of control as part of the Provincial Exhibit at Brandon and at the Provincial Seed Fair; the holding of municipal weed inspectors conferences each spring at Winnipeg and Brandon or other convenient central point, to which representatives of local councils also were invited; the appointment each season of district weed inspectors in unorganized territory; the printing of cards presenting Section 7 of the Noxious Weed Act, as required under the Act to be exposed on the side of custom threshing machines while at work in the fields, together with the Threshers Lien Act, and the distribution of same to threshers in Manitoba whose addresses were supplied by the local weed inspectors; and the general distribution of literature, in respect of weeds and their control, to schools, farm operators and farmer groups, etc.

In 1928-29 the Weeds Commission (the members of which worked in close harmony with the Manitoba Agronomists) and the Western Canadian Society of Agronomy, petitioned the National Research Council to consider the desirability of bringing the weed question under review. The National Research Council responded and in the fiscal year 1929-30 appointed a Weed Control Committee of the Research Council. Manitoba was represented on this National Committee by three members, including the Secretary of the Manitoba Weeds Commission, who together with the colleagues representing the provinces of Saskatchewan and Alberta, can be credited with laying the foundation of the work subsequently carried on in this connection by the National Research Council.

In the meantime, during the Batho regime, a number of research activities or studies were carried out by the Manitoba Weeds Commission in respect of the control of farm weeds. The fact that the current Provincial Agronomist served as crop specialist in the Extension Service Branch, as well as being a member of the Weeds Commission, greatly facilitated the carrying out of the field work in connection with these investigations.

In view of the extent to which this work developed in later years, a brief review of the earlier investigations initiated by the Weeds Commission is worthy of record. In 1928, various cultural methods of couch grass control were arranged to be carried out on four farms, located respectively at Manitou, Belmont, Minitonas and Stonewall. In the following year, this endeavor was continued at Minnedosa, Carberry, Carman and Silverton. The conclusions reached were that a field matted with couch grass can be cleaned by cultural methods, in a single season, so that scarcely a single plant of this species remains.

Also in 1928, a study was initiated in an attempt to ascertain the stage of maturity and the time couch grass should be cut for hay to ensure that the seeds are not viable. Arrangements were made with municipal weed inspectors to collect samples of couch grass heads on several different days in July and August. The seeds from these samples were then submitted to F.E. Foulds, Dominion Seed Laboratory, Winnipeg, to be tested for germination. This project was repeated in 1929 when samples of couch grass seeds were

collected by approximately thirty weed inspectors. The Commission recommended therefore that as couch grass has normally made close to its maximum hay growth by July 5th to 10th, and as a number of its seeds may be viable by July 12th to 18th, couch grass that is harvested for hay should be cut in the southern portion of the province not later than the first week in July, or a few days later in the more northern areas.

Other weed studies undertaken involved the control of sowthistle, the depth of sowing and date of ripening wild oats, the longevity of wild oat seeds under the climatic conditions in Manitoba, and the control of Leafy Spurge, Russian Darnel, Dog Mustard, Hoary Cress, and Field Bindweed, etc.

The commencement of work with chemical weedicides is recorded in the annual report for the fiscal year 1929-30 in the following quote:

"During the past five years a few farm experimenters, in different countries, have been announcing encouraging results in killing weeds with herbicides. Coincidental with this, certain firms in Canada have been advertising proprietary herbicides, and farmers have been induced to purchase some of these. Your Commission, early in 1929, ordered a number of these preparations and proceeded to test them during the summer. The herbicides tested were: Sodium Chlorate, Atlacide, Formite, Weed Cop, Alsask Non-Poisonous Weed Killer, Raphanite, Stoldt's Weed Killer.

"These tests were replicated in five districts close to Winnipeg, and two of the chemicals were tested in co-operation with about a dozen weed inspectors in Western Manitoba."

This informative statement is followed by the interesting comment that:

"So far the Commission is pretty well convinced that when the cost of the chemicals is considered, when the labor of applying is added, and the effectiveness of the work is taken into account, the place for chemical herbicides will be rather limited in Manitoba. . . . As it is pretty certain that farmers will be spending some money on these herbicides, further study of this method is planned."

In the following year, studies were continued with the use of sodium chlorate, calcium chloride combined with sodium chlorate, Atlacide, Kaempfe and Weed-Ex as herbicides. The first two of these were used as a co-operative trial in co-operation with the Associated Committee on Weed Control of the National Research Council.

The cautious approach and the early reticence to recommend chemical herbicides, however, changed in the next few years. The Ministry introduced a policy of assisting municipalities to destroy incipient outbreaks of new weeds by the use of Atlacide. In this connection, the Department announced that it would assist in the purchase of this herbicide, and on receipt of \$2.00 would send a municipality a 50 pound drum of the herbicide, and that it would assume up to \$4.00 of additional cost. In 1936 twenty-two municipalities, and in 1937 twenty-five municipalities, took advantage of this offer. In the report of the Weeds Commission for 1937-38, it is recorded "The result of this work has now been that there is among the municipal councils a fairly wide recognition of the fact that the use of this chemical affords, up to a certain point, an available and effective safeguard against the encroachment of such weeds." Further in connection with herbicide studies by the Commission, it may be recorded that Wm. Silversides was engaged

(temporarily) in 1937 to conduct tests in respect of the effectiveness of applying cyanamid and sulphuric acid to several fields for weed control.

In retrospect, and in the absence of written record, the writer recalls from memory that somewhat earlier, and when Professor T.J. Harrison was on the staff of the Agricultural College, the latter conducted an experiment with the use of herbicides on a dandelion-infested football field at the M.A.C. with striking results. A section of this field, that had been seeded to slender wheat grass, bluegrass and red top, was laid out in a latin square arrangement for herbicide treatments on plots that were one square rod in size. The treatments included a compound alleged to be Raphanite, procured supposedly from the German Consul. On the plots treated with Raphanite the dandelions disappeared and the grasses became more vigorous and darker green in color. The most striking observation, however, was that the Raphanite treated plots remained free from dandelions for several years after the single application, whereas all other treatments used had little or no effect on the growth of weeds.

In the year subsequent to the initiation of this trial, the remaining Raphanite was turned over to the Weeds Commission for further trial, but unfortunately it appeared that no more of this herbicide could be located at that time. A sample of Raphanite was sent by Professor T.J. Harrison to the Chemist, Central Experimental Farm, Ottawa, for analysis, the report on which indicated this herbicide to be composed largely of copper nitrate; but although commercial copper nitrate was used in subsequent trials carried out by the Commission, the results obtained from the use of Raphanite by Professor Harrison were not duplicated in the case of treatment with commercial copper nitrate.

Early in 1939 a meeting was held in Birtle to discuss the inroads of persistent perennial weeds, particularly leafy spurge. As the result of this and further meetings, a Weed Control Unit (located in the Northern Judicial District and comprising seventeen rural municipalities and nine towns and villages) was formed with the objective of implementing systematic weed control on farms where leafy spurge infestations were a problem. Under the auspices of the Manitoba Weeds Commission, L.H. Carter, local Agricultural Representative, and T.L. Townsend, regional representative of the Colonization Finance Corporation, were appointed to organize and put an agreed plan into action, with financial aid from a number of farm mortgage and other companies.*

This plan was based on work conducted by officials of the Brandon Experimental Farm on a farm heavily infested with leafy spurge. Two spray-rigs were engaged to visit all farms in the municipalities comprising the organized Weed Control Unit, and to spray all patches of leafy spurge with Atlacide at the rate of a gallon of solution to each 100 square feet. Two sprayings were given to the leafy spurge patches in the season of 1939, and patches of field bindweed also were sprayed in the fall. Where extensive patches of leafy spurge were encountered, a plan of intensive working of summerfallow was arranged with the respective farm owner. This project in

* Manitoba Department of Agriculture Publication No. 307 (1959).

the Northern Judicial District was continued in succeeding years under the direction of T.L. Townsend.

(c) Activities of Weeds Commission Enlarged, 1940-1959

In the years which followed the Batho regime, the duties and activities of the Weeds Commission were continued with increased financial support. However, enlarged investigations carried out in respect of chemical control of weeds soon resulted in a change of attitude, so that weed control by means of herbicides was first preached by the Commission Chairman with missionary zeal; then adopted as common practice in the co-operative measures undertaken by provincial and municipal governments; and ultimately accepted as routine field management practice by farm operators.

In 1940, after a general survey of the weed problem and a careful check of the 17 municipalities that formed the Northern Judicial District Unit area in 1939, the Ministry decided to give major emphasis to controlling persistent perennial weeds on a province-wide basis through the unit area system. Twelve Weed Control Units, comprising 48 rural municipalities, were organized by the Commission in the fall of 1940, and as many as 79 municipalities were involved in the next decade.

Under this scheme, which involved co-operative action by the Weeds Commission and municipal councils, three methods of attack were undertaken as circumstances required, i.e.:

- (i) the use of soil-sterilant chemicals on small and scattered areas affected with persistent perennials (such as leafy spurge);
- (ii) intensive cultivation alternated with cropping on arable fields which were extensively infested; and
- (iii) the prevention of seed production by persistent perennials through mowing and pasturing with sheep.

The operations in the unit control areas thus organized were carried out under the direction of a local committee, normally composed of two representatives from each municipality within the unit, and with the local agricultural representative serving as secretary and manager wherever possible. The grouping of several municipalities under the unit system favored the purchase of suitable spraying equipment by the respective control units, as well as the engaging of operating personnel. The Weeds Commission provided overall direction to the weed projects, supplied forms for recording all work undertaken, and provided detailed instructions for the unit committees, the weed inspectors, and the spraying crews. The Ministry of Agriculture undertook to order the chemicals required in carload lots and to ship them to central points where they could be distributed to the control units on the basis of need. Initially the Ministry assumed 25 percent of the cost of the chemical; but later this assistance was increased to approximately 50 percent.

In addition, the advantages of reporting weed infestations and spray-rig treatment were presented to farm operators by such means as meetings, press articles, radio talks, and displays at fairs and places of business. It is of

interest to note the claim by the Chairman of the Commission, in Publication 307, that over the years, thousands of infestations of "difficult to control perennial weeds" were brought under control or eliminated as the result of this joint provincial-municipal project.

By an amendment to the Noxious Weed Act in 1941-42 wide powers were given to municipalities which enabled them to assume control of weed infested land with the intent of freeing it of Class I weeds. Such land, apart from building sites, could be taken over under lease by a municipality for a period of five years, or longer if necessary, and a plan of intensive cultivation alternated with cropping put into effect, either with machinery operated by the municipality or on a custom basis. During the period under such lease, taxes were waived and the proceeds accruing from cropping apportioned firstly, to meet expenses of operation; secondly, to offset the amount of taxes waived; and thirdly, any monies remaining were to be paid to the owner of the property involved.

The extent to which municipalities accepted and made use of this provincial-municipal scheme for eradication of "hard to kill perennial weeds" is indicated in the report of the Commission for the 1958-59 fiscal year. This report showed that a total of 580,945 pounds of soil sterilant chemicals were used during the year consisting of:

223,405 lbs of Atlacide;
294,640 lbs of Polybor Chlorate; and
62,900 lbs of D Bor Granular.

The use of the latter herbicide was encouraged by the Commission when it became apparent that it would give more constant results at a lower cost.

During this fiscal year (1958-59) some 18,855 weed patches of hard to kill weeds were sprayed, on 1,439 farms, for an average cost of \$4.70 per weed patch. The cost of the soil sterilant chemicals totalled \$68,871.60, of which the Department of Agriculture assumed \$40,823.54 and the municipalities the remaining \$28,048.06. The cost of application to the municipalities amounted to \$19,894.32, exclusive of weed inspectors' salaries.

Many other herbicides for general farm use were introduced into Manitoba. In 1944 the Weeds Commission carried out field trials with Sinox and Cyanamid dust. In 1945 various weed species were treated with 2,4-D applied in preliminary trials with a knapsack sprayer, and in 1946 some 840 plots in fields of cereals and flax were treated by the Commission with 2,4-D, including the treatment of forty strips of one acre each on which standard spraying equipment was used.

Early in 1947 the Weeds Commission called a meeting of representatives from all organizations and companies in the Province concerned with testing or in furthering the use of herbicides. The purpose of this meeting was to pool findings and to lay plans for action during the coming season. This procedure was continued in succeeding years, and recommendations, based on all available information thus forthcoming, were published in popular bulletins which were revised annually, or from time to time, in the light of progressive findings.

In November 1947 the first Western Weed Control Conference of representatives of the four western provinces and of the Dominion Experimental Farms was held in Regina. This and successive conferences of the same kind served to bring together the provincial and federal technical workers, the herbicide trade interests, and others involved in weed control. At each of these conferences all available experimental data were examined and appraised, and recommendations made in respect of the use of herbicides.

From 1947 to the end of the Post M.A.C. Sub-Period, the investigations into the use of herbicides that had been carried on largely as Weeds Commission activities were gradually taken over and expanded by the Plant Science Department of the University of Manitoba in close liaison with the Commission and with the support and blessing of the Ministry.

The importance of the activities of the Weeds Commission in connection with the chemical control of weeds in Manitoba is apparent by the fact that, at the beginning of the 1925-1959 sub-period, the use of herbicides in farm practice in this Province was unknown; but by the end of this sub-period approximately one-third of all annual field crops in Manitoba were sprayed with herbicides as a routine farm practice.

In addition, the use of herbicides for the control of brush and aquatics in drainage ditches was adopted by the Drainage Maintenance Board as early as 1947, and in the following years the Manitoba Power Commission, in co-operation with the Weeds Commission, commenced spraying for the control of brush under power lines. The Manitoba Telephone System and other utilities followed suit and adopted spraying for brush control; and the Soils and Crops Branch introduced the practice of spraying to kill brush and scrub growths and thereby to improve the forage value and the carrying capacity of native pastures.

(6) PUBLICATIONS BRANCH - 1925 TO 1959

Although as early as 1876 the collecting of useful facts and the distribution of agricultural information were established as ministerial duties by a Legislative Act (Pages 67 and 86), and were carried on in subsequent years through the general administrative office of the Department, it was not until 1915 - in the M.A.C. Sub-Period - that the departmental activities in respect of publications and statistics were given the status of a Publications Branch under a full time Editor of Publications (Pages 172-175). Later, as noted in the preceding section, the Editor of Publications was appointed Secretary to the Weeds Commission in 1923, so that from 1923 and through 1925 to 1959, the current Director of the Publications Branch served as the chief administrator for the Weeds Commission. Thus, during the 1925-1959 sub-period, the Publications Branch served in the threefold capacity as the administrative headquarters for Departmental Publications, Agricultural Statistics, and Weeds Commission, and in addition, provided services in connection with the aperiodic Grasshopper Control campaigns subsequent to 1940.

(a) Directors and Assistant Directors

The personnel that served successively as Director and administered the threefold services operated conjointly through the Publications Branch (as noted in presenting the personnel of the Weeds Commission) consisted of Geo. Batho, 1925-1940; H.E. Wood, 1940-1956; and H.A. Craig, 1956 and onward; with the assistance of H.A. Craig, 1946-1956; J.O. Forbes, 1956 to 1959; and an unrecorded number of persons who served at various terms as clerical staff in the statistical section.

(b) Publication Services, 1925-1959

During the 1925-1959 sub-period the current Editor of Publications was involved in a wide variety of endeavors, including:

Editing and supervising the printing of all bulletins and circulars on agricultural and homemaking subjects that were written by members of the Department of Agriculture and of the Faculty of Agriculture; the preparation and distribution of posters to draw attention to agricultural items or problems of timely interest; departmental publicity and the processing of printing jobs of varied nature; answering queries presented by correspondence, by telephone or in person; preparing newspaper and magazine articles relating to various phases of agriculture; preparation of information of interest to immigrants; exchange of information and publications with other provinces, states and countries; forwarding material of a technical nature received from other countries to various departments of the University of Manitoba, and the Provincial Library; printing large numbers of departmental forms, programs and prize lists; collecting and maintaining an agricultural photograph library; supplying agricultural literature to the offices of agricultural representatives; and (in the Batho regime) giving a series of lectures on journalism to agricultural students.

In addition, mimeographic services were rendered the various branches of the Ministry in reproducing documents, papers, communications and records. In this activity the Editor was assisted for a number of years by Stanley M. Turner.

(c) Statistics and Services Involved, 1925-1959

The compilation and recording of agricultural statistics under the Ministry of Agriculture, and the methods evolved in obtaining information in former years, are outlined in Pages 79-84; 93 - 108; 141-146; 174-175; and 266-273.

During the 1925-1959 sub-period there was a greatly increased demand for the agricultural information compiled by the statistical service of the Publications Branch in conjunction with the Federal Bureau of Statistics. This increased demand came not only from the general public, but particularly from commercial concerns; governments; railroads; educational institutions; and others concerned with keeping up-to-date files of agricultural information, for which the basic source was the data compiled by the statistical service of the Ministry.

The quinquennial census was still used as the basis for much of the statistical computation, but each year the Publications Branch conducted surveys, in June and December, by means of cards distributed through rural schools, to obtain information in respect of crop acreages and numbers of livestock. This was supplemented by information secured from crop reporters in the various municipalities, from farmers, and from agricultural representatives. Monthly reports of dairy produce and cold storage statistics were obtained and forwarded for processing to the Federal Bureau of Statistics, Ottawa, and in turn submitted by the Bureau of Statistics to the trade in the form of a monthly release. Information in respect of yields per acre of farm crops was obtained by the Bureau from a Dominion survey carried out through a corps of crop correspondents. This information was submitted by the Bureau to the Publications Branch. It was then checked against information supplied by the regular correspondents of the Branch and by the agricultural representatives before being mutually accepted as final by both the Branch and the Bureau.

The information variously compiled by the Statistical Service was distributed by the Publications Branch chiefly in three forms, i.e.:

- (i) annual reports on Crops and Livestock published shortly after the close of each calendar year;
- (ii) monthly reports on Agricultural Conditions, Crop Progress and Farm Work, prepared and distributed at three to four week intervals, during the months of April to October, together with current weather data supplied by the Meteorological Service of Canada; and
- (iii) weekly crop reports initiated by H.A. Craig in the closing years of the sub-period as an information service prepared from a summary of night letters received from approximately 35 agricultural representatives and issued to radio stations and the press, to members of the Department, and to a selected list of agricultural workers. These weekly reports were supplementary to the weekly summaries of general crop conditions that were issued during the summer months by the Federal Bureau of Statistics.

(d) Consumer Information Service, 1957-1959

An additional service was added to the Publications Branch in August 1957, with the appointment of Miss Frances McKay (formerly Director of Women's Work in the Extension Service) to the position of Assistant Director, Consumer Information Service. The activities of this service involved the compiling of statistical data and information pertaining to packaging and merchandising through processing plants, wholesale and retail outlets. This phase of work was carried out in co-operation with all branches of the Government of Manitoba, the University of Manitoba, and the Canada Department of Agriculture. The information thus acquired was presented to the public through press releases, radio and television.

As the result of the interest aroused by these releases, there was public demand for enlargement of this service, and, in the succeeding year, radio

programs relating to food and agriculture were prepared and presented every Friday at 11.45 a.m. over the Canadian Broadcasting Corporation network. The Assistant Director also appeared on, or prepared interviews for, T.V. Station CKX Brandon.

In addition, the Associate Director served, by appointment, as a member of the Advisory Board on Frozen Food Lockers to the Minister of Health and Public Welfare, and also, by appointment, to serve on the Board of the Winnipeg Branch of the Canadian Association of Consumers.

The work of the Consumer Information Service was so successful, that when the Weeds Commission was transferred to the Soils and Crops Branch, in April 1959, the Publications Branch was reorganized into three divisions, i.e.: Publications, Statistics, and Radio and Information.

(e) Grasshopper Control Campaigns

Although grasshopper outbreaks had been experienced at various times since the earliest days of settlement, and the Provincial Government had been involved at various times since the inauguration of the Province in relief and emergency services as the result of depredations by these insects; it appears that it was not until the beginning of the century that poison was sponsored by the Ministry to combat these pests (Pages 135-137), and not until 1931 that the Ministry inaugurated a Grasshopper Control Campaign scheme under a Manitoba Grasshopper Committee, with H.E. Wood as Secretary, to deal with this problem. Subsequent to the transfer of H.E. Wood from the Extension Service Branch to the Publications Branch, the grasshopper control campaigns of the Ministry were conducted from the Publications Branch office.

The periods when grasshopper outbreaks began and when they drew to a close is difficult to define, except in the case of the historic invasions and departures of flights of the so-called Rocky Mountain locusts in the earlier years of settlement. These early invasions affected well-advanced crops which were destroyed or badly damaged at somewhat wide intervals of time. In the case of destructive outbreaks of grasshopper species native to Manitoba experienced since the turn of the century, a build-up in numbers occurred gradually and aperiodically with injury to young crops and vegetation in the spring and early summer.

In connection with the historic frequency and intensity of grasshopper infestation, Professor A. V. Mitchener* notes that:

"It is impossible to measure the intensity of the grasshopper population annually throughout the years of recorded outbreaks. During the present century at least, each outbreak began in a relatively small area, which increased in size and density of grasshopper population, and then subsided during the last year of the outbreak. Beginning with 1799 we have records of the presence of grasshoppers in 1800; 1808; 1818-19-20-21; 1857-58; 1864-65-66-67-68-69-1870-71-72-73-74; 1898-99-1900-01-02-03; 1919-20-21-22-23; 1930-31-32-33-34-35; 1937-38-39-40-41-42; 1948-49-50-51-52."

* Mitchener, A.V. - "A History of Grasshopper Outbreaks and Their Control in Manitoba"; Proceedings of the Entomological Society of Manitoba"; 1953 (Page 56).

A minor outbreak also was recorded in 1909-1913, and, subsequently, the 1957 report of the Publications Branch records a limited infestation of grasshoppers on somewhat less than 1,000 farms.

At various times farmers attempted to combat grasshoppers by mechanical devices such as hopper dozers, kerosene burners, plowing to bury the eggs, etc., but it was not until the turn of the century that the Ministry undertook supplying Paris Green to farmers for use in poison bait.

The grasshopper control campaigns conducted under the Provincial Ministry of Agriculture may be considered as falling into several phases.

The first phase (as outlined in Pages 135-137) coincided with the infestation of 1898-1903, when aid was given by the Ministry to the extent of supplying Paris Green.

The second phase coincided with the infestation of 1919-1923 when the Ministry directed control measures and aided by supplying the ingredients used in the preparation of poison bait. (In this campaign, in co-operation with N. Criddle, and from 1919 to 1954, Professor A.V. Mitchener, Entomologist, Agricultural College, served as consultant and carried out experiments to obtain more effective and cheaper bait.)

The policy adopted in the 1919-1923 campaign was the outcome of a meeting held at Napinka in May 1920, at which representatives of the Ministry met with reeves and councillors of municipalities affected, and plans were made to wage a strenuous fight against grasshoppers as a co-operative venture by the provincial and municipal governments and farm operators in affected areas.

Under the agreed policy, the Ministry assumed full cost of bait ingredients (instead of half the cost as initially proposed by the Department) and for delivery of same to convenient points where needed. Each municipality concerned was designated as a unit with the reeve in charge, as local campaign manager, and with each councillor responsible for control details within his respective ward. Each municipality was made responsible for setting up mixing stations for the preparation of the poison bait, for allocation of bait to farmers, and for hiring any help needed in applying poison bait on waste land. Farm operators receiving the poisoned bait were responsible for control measures on their own land and on half of the road allowance adjacent thereto.

Quite early in this campaign it became necessary to set up bait mixing stations. At first baits were mixed on a cement floor with a shovel and then broadcast by hand. During the campaign which began in 1919, a bait mixing machine known as the Manitoba Poison Bait Mixer was designed to be operated by a gasoline engine and constructed at the local mixing stations. These mixers were made from plans largely designed by Professor G.L. Shanks of the Agricultural Engineering Department, M.A.C.

The third phase was developed during the campaign of 1930-35. Systematic grasshopper egg surveys appear to have been initiated in the fall months of 1931 by the outstanding naturalist, Norman Criddle, who was located on the Criddle farm at Treesbank, Manitoba, and who had been appointed Federal Entomologist. Grasshopper egg surveys were continued in later years by R.D. Bird and the staff of the Federal Entomological

Laboratory which was moved to Brandon after Criddle's death. From the findings of the grasshopper egg survey, maps were prepared each year showing the extent and area of grasshopper egg infestation. This endeavor enabled the officers of the Manitoba Ministry of Agriculture to estimate the amount of toxicant and bait ingredients likely to be required in the following season, and to warn the municipalities involved well in advance of the actual outbreak.

To meet the threatened outbreak indicated by the grasshopper egg survey in the fall of 1931, a Manitoba Grasshopper Control Committee was appointed by the Ministry. It was chaired by the Provincial Deputy Minister of Agriculture, and consisted of the officer in charge of the Federal Entomological Laboratory, Brandon; the Professor of Entomology, Agricultural Faculty, University of Manitoba; and a representative of the Manitoba Department of Agriculture, i.e. H.E. Wood, who served as Secretary to the Committee, and as general director of the Manitoba Grasshopper Control campaigns until his retirement in 1956, when he was succeeded by H.A. Craig.

In the meantime, investigations by the entomologists had been carried out to discover cheaper but effective poison baits. As a result, the constituents in the baits used were changed or modified from time to time as further knowledge was acquired which justified the various modifications.

Thus, based on costs, effectiveness, availability and ease of handling, the poisons used changed successively from Paris Green to crude arsenic, liquid sodium arsenite, chlordane and aldrin; the carriers in the poisoned bait changed successively from horse manure to bran, bran and sawdust, flour and sawdust, shorts and sawdust and malt sprouts, all of which were moistened by water; the attractants used in the baits ranged from salt to lemons, blackstrap molasses and amylacetate. Eventually, no attractant was used after it was discovered to be unnecessary.

The extent of the service rendered by the Ministry in grasshopper campaigns is indicated by the fact that at the peak of grasshopper infestation in 1934, 80 of the 117 municipalities in Manitoba were affected. Sixty-five municipalities operated 103 mixing stations, while others received bait from adjacent municipalities. In that year bait ingredients were supplied by the Ministry to the extent of 122 carloads of bran, etc., 254 carloads of sawdust, and 34,242 gallons of liquid sodium arsenite. A total of 13,737 tons of bait was delivered to farmers at a cost to the Ministry of \$102,159.00 and of \$102,160.00 to the municipalities.

The fourth phase in the control of grasshoppers developed during the 1948-1952 campaign when it was discovered that a very effective method of controlling young grasshoppers was to treat young crops with chlordane applied as a liquid spray.

Consequently, although some poison bait was used in 1948, it was superseded by the practice of spraying with chlordane and other chemicals such as aldrin, dieldrin and toxaphene. This was possible as spraying equipment was being introduced rapidly about this time and used in the application of herbicides to field crops in the form of spray.

Thus the policy of grasshopper control adopted by the Ministry was revised from time to time as information and experience were enlarged. A pamphlet designated as Manitoba Department of Agriculture Publication No. 221 was prepared in 1949 and distributed, which outlined the revised policy and stated the respective responsibilities of the Ministry, the municipalities and the farm operator. Under this revised provincial-municipal plan, the Ministry continued to supply the required chemical to the municipalities and to assume the cost of the chemical applied by municipalities to road allowances, as well as two-thirds of the cost of the poison used by municipal sprayers to spray headlands, lanes and pastures on farms. The municipalities were required to appoint a supervisor, to engage a spraying crew, and to spray infested road allowances and waste land. If the municipal sprayer was used for grasshopper control on headlands, fence lines and lanes of farm land, the cost was to be allocated to the Ministry, the municipality and the farmer on a 1/3-1/3-1/3 basis.

Farmers who had suitable equipment were expected to spray their crop land at their own expense, but if in addition to spraying their respective properties they also assumed responsibility for treating the bordering road allowances and vacant land, they could claim a refund of 50 percent of the purchase price of the chemical used up to a maximum of \$30.00 per quarter-section of land; the remaining 50 percent of the purchase cost was to be shared equally by the Province and the municipality.

Under the revised policy the Grasshopper Control Committee continued to alert the municipalities and farmers likely to be involved in control measures, but the responsibility for making spray poisons available to farmers passed from the Ministry to the trade.

Later in the 1925-1959 sub-period an outbreak of grasshoppers was expected. However, the heavy and extensive outbreak expected in 1957 failed to materialize, although some spraying by farmers in local areas was necessary. Apparently the only change in policy at this time was that the amount of refund payable to qualifying farm operators for spraying was limited to \$20.00 per quarter-section.

In 1958-59 the grasshopper control activities of the Ministry were transferred from the Publications Branch back to the Extension Service, to be carried out under the direction of the Extension Entomologist.

(7) EMPLOYMENT SERVICES - 1925 TO 1935, AND 1943 TO 1959

(a) Employment Service of Canada - Manitoba Government Offices, 1925-1935

During the first decade of the 1925-1959 sub-period, the annual reports of the Ministry of Agriculture continued to record the activities of the Manitoba Government offices of the Employment Service of Canada. Prior to this and up to 1918, the annual reports of the Ministry of Agriculture contained a yearly submission prepared and submitted by the Superintendent of Immigration and Colonization, in which references to employment were included with immigration activities (Pages 156-157). In 1915, and for one year only, the report on Immigration and Colonization

was signed as a report on "Immigration and Employment Bureau" by R. Munro, Acting Director. However, in 1918 in his report to the Minister as Superintendent of Immigration and Colonization, J.A. Bowman recorded that "On account of the state of immigration, this office has been largely given over to securing employment, especially in connection with farm work throughout the Province."

Commencing with 1919, there was no further report on immigration and colonization, but in its place J.A. Bowman submitted the first annual report of the Employment Service of Canada - Manitoba Branch, in which he records that:

"In compliance with the Employment Offices Co-ordination Act, the Provincial Government of Manitoba in March, 1919 opened employment offices in Winnipeg, Portage la Prairie, Brandon and Dauphin (and later in St. Boniface), as well as a Provincial Clearing House for employment in Winnipeg. This was done for the purpose of endeavoring to meet any unsatisfied demand for labor or employment by drawing upon any supply within the Province; and when such was not available, by securing labor or employment through the Dominion Clearing House from any surplus in other provinces, and to collect information as to the condition of the labor market. Following this action on June, 1919 the Act to Establish Government Bureaux, assented to March 6th, 1918, was proclaimed and became law. This Act made illegal all employment businesses where fees for securing labor or employment were collected."

He also notes that:

"The service is just being established."

The service thus organized in Manitoba was supervised by J.A. Bowman until 1931, and by J. Neish from 1932 to 1935. During these years, the offices of the Employment Service registered and secured employment for a total of from 50,000 to 70,000 applicants yearly, in such varied categories as:

farm labor, logging, construction and development, mining, manufacturing, married couples, handicap section, boys' section, women's and girls' sections.

In addition to aiding unemployed persons to secure employment, J. Neish, in the last year for which a report of this service was included in the annual report of the Provincial Ministry of Agriculture, records:

"For some years past the Employment Service has provided a regular channel of information for the Federal Department of Immigration and Colonization relative to the availability of labor in Canada as a condition precedent to the admission of workers under contract of employment from outside Canada. The procedure followed by your offices is to endeavor to locate suitable workers through the office in this and then in other provinces, who would be willing to accept the work offered. After a reasonable lapse of time, the Immigration Department is notified of the success or otherwise of the efforts of the Service. Of course, the final decision as to the admission of workers rests with the Department of Immigration, and in this regard the Employment Service is primarily a fact-finding agency."

The work of the Employment Service, however, became profoundly affected by the adverse conditions that prevailed during the decade of drought (Page 304). In the 1932-33 report it was noted that:

"Employment during the year was generally dull, continuing the unfavorable movement, which since its beginning in 1929 has seriously affected the situation, not only in the Province but throughout the entire Dominion. Employment conditions continued to be affected by the unsatisfactory crop marketing situation which had a tremendous bearing on industry in general. . . . All industries were affected to a greater or lesser degree by this dullness of business. Serious curtailment occurred in the pulp and paper and railway industries, resulting in substantial reductions in staff and affecting employees with many years service."

"During part of this period much work was afforded by the Dominion, Provincial and local governments in an effort to combat the prevailing depression. During the year, however, it was decided generally to substitute a policy of direct relief for the unemployed, partly because the field for public works that could be practically and economically carried out was fairly well exhausted." (See also Pages 326-328 re Unemployment and Farm Relief Act.)

In the report for the year 1934-35 it was noted that:

"The maintenance of work camps in place of direct relief for certain classes of unemployed men was instituted on a large scale by the Federal Government during 1933-34, and continued during the year just closed. As before, the Manitoba offices of the Employment Service were nominated to recruit the labor requirements for these camps and were successful in directing 8,600 to these undertakings which, operating concurrently with the camps under the jurisdiction of the Provincial Government Relief Commission, Single Unemployed Men, and the Farm Help Placement Plan, kept the Men's Section of the Winnipeg office extremely busy during the winter months."

In this year, however (1934-35), the total number of placements fell to less than 35,000 persons. Subsequent to this, records of the Employment Service of Canada were no longer included in the annual reports of the Manitoba Ministry of Agriculture.

(b) Provincial Farm Help Service, 1943-1959

With the passing of the decade of drought, the natural and economic conditions improved (Page 274), and with the recovery and rehabilitation of agriculture in the 1940's there developed a revival of demand for farm help. However, due to enlistments, the war of 1939-45 brought about a scarcity of farm labor, so that the government was faced with the problem of assisting farm operators to maintain the war-time production of agricultural produce under the enforced reduction in labor supply. To meet this situation a Provincial Farm Help Service was instituted.

The first reference to this reconstituted type of employment service is contained in the 1943-44 report of the Ministry of Agriculture in which J. McNair, as Acting Director of Farm Help Service, submitted the first report dated September, 1944, stating:

"On May 11th (1943) an agreement (Dominion-Provincial Farm Labor Agreement) between the Dominion Government and the Province of Manitoba was signed (and later renewed annually) which provided certain appropriations on a 50-50 basis to assist the Province in the recruiting of agricultural labor, male and female, suitable for farm work in Manitoba.

"The Province agreed to use as fieldmen, the Department of Agriculture Representatives in various parts of the Province, and in addition to these men, five Farm Help Officers have since been appointed, at Hamiota, Virden, Melita, Deloraine and Shoal Lake. The National Selective Service agreed that managers of

local offices at Selkirk, Brandon, Portage la Prairie, Dauphin, and The Pas would act as Farm Help Officers for the district adjacent to their office."

Application forms were printed and forwarded to all agricultural representatives, grain elevators, and municipal offices, and it is of interest to note that during the season under review in the fourth year of the war,

"1,562 applications for male farm help (exclusive of harvest help) were received and 1,199 placements were made; applications for female help received numbered 124, of which 62 were filled; and 128 applications for married couples were taken and 42 placements made."

Also,

"Throughout the harvest season, 3,162 requests for help were received and this Service, in co-operation with the Dominion Department of Labor, was able to supply 3,075 workers."

The supply of harvest labor in the first year of this Service was obtained from the following sources:

Indians (535 in number); soldiers released for farm labor under Canadian Army Routine Order 3456 (771 in number); eastern harvesters (857 in number); supplemented by workers from South-Eastern Manitoba, by workers released from industrial plants, and office workers and students who spent their vacations on farms.

After harvest the Farm Help Service was called upon to recruit off-season workers to meet a serious labor shortage in the packinghouses and storage plants in Winnipeg, for winter bush work, and also for work in base metal mines and miscellaneous essential industries.

On March 9th, 1945, J. McNair was transferred to the Federal Government Service some seven weeks before the close of the fiscal year. Consequently, the report for the second year of the Farm Help Service, ending April 30th, 1945, was prepared and submitted by H.R. Richardson, who was appointed Director of this Service, and who continued to serve in that capacity until his retirement. This event coincided with the reorganization of the Department in 1959-60 when the Farm Help Service was incorporated into the Extension Service Branch as a Farm Labor Section of Agricultural Services.

The second year's work of the Farm Help Service (as outlined by H.R. Richardson in his report for 1944-45 - the last year of the 1939-45 war - was also concerned largely with the recruiting of manpower and transporting the laborers available to points where they were most urgently needed for farm work and other essential war-time industries. The various services recorded by Richardson for the 1944-45 fiscal year may be enumerated as:

- (i) securing men to assist in the unloading of grain at Fort William and Port Arthur;
- (ii) dealing with 1,421 applications for general farm help, of which 1,305 were filled;

- (iii) attempting to obtain men to help with haying on Ontario farms - only 54 were secured;
- (iv) securing large numbers of boys and girls to assist with row crops grown on market gardens;
- (v) attempting to secure girls for domestic work on farms - only 45 however were obtained;
- (vi) consulting with chiefs and councillors on Indian Reserves in an effort to obtain men for harvest work - 603 men from this source were secured;
- (vii) Co-operating with Canadian Army officials in connection with 2,500 soldiers granted harvest leave, and with 523 others who performed 16,655 days of work under a Farm Duty Plan supervised by their own officers and N.C.O.'s;
- (viii) placing 1,029 workers recruited in Ontario for harvest work in Manitoba;
- (ix) arranging for 150 Farm Duty soldiers to assist in harvesting sugar beets;
- (x) urging industrial companies to give employees leave of absence wherever possible in order to assist in farm work;
- (xi) organizing and supplying transportation for stooking brigades in the harvest season; and
- (xii) recruiting farm labor after harvest for packing plants, base metal mines, pulp and lumbering industry.

In addition, the Minister negotiated with federal authorities to secure the services of prisoners-of-war for work in the beet growing industry in the 1945 season. For this purpose hostels were provided for accommodation of the workers, 650 of whom were employed during the growing season and 930 during beet harvesting operations.

Following the cessation of hostilities, the labor situation and the activities of the Farm Help Service were profoundly affected on the one hand by the cancellation of military call-up, the return and discharge of veterans, the inflow of displaced persons and of selected immigrants sponsored by church and charitable organizations, and a general revival of activities in connection with immigration; and on the other hand by a reduction in the number of harvesters required from the eastern provinces as the result of the increase in provincial labor available and the rapidly increasing use of combine harvesters on western grain farms.

Nevertheless, the Farm Help Service continued to be involved not only in general farm labor requirements but also in locating labor in connection with special crops, especially in the sugar beet growing industry in Manitoba, and in the entry and return of Canadian labor (including an increasing number of Indians) as potato pickers in North Dakota. Arrangements also were made in certain years for the movement of Manitoba farm-owned combines into the Northern States on a temporary basis to assist in harvesting grain crops which matured before Manitoba grown crops; and later in the season for the entry, under temporary permit, of a limited number of American owned combines into the Province to assist in the grain harvest.

However, as readjustments and rehabilitation progressed, the work of the Farm Help Service became more and more of a routine nature that could be handled by a smaller staff; and as noted above, and subsequent to 1959-60, an Agricultural Services section of the Extension Service Branch, together with the Agricultural Representatives who served as liaison agents, were detailed to take over and to continue the work of farm help placements.

(8) CO-OPERATIVE SERVICES BRANCH - 1949 TO 1959

The Co-operative Services Branch was added to the Department of Agriculture on April 1st, 1949. "Prior to this date the Registrar of Co-operative Associations carried out his duties and responsibilities under the Companies Act and the Credit Unions Act entirely separate from the Supervision of Credit Unions." This newly formed Co-operative Services Branch was organized, under a Director, to supervise and amalgamate the registration of co-operative associations and credit union societies; to supervise and audit credit unions; to assemble statistics respecting co-operatives and credit unions; and in general, to advise those wishing to organize new co-operatives, and to give guidance regarding the proper operation of co-operative organizations.

(a) Personnel

Prior to the establishment of the Co-operative Services Branch, J.P. Grant, and later John W. Ward, served as the current Registrar of Co-operative Societies. Ward retired in 1949, and with the establishment of Co-operative Services as a departmental branch in 1949-50, R.D. Chase was appointed Director of the Branch and Registrar of Co-operative Associations. In 1957-58 he was given the additional duty of Secretary, Manitoba Marketing Board.

P.A. Frossais served as Supervisor of Credit Unions from 1943, and continued as Chief Supervisor from 1950 until he retired in 1965 after 23 years service. Assistant Supervisors of Credit Unions were added from time to time including: H.M. McCallum, 1950-51 to 1957-58; and J.A. Rolfe in 1952, F.J.C. Lane in 1956, L.S. Abbott in 1957, and R.W. Banks in 1958. The latter four men continued together as a team on into the succeeding period.

(b) Co-operatives

The first co-operative Act in Manitoba appears to have been an Act Respecting Co-operative Associations (S.M. 1887, Chap. 12). "Under this Act a group of seven or more persons could become a corporate body by making out a certificate in the form provided by the Act, and filing it with the Registrar of the Registration Division in which the business was to be carried on, along with a copy of the by-laws or rules and regulations of the association."

This legislation was replaced by The Co-operative Associations Act (S.M. 1916, Chap. 23), which provided for a Provincial Registrar of

Co-operative Associations (Pages 179-180). This 1916 statute was replaced by a revised Act in 1925, in which provision was made for marketing contacts between a co-operative and its members.

Under the Companies Act, which came into force in 1932, the Co-operative Associations Act was removed from the statutes of Manitoba, and most of its provisions were incorporated as Part VI - Co-operative Corporations - of the Companies Act. Under this Act co-operative associations (in common with all corporations doing business in Manitoba) were required to be registered in the office of the Provincial Secretary instead of (as formerly) with the Registrar of Co-operative Associations. However, although the Companies Act provided for incorporation of co-operatives by letters patent issued by the Provincial Secretary - and notwithstanding the repeal of the Co-operative Associations Act - the office of the Registrar of Co-operative Associations was continued under the Ministry of Agriculture.

The duties of the Registrar at that time were defined in substantially the same terms as formerly, and it was provided further that "no co-operative corporation shall be created under Part VI without the approval of the Registrar, nor shall any by-law be filed in the office of the Provincial Secretary until the Registrar approves thereof, and a copy thereof is filed with him."*

(c) Credit Unions

Credit union legislation was first written into the Statutes of Manitoba in 1937, and in 1943 the Credit Union Federation was established by Order-in-Council. However, the Credit Union Act of 1946 replaced Part VIII of The Companies Act, and under the Credit Union Act of 1946, credit unions returns were now required to be submitted to the Supervisor of Credit Unions instead of to the Provincial Secretary.

(d) Amalgamation of Co-operative Associations and Credit Union Services

As noted above, the administrative services provided in respect of co-operative associations and credit unions were amalgamated under the Co-operative Services Branch of the Ministry of Agriculture in 1949. In the following year the Co-operative Credit Society of Manitoba, Limited, was formed under a special Act. This society, which was owned and controlled by the Co-operatives and Credit Unions, operated as the centre of the organized credit union movement. It replaced both the Manitoba Central Credit Union Society Limited, and the Credit Union Federation of Manitoba.

In 1951-52 the Companies Act was amended. The Provincial Secretary's approval of applications from co-operative associations for letters patent was thereby withdrawn, and thereafter the approval of co-operative associations was left solely to the discretion of the Registrar. Furthermore, by

* Annual Report - Department of Agriculture, 1932-33.

amendment to the Companies Act in 1956-57, all co-operatives were required to make returns to the Registrar of Co-operative Services instead of, as formerly, to the Provincial Secretary.

(e) Activities Involved, 1949-1959

(i) Co-operative Projects

The various co-operative associations were organized to carry on many different classes of enterprise, including:

Marketing co-operatives classified as:

Grain and Seed, Dairy Products (eggs and poultry), Cheese Factories, Hatcheries, Produce, Vegetable Oils, Cannery, Honey, and Livestock Co-operatives;

Merchandising co-operatives classified as:

Consumer Co-ops, Machinery, Miscellaneous (including Trucking), and Consumer Wholesale Co-operatives; and

Non-commercial organizations such as:

Community Halls, Skating and Curling Rinks, and Sports Co-operatives.

From 1949 to 1959 the total number of co-operative associations are recorded by the Director as:

1949 - 377	1953 - 432	1957 - 415
1950 - 396	1954 - 426	1958 - 414
1951 - 417	1955 - 413	1959 - 414
1952 - 432	1956 - 416	

These figures show a substantial rise over the number of co-operative associations in existence in 1927-28, which were recorded in the annual report as 216, but which were increased to 287 in 1928-29.

(ii) Credit Union Projects

The credit unions were organized to provide loans for financing a variety of enterprises which were classified as loans for:

land payments (including mortgages); buildings and improvements; farm machinery and repairs; automobiles, trucks and accessories; livestock and feed; seed grain and seeding supplies; harvest and threshing; investment (Victory Bonds); furniture and clothing; taxes and rent; insurance; fuel; hospital, medical and dental; education; vacation; consolidation of debts; business supplies, equipment, etc.; and miscellaneous.

The numbers of credit unions recorded as incorporated and active by the Director in the years 1949 to 1959 may be listed as:

	Incorporated	Active		Incorporated	Active
1949	146	126	1955	228	184
1950	160	135	1956	240	192
1951	170	141	1957	259	209
1952	188	158	1958	276	218
1953	200	162	1959	286	226
1954	210	172			

The number of members increased from 20,022 in 1946 (when the new Credit Unions Act came into force) to 83,419 in 1959; and the number of loans made by the credit unions increased yearly from 5,425 in 1946 to 17,935 in 1951, and then continued to increase in succeeding years as follows:

1951 - 17,935	1954 - 29,196	1957 - 35,307
1952 - 18,404	1955 - 30,142	1958 - 39,219
1953 - 24,002	1956 - 32,975	1959 - 43,320

(iii) Educational Activities

The educational work carried on by members of the Co-operative Services Branch included the holding of one day schools, the distribution of bookkeeping manuals, credit union handbooks, verification notices for supervisory committees, and copies of the legislative acts controlling co-operatives and credit unions.

(f) Marketing Board

The Manitoba Marketing Board was reorganized in 1957, and under regulations of the Natural Products Marketing Act of 1957, the current Manitoba Marketing Board was established, consisting of F.H. Downing, Chairman; Dr. Sol Sinclair; and A. Wilson, each of whom was appointed for a three year term. R.D. Chase was appointed by Order-in-Council to act as Secretary to this Board.

In the annual report of the Co-operative Services Branch for 1957-58, the Director, as Secretary of the Board, records that the Manitoba Marketing Board investigated a proposed Vegetable Marketing Plan and submitted same to a vote of the producers. The returns showed 55.23 percent in favor and 44.77 percent against the Plan, and as the vote in favor was less than the 60 percent required, the referendum failed to carry.

The annual report for 1957-58 records that the Manitoba Honey Marketing Board (which was established by regulation in 1953) was the only marketing board operating in the Province under the Natural Products Marketing Act at that time.

(9) DEBT ADJUSTMENT BOARD - 1930 TO 1959

Provision for the orderly retirement of debts (which was introduced as a temporary measure in 1930 in an attempt on the part of the Ministry to avoid abandonment of farms, and of undue family hardship, threatened by the prevailing adverse economic conditions at the time (Pages 328-329)) was

established as a continuing measure throughout the remainder of the 1925-1959 sub-period under the revised Debt Adjustment Act of 1932 and its amendments: and continued thereafter until finally repealed by Chapter 21 of the Statutes of Manitoba, 1963.

For some 16 years after the retirement of Commissioner G.S. Rutherford in 1940, routine annual reports of the activities of the Debt Adjustment Board were submitted by a successive series of Assistant Commissioners, i.e.:

John Easton, 1940-41; G.E. Brennan, 1941-42 to 1942-43; John Easton, 1943-44 to 1947-48; A.S. Binns, 1948-49; and D.W. Grant, 1949-50 to 1955-56.

The later reports of these assistant commissioners refer to a decreasing volume of work handled as the years progressed. However, from 1956 until the Act was repealed, the annual reports of the Board were submitted by H.A. Craig, who in addition to his other numerous duties served during these years as Debt Adjustment Commissioner.

(10) SUPPORT OF AGRICULTURAL RESEARCH - 1925 TO 1959

When the responsibility for the Agricultural College as a teaching institution was transferred from the Ministry of Agriculture to the University of Manitoba, and agricultural extension activities were retained and administered as a branch of the Department of Agriculture, the research-oriented members of the Agricultural Faculty continued, and in effect became recognized, as the research arm of the Ministry (Page 293).

As noted in the sections of this treatise dealing with the activities of the Extension Service and of the Soils and Crops Branch, various pioneer (but, at the time, important) experimental projects and field trials were undertaken or supervised by the respective agricultural extension specialists in these two branches of the Ministry. At first the experimental activities of these specialists were carried out directly with farmer co-operators, but later, after district agricultural offices were established, they were conducted invariably with the co-operation and assistance of the agricultural representatives. The contributions thereby made to agriculture in Manitoba should not be overlooked or disparaged.

The more fundamental phases of agricultural research, however, were relegated to research-oriented members of the Faculty of Agriculture, but it may be noted that the research projects supported by the Ministry of Agriculture were relatively limited in the earlier years of the 1925-1959 sub-period. This was due, in part, to the scarcity of funds, and in part to limited personnel. Nevertheless, as the years progressed more money was available and more research members were added to the Faculty, with the result that more and more agricultural research was undertaken in more and more departments.

The co-operative approach to agricultural research between the Department of Agriculture and the Faculty of Agriculture had various beginnings. In the case of agronomy and soils, specific grants were provided by the Ministry to sustain or enlarge projects already under way, and also, as

circumstances arose, for new projects for which aid was solicited by individual workers.

In other cases, members of the Faculty were requested or commissioned by the Ministry to undertake investigations or surveys to secure information currently required by the government. Other experimental projects were the outcome of a co-operative approach to find the solution of a particular problem or problems through investigations conducted by a member or a department of the Faculty but financed jointly by Provincial and Dominion Departments of Agriculture and the University.

The results of the research projects financed by the Ministry of Agriculture, but carried out by members of the Faculty of Agriculture and the assistants provided, were variously reported by the individual research workers in annual reports to the Minister, in bulletins, in scientific and technical papers, and in some cases, in later years, in theses submitted by graduate students.

In 1954, however, and in subsequent years, the research work supported by the Ministry had expanded to the point that a composite "Annual Progress Report on Agricultural Research and Experimentation" was prepared as a publication. In the sixth annual report of this document submitted by the Dean of Agriculture to the Minister in 1959, attention was drawn to "one hundred or more projects listed (and outlined) in this publication undertaken (with the support of the Ministry of Agriculture) in the many areas of agriculture this past year."

Also, during the last six years of this sub-period, additional facilities for research were provided by the Ministry; including two grants in 1955 (i.e. a grant from the Horned Cattle Purchase Fund of the Department to equip an Animal Nutrition Research Laboratory, and another grant to provide a Loose Housing Dairy Barn at the university); and in the next three years, four new greenhouses and a growth control chamber were provided on the Fort Garry site together with a Quality Research Laboratory with additional staff to enlarge agronomic research in the Department of Plant Science.

III. AGRICULTURAL DEVELOPMENT IN MANITOBA DURING THE 1925-1959 SUB-PERIOD

As in the case of former periods and sub-periods, the data presented in the annual crop reporting bulletins of the Ministry, supplemented by census data, may be used to indicate the progress of agriculture during the 1925-1959 sub-period.

In this connection, however, it is essential to keep in mind the adverse pressures to which the Province was subjected during the first portion of this sub-period, i.e. the depression which followed World War I; the recurring epidemics of wheat rust; the "decade of drought"; and the effects brought about following the outbreak of World War II. Consequently, although there was a twenty-five percent overall increase in total area in farms and in farm land under cultivation, agricultural progress during the first portion of the sub-period - unlike that of the latter portion - was far from being uniformly progressive.

There was also an overall increase in total population in Manitoba of around 260 thousand persons during this sub-period but, as in the case of farm acreage, the rate of increase was not constant. For the first six years population increase was at the rate of approximately eleven thousand per year, for the next 15 years the average rate of increase was less than two thousand per year, whereas during the last 13 years of the sub-period there was a fairly uniform rate of annual increase averaging between 12 and 13 thousand persons.

In respect of land devoted to agriculture, census data show that the total area of land held as farms increased from approximately 14.4 million acres in 1926 to 18.1 million acres in 1961, or at an overall average increase in rate of approximately 125,000 acres per year. Consequently, the average yearly increase in farm acreage during the 1925-1959 sub-period was only half that of the average yearly increase in farm land during the preceding or M.A.C. Sub-Period (1906-1924). This reflects a slowing down in the rate of agricultural development as it extended from the prairie and aspen grove region onto undeveloped lands in the forested region.

The number and size of farms in Manitoba, however, as indicated by the quinquennial census, show that an important historical change was taking place during the latter half of the 1925-1959 sub-period. Whereas the total number of farms continued to increase from 53,251 in 1926 to 58,024 in 1941, the number of farms then showed a successive and continuing decrease in number with each successive census down to 43,306 in 1961, followed by a further decrease to a total of 39,747 farms in 1966.

The number and size-class of farms in Manitoba for the census years 1926 to 1966 are shown in Table 59, the figures of which indicate that although the number of larger farms increased and smaller sized holdings decreased, the number of one-half to three-quarter section farms continued to persist throughout the 1925-1959 sub-period. This size-class of farm holding does not appear to have been seriously affected until the following period in the 1960's.

The movement involving the enlargement in size with decrease in number of Manitoba farms was not necessarily of the farmer's own making, but was the result, in large measure, of progressive mechanization and an increase in size of new tillage, seeding and harvesting machines introduced by manufacturers to enlarge their trade. Subsequently, many farm operators, who because of difficulty in obtaining suitable machinery replacements were obliged to purchase machines too large for their respective holdings, were faced with the problem of obtaining additional land to fit the new machines, and of reorganizing farm operations accordingly.

Large grain farms were by no means a new venture in Manitoba. A number of colonization and land companies, investors and speculators operated "bonanza farms" up to 10,000 and more acres in size during the boom years of immigration and railway building when land on the prairies could be obtained from the Dominion government at relatively little cost. Some of these were in operation in the Red River Valley in the M.A.C. Sub-Period, but most of them failed to survive the depression years. Their common lot was to be broken into smaller holdings and sold at enhanced prices to less pretentious operators.

TABLE 59.

NUMBER OF MANITOBA FARMS BY CENSUS YEARS AND
BY SIZE-CLASSES - 1926 to 1966

Census Year	1-50 Acres	51-100 Acres	101-200 Acres	201-299 Acres	300-479 Acres	480-639 Acres	640-959 Acres	960-1,279 Acres	1,280+ Acres	Total
1926	4,318	2,895	20,790	(---)	23,240	(---)	2,008	(---)		53,251
1931	4,612	3,121	19,958	3,187	13,644	4,972	3,754	(--- 951 ---)		54,199
1936	5,267	3,759	21,208	3,505	14,334	4,991	3,768	643	299	57,774
1941	4,988	3,830	20,013	3,704	14,410	5,502	4,248	883	446	58,024
1946	4,276	3,331	16,709	3,837	14,845	5,722	4,402	900	426	54,448
1951	4,175	2,555	13,336	4,138	15,198	6,294	4,919	1,150	618	52,383
1956	3,589	2,270	11,090	3,855	14,268	6,685	5,439	1,279	726	49,201
1961	2,324	1,698	8,242	3,510	12,484	6,522	5,843	1,622	1,061	43,306
1966	2,384	1,509	6,232	2,833	10,628	6,069	6,366	2,108	1,618	39,747

The use of farm lands under cultivation during the 1925-1959 sub-period is indicated by the acreages of farm crops recorded in the annual crop reporting bulletins of the Ministry. From this source the various classes of farm crops and the total area of cultivated farm land, by years, have been compiled and are presented here as acreage and as percentage figures in Table 60. The total farm land under cultivation, by years, during the 1925-1959 sub-period also is shown for comparison in graphic form as Figure 6, together with graphs of the cultivated farm acreage in preceding periods and in the period immediately following.

Except for a marked reduction in cultivated acreage in seven years of the "decade of drought", interruptions and regressions in the overall trend of cultivated farm acreage to increase, during the 1925-1959 sub-period, appear to have been influenced by above average precipitation which adversely affected field operations during the fall and growing seasons. According to Strange* the average precipitation for the fall and growing seasons in Manitoba for 69 years (1885 to 1954) was 13.69 inches. The precipitation for the comparable seasons in the years which show reduction in cultivated acreage (other than in the drought period) is given as:

1927 - 19.83"; 1941 - 16.54"; 1942 - 17.50";
1947 - 18.33"; 1948 - 18.15"; and 1950 - 17.30";
or an excess above the long time mean of 6.14";
2.85"; 3.81"; 4.64"; 4.46"; and 3.61" respectively.

These observations suggest that the total cultivated acreage on Manitoba farms, during the 1925-1959 sub-period at least, may have been influenced more by adverse weather (wet and dry seasons) rather than by economic factors (Page 275).

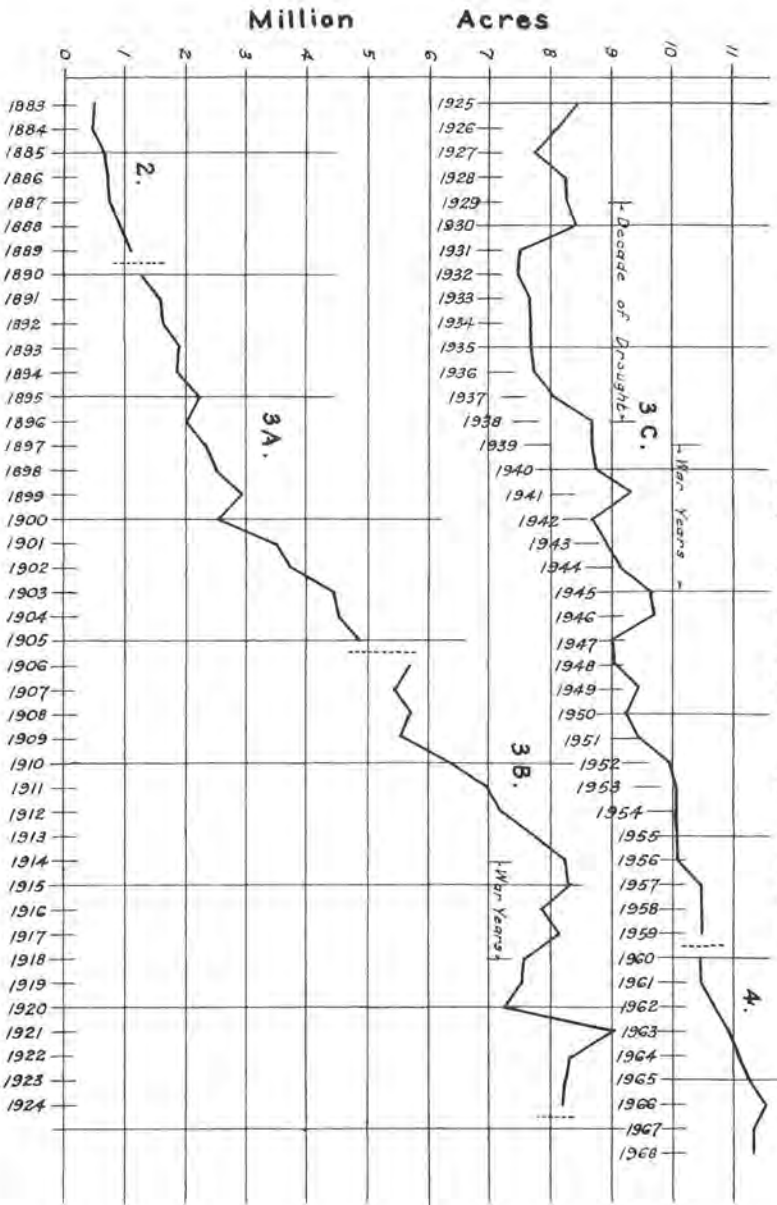
As shown by the percentages of the different classes of farm crops in Table 60, the fallow-grain system of agriculture still continued to be the dominant type of arable land use practised on Manitoba farms, although an overall, but widely fluctuating and limited, increase in soil improvement crops (grasses and legumes) for hay and pasture is apparent. The most significant fact revealed by these data is the changing ratio of fallow to grain, and this also may have some relationship to adverse weather conditions combined with the practice of late seeding adopted by many operators for weed control.

Wheat, which had fallen to around 1/3 to 2/5 of the grain acreage at the beginning of the 1925-1959 sub-period, increased to around 50 percent of the grain acreage in the late 1930's following the introduction of new rust-resisting varieties (Table 61). However, the wheat acreage again decreased and fluctuated following the introduction in 1941 to 1947 of the "authorized acreage" delivery quota system of controlled marketing. After a two year period when grain delivery quotas were not applied in Manitoba,

* Strange, H.G.L. - "A Short History of Prairie Agriculture"; Searle Grain Co. Ltd., 1954; Appendix V.

TABLE 60. CULTIVATED FARM ACREAGE, AND THE CLASSES OF CROPS IN ACRES AND PERCENT GROWN IN MANITOBA BY YEARS - 1925 to 1959

Year	Grain Crops		Grasses,Clovers and Alfalfa		Intertilled Crops		Fallow		Total Cult. Acreage (000)
	Acres (000)	Per-cent	Acres (000)	Per-cent	Acres (000)	Per-cent	Acres (000)	Per-cent	
1925	6,542	77.6	350	4.2	79	.9	1,456	17.3	8,427
1926	6,145	75.9	355	4.4	68	.9	1,524	18.8	8,092
1927	5,529	70.9	391	5.0	55	.7	1,821	23.4	7,796
1928	6,280	75.9	411	5.0	60	.7	1,519	18.4	8,270
1929	6,208	74.7	432	5.2	54	.7	1,617	19.4	8,311
1930	6,295	74.7	449	5.3	59	.7	1,621	19.3	8,424
1931	5,349	70.5	306	4.0	62	.8	1,873	24.7	7,590
1932	5,353	70.4	464	6.1	51	.7	1,732	22.8	7,600
1933	5,321	69.1	570	7.4	77	1.0	1,735	22.5	7,703
1934	5,263	68.2	614	7.9	130	1.7	1,711	22.2	7,718
1935	5,296	68.5	551	7.1	116	1.5	1,773	22.9	7,736
1936	5,590	71.7	394	5.0	71	.9	1,748	22.4	7,803
1937	5,881	72.1	440	5.4	103	1.3	1,726	21.2	8,150
1938	6,290	72.1	510	5.9	107	1.2	1,814	20.8	8,721
1939	6,206	70.7	542	6.2	156	1.8	1,868	21.3	8,772
1940	6,342	70.9	601	6.7	180	2.0	1,820	20.4	8,943
1941	6,474	68.9	684	7.3	234	2.5	2,000	21.3	9,392
1942	5,939	67.9	622	7.1	196	2.2	1,990	22.8	8,747
1943	6,052	67.7	675	7.6	145	1.6	2,059	23.1	8,931
1944	6,550	71.2	686	7.5	115	1.2	1,845	20.1	9,196
1945	6,344	65.9	734	7.6	90	1.0	2,452	25.5	9,620
1946	6,756	69.4	872	9.0	86	.9	2,016	20.7	9,730
1947	6,431	70.9	365	4.0	86	1.0	2,187	24.1	9,069
1948	6,637	72.5	372	4.0	90	1.0	2,056	22.5	9,155
1949	6,774	71.7	381	4.0	143	1.5	2,156	22.8	9,454
1950	6,122	66.1	465	5.0	123	1.3	2,560	27.6	9,270
1951	6,848	72.3	468	4.9	98	1.0	2,063	21.8	9,477
1952	6,863	68.0	475	4.7	78	.8	2,669	26.5	10,085
1953	6,678	66.3	470	4.7	80	.8	2,845	28.2	10,073
1954	6,363	63.3	486	4.8	99	1.0	3,100	30.9	10,048
1955	6,250	62.2	574	5.7	85	.9	3,140	31.2	10,049
1956	6,723	66.5	623	6.2	108	1.1	2,648	26.2	10,102
1957	6,747	63.9	772	7.3	102	1.0	2,934	27.8	10,555
1958	6,542	62.2	826	7.8	125	1.2	3,032	28.8	10,525
1959	6,605	62.8	847	8.1	98	.9	2,971	28.2	10,521
Means		69.5		5.9		1.2		23.4	



MANITOBA - FARM LAND UNDER CULTIVATION BY PERIODS
 1. - Unrecorded 2. - 1883-1889 3A. - 1890-1905 3B. - 1906-1924
 3C. - 1925-1959 4. - 1959 +

FIGURE 6

TABLE 61. RELATIVE PERCENTAGE OF TOTAL GRAIN ACREAGE
SOWN TO WHEAT, OATS, BARLEY, FLAX, RYE AND
MIXED GRAIN IN MANITOBA - 1925 to 1959

Year	Wheat	Oats	Barley	Flax	Rye	Mixed Grains
1925	34.1	29.5	28.8	2.4	5.0	0.2
1926	37.3	26.9	28.7	3.2	3.7	0.2
1927	39.8	28.0	27.4	2.2	2.5	0.1
1928	42.4	23.3	30.9	1.3	1.9	0.2
1929	37.1	25.1	35.2	1.0	1.4	0.2
1930	39.3	25.3	31.6	1.8	1.8	0.2
1931	48.3	28.0	20.8	1.8	0.9	0.2
1932	49.6	27.4	21.0	0.9	0.8	0.3
1933	47.8	28.3	22.1	0.4	0.8	0.6
1934	48.2	27.8	21.4	0.5	1.7	0.4
1935	48.9	27.1	21.2	0.3	2.0	0.5
1936	46.0	25.8	24.8	1.6	1.6	0.2
1937	48.9	24.0	23.7	0.7	2.3	0.4
1938	50.7	23.3	21.6	0.7	3.2	0.5
1939	51.7	22.2	21.7	1.1	2.9	0.4
1940	55.5	20.4	19.8	1.4	2.5	0.4
1941	42.3	25.1	25.9	3.0	3.2	0.5
1942	32.8	25.2	34.4	3.9	3.1	0.6
1943	27.4	27.2	39.1	4.7	0.9	0.7
1944	38.6	24.8	32.7	2.6	0.7	0.6
1945	33.9	27.0	34.0	4.1	0.4	0.6
1946	42.2	23.8	28.1	5.1	0.4	0.4
1947	39.1	21.6	29.8	8.7	0.6	0.2
1948	36.2	22.5	23.3	16.1	1.7	0.2
1949	46.8	25.2	25.1	2.0	0.7	0.2
1950	39.0	26.4	28.1	4.9	1.3	0.3
1951	35.1	25.5	29.8	8.7	0.6	0.3
1952	34.7	23.6	31.7	8.7	0.8	0.5
1953	33.3	21.3	35.7	7.6	1.6	0.5
1954	32.2	23.9	34.9	7.0	1.4	0.6
1955	31.5	24.0	33.8	8.6	1.3	0.8
1956	31.2	29.4	25.2	12.1	0.9	1.2
1957	31.9	27.2	25.7	13.0	1.1	1.1
1958	36.7	26.6	24.7	9.2	1.1	1.7
1959	39.8	26.5	20.7	9.6	1.2	2.2

delivery quotas were again enforced on the basis of "seeded acreage" and "specified acreage". However, quotas were variously applied not only to wheat but also to other grains which at times were under no restriction and at other times were restricted to the delivery of a varying maximum number of bushels per "specified acreage".*

The variations in the relative acreage of the respective cash grain crops in the last half of the 1925-1959 sub-period appear to have been influenced by economic factors and by attempts on the part of farm operators to adjust to the grain marketing regulations of the Canadian Government. Furthermore, restriction of the free movement of grain from farm to market, which in time caused periodic piling-up and carryover of grain on farms, affected different types of farms to a different degree. To this problem was added another variable, namely, the varying annual production which was determined by the annual yields per acre as well as by the respective acreages involved. In this connection, the Provincial annual mean yields per acre of wheat, oats, barley, flax, rye and mixed grains for the years 1925 to 1959 are presented for reference in Table 62, which shows that, subsequent to the introduction of the delivery quota system of marketing through the Canadian Wheat Board, the provincial annual mean yield of wheat ranged from 12.8 to 27.5 bushels per acre; that of oats from 23.8 to 47.3 bushels per acre; that of barley from 17.9 to 36.6 bushels per acre; and that of flax from 4.0 to 10.8 bushels per acre.

It also became apparent, that although the last portion of the 1925-1959 sub-period may be designated as the golden age of agriculture in Manitoba (Page 274), the grain growing system of land use - which developed in the prairie and aspen grove regions because export markets had in times past provided an unrestricted outlet for grain grown as surplus over domestic requirements - was now to be profoundly influenced and dependent on federally negotiated international trade agreements and subject to restrictions of varying grain delivery quotas aperiodically established and enforced by the Canadian Wheat Board under authority of the Federal Wheat Board Act. During the years the quota system of grain delivery and the control of transport from elevators to sea board operated in the latter portion of the 1925-1959 sub-period, the world requirements of grain, and the storage facilities for grain surplus to export sales (such as the annex buildings added to country elevators, etc.), favored the operation of the delivery quota system to the extent that it did not seriously detract from the agricultural prosperity enjoyed in the 1940's and 1950's. However, before the end of the succeeding decade of the 1960's an enlarged world wheat supply, and a falling-off of export requirements, forced the Wheat Board to reduce delivery quotas, at times, to a point so low that specialized grain farms, dependent solely on grain sales for income, were thrown into confusion and threatened with stagnation and bankruptcy.

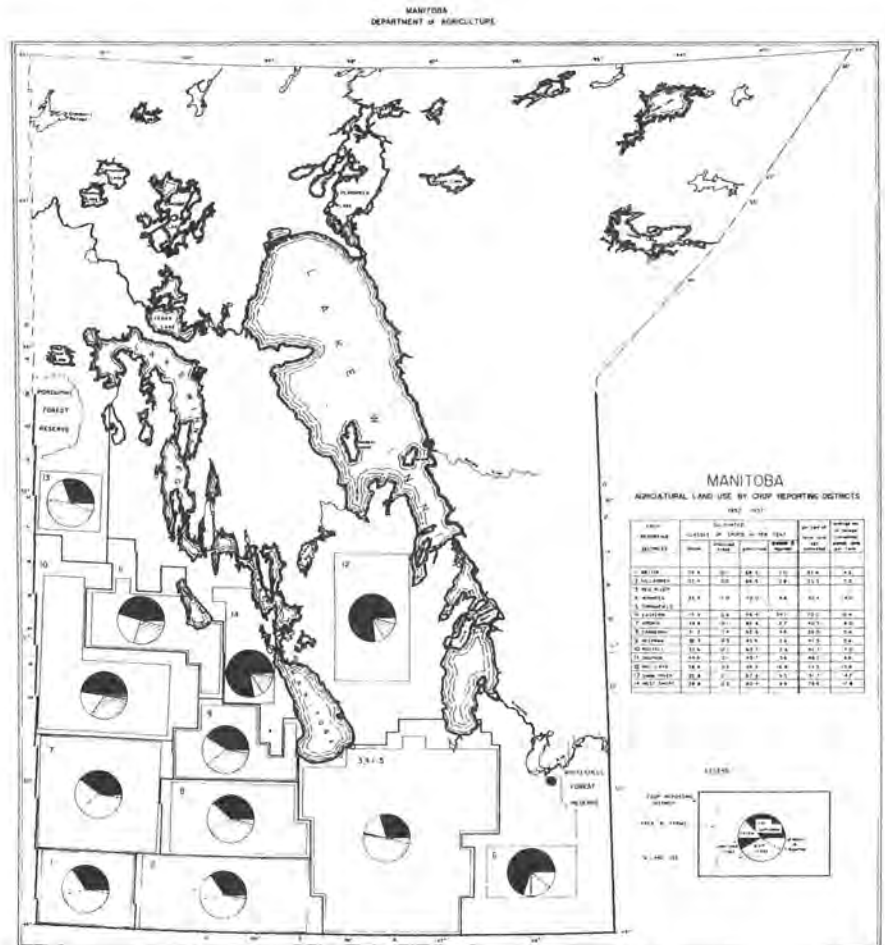
The 1925-1959 sub-period was one of striking changes in respect of livestock on Manitoba farms. These changes are reflected in the total

* Presentation of U.G.G. Ltd. to the Box Car Inquiry conducted by John Braeken, Esq., Winnipeg, Manitoba; 1958.

TABLE 62. ANNUAL MEAN YIELDS OF WHEAT, OATS, BARLEY,
 FLAX, RYE AND MIXED GRAIN IN MANITOBA -
 1925 to 1959
 (EXPRESSED IN BUSHELS PER ACRE)

Year	Wheat	Oats	Barley	Flax	Rye		Mixed Grains
					Fall	Spring	
1925	17.7	30.9	23.8	9.5	15.7	15.3	28.6
1926	22.6	31.9	28.9	10.5	15.9	15.0	30.1
1927	14.0	16.7	24.3	9.8	16.9	13.2	22.2
1928	19.7	36.6	27.1	9.8	17.3	16.5	24.2
1929	12.4	19.7	16.7	7.1	16.6	12.4	19.1
1930	17.7	31.8	25.1	6.5	18.6	17.0	23.9
1931	10.7	16.8	13.6	3.5	14.2	11.8	20.5
1932	16.6	25.2	17.8	4.9	13.8	13.8	22.1
1933	12.9	19.6	14.4	5.4	12.5	13.0	17.0
1934	14.6	18.3	15.4	7.0	13.1	12.1	16.5
1935	9.0	21.4	20.6	9.2	17.3	14.2	18.5
1936	10.2	14.0	13.3	4.7	10.8		15.5
1937	15.7	30.5	25.0	9.7	18.2		26.3
1938	15.7	28.0	22.9	7.0	15.8		21.0
1939	19.2	25.1	20.8	6.0	11.2		23.0
1940	18.9	25.5	21.9	8.9	14.1		19.5
1941	20.7	31.9	26.1	8.1	16.0		26.0
1942	27.5	47.3	36.6	8.8	19.6		35.0
1943	24.8	38.6	29.0	9.9	15.0		31.0
1944	21.9	37.8	25.8	10.6	13.8		27.7
1945	19.2	32.1	24.5	10.8	14.6		25.0
1946	23.0	34.7	25.3	9.8	16.4		30.0
1947	16.8	28.2	17.9	9.4	15.0		23.0
1948	23.0	40.2	29.2	9.4	17.0		29.4
1949	18.0	31.1	23.5	8.2	16.3		27.0
1950	21.0	43.5	32.0	9.7	15.8		35.0
1951	22.8	35.3	27.5	7.6	15.8		32.0
1952	24.1	40.3	32.8	9.6	16.9		32.8
1953	20.8	37.5	25.8	9.0	20.3		33.4
1954	12.8	23.8	20.0	9.0	17.2		25.7
1955	21.0	33.7	19.1	8.7	19.7		26.0
1956	25.6	45.0	26.9	10.1	16.1		35.0
1957	21.3	32.2	19.4	4.0	16.5		27.7
1958	24.6	35.1	27.8	8.6	16.8		30.6
1959	23.1	35.3	25.9	8.0	20.0		30.8

MAP VII



Extent of agricultural development in Manitoba as indicated by the area of land in farms, the classes of crops grown, and the percent of farmland not cultivated, averaged for the five years 1952 to 1957.

number of horses, milk cows, other cattle, sheep and swine, as recorded by years in the annual crop reporting bulletins of the Provincial Department of Agriculture* for the years 1925 to 1959 and reproduced here in Table 63, together with the calculated number of the various classes of livestock per 100 acres of cultivated farm land. For purposes of comparison with the area of farm land (which, as already noted, increased during this sub-period by 25 percent) the livestock data shown in Table 63 have been calculated as the average number of each class of livestock per farm (i.e. total numbers divided by the number of farms) and presented in Table 64.

Because of the apparent erratic variation in some of the data thus recorded, the information in respect of farm livestock during this sub-period has been arranged in graphic form and presented as Figures 7, 8, 9 and 10, to show more clearly the correlation between cause and effect.

Figure 7 shows that the horse population in Manitoba began to decrease slightly in the 1930's and then to decline rapidly in the mid-1940's, and to continue to decline progressively in the latter portion of the sub-period. Thus the ratio of horses to cultivated acreage fell from a peak point of 5.1 horses per 100 acres of cultivated farm land in 1917 (Page 270) and between 4 to 5 horses in the years 1925 to 1932, to between 3 to 4 horses in the years 1933 to 1944, and then to decrease rapidly to a low of 0.6 horses per 100 cultivated acres in 1959.

In comparison, tractors on Manitoba farms, chiefly steamers, had been used up to this sub-period, mainly for belt power in connection with threshing, and to a much lesser extent for clearing brush and for sod-breaking on bonanza farms. Gasoline tractors, introduced in a previous period to replace steamers as a source of belt power for threshing, began to be used to some extent in the 1920's as tractor power in conjunction with tillage and seeding machinery in field operations. As shown in census records, the number of tractors on Manitoba farms increased to around 10,705 in 1926 (or 0.2 tractors to 6.8 horses which equals one tractor to 34 horses); and then, after remaining more or less constant during the early 1930's, increased from 14,685 in 1936 to 22,050 (or 0.4 tractors to 5.5 horses which equals one tractor to 14 horses) in 1941, and to 30,802 (or 0.5 tractors to 4.5 horses which equals one tractor to nine horses) in 1946; and then accelerated more rapidly to 50,984 (or 0.9 tractors to 2.8 horses which equals one tractor to three horses) in 1951, to 59,265 (or 1.2 tractors to 1.6 horses which equals one tractor to 1.3 horses) in 1956, and then levelled off to 61,463 (or 1.4 tractors to 1.2 horses per farm which equals one tractor to 0.85 horses, both light and heavy) in 1961.

Further indications of the progressive rate of the mechanization of field operations in connection with grain growing may be obtained from census records of the number of combines, swathers and balers on Manitoba farms which are shown, together with the number of tractors and trucks, by census years, in Table 65.

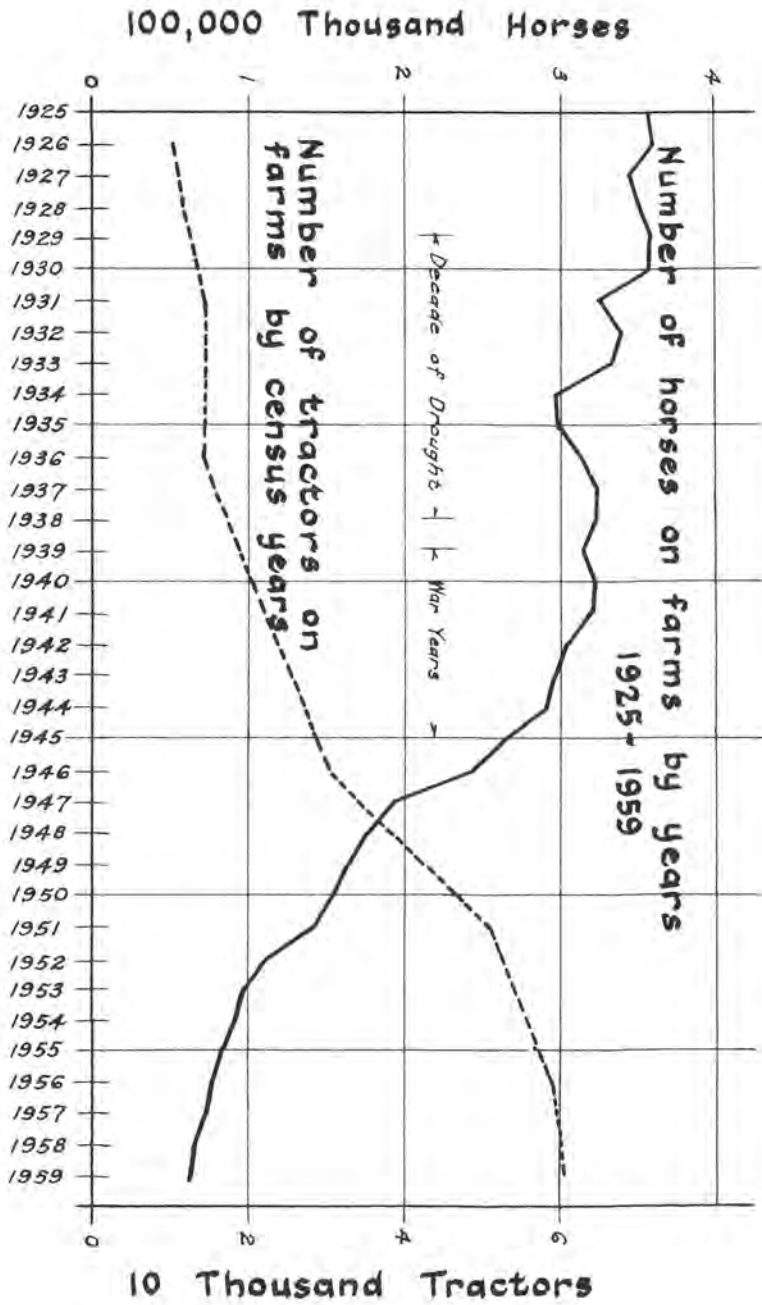
* The data here used to indicate the current numbers of farm livestock by years on Manitoba farms were taken from the annual Crop Bulletins Nos. 104 to 138, and in some cases may vary somewhat from recalculated figures contained in certain statistical summaries published in later years.

TABLE 63. TOTAL NUMBER AND KIND OF FARM LIVESTOCK AND
NUMBER PER 100 ACRES OF CULTIVATED FARM
LAND IN MANITOBA BY YEARS
1925 to 1959

Year	Horses		Cattle		Sheep		Hogs	
	Total (000)	Per 100 @	Total (000)	Per 100 @	Total (000)	Per 100 @	Total (000)	Per 100 @
1925	360	4.3	721	8.5	102	1.2	299	3.5
1926	360	4.4	743	9.2	128	1.6	336	4.2
1927	346	4.4	707	9.1	136	1.7	387	5.0
1928	351	4.2	679	8.2	143	1.7	331	4.0
1929	361	4.3	684	8.2	182	2.2	295	3.5
1930	360	4.3	736	8.7	223	2.6	272	3.2
1931	327	4.3	678	8.9	214	2.8	388	5.1
1932	341	4.5	734	9.7	199	2.6	338	4.4
1933	307	4.0	806	10.5	213	2.8	262	3.4
1934	296	3.8	795	10.3	216	2.8	242	3.1
1935	297	3.8	759	9.8	218	2.8	183	2.4
1936	315	4.0	747	9.6	208	2.7	271	3.5
1937	325	4.0	847	10.4	216	2.6	229	2.8
1938	325	3.7	842	9.6	231	2.6	219	2.5
1939	315	3.6	787	9.0	230	2.6	311	3.5
1940	323	3.6	773	8.6	234	2.6	499	5.6
1941	321	3.4	756	8.0	233	2.5	503	5.3
1942	305	3.5	822	9.4	311	3.6	708	8.1
1943	298	3.3	927	10.4	327	3.7	877	9.8
1944	290	3.1	992	10.8	319	3.5	624	6.8
1945	264	2.7	1,024	10.6	288	3.0	457	4.7
1946	242	2.5	985	10.1	229	2.3	377	3.9
1947	195	2.1	779	8.6	181	2.0	347	3.8
1948	179	1.9	724	7.9	141	1.5	256	2.8
1949	164	1.7	681	7.2	131	1.4	303	3.2
1950	156	1.7	683	7.4	117	1.3	269	2.9
1951	145	1.5	707	7.5	112	1.2	346	3.6
1952	113	1.1	685	6.8	68	.7	399	4.0
1953	97	1.0	654	6.5	65	.6	287	2.8
1954	91	.9	660	6.6	60	.6	360	3.6
1955	82	.8	674	6.7	57	.6	408	4.1
1956	78	.8	695	6.9	51	.5	343	3.4
1957	71	.7	885	8.4	71	.7	316	3.0
1958	65	.6	865	8.2	78	.7	455	4.3
1959	60	.6	883	8.4	78	.7	505	4.8

TABLE 64. AVERAGE NUMBER AND KIND OF LIVESTOCK PER
 FARM IN MANITOBA - 1925 to 1959
 (Total Numbers Divided by Number of Farms)

Year	Horses	Cattle	Sheep	Hogs
1925	7.0	14.1	2.0	5.8
1926	7.0	14.5	2.5	6.6
1927	6.7	13.6	2.6	7.4
1928	6.8	13.1	2.7	6.4
1929	6.9	13.1	3.5	5.7
1930	6.9	14.1	4.3	5.2
1931	6.3	13.0	4.1	7.5
1932	6.4	13.9	3.8	6.4
1933	5.9	15.5	4.1	5.0
1934	5.7	15.3	4.1	4.6
1935	5.7	14.6	4.2	3.5
1936	5.5	12.9	3.6	4.7
1937	5.9	15.4	3.9	4.2
1938	5.9	15.3	4.2	4.0
1939	5.7	14.3	4.2	5.6
1940	5.9	14.1	4.3	9.0
1941	5.8	13.8	4.2	9.1
1942	5.4	14.7	5.5	12.6
1943	5.3	16.6	5.8	15.7
1944	5.2	17.7	5.7	11.2
1945	4.7	18.3	5.1	8.1
1946	4.3	17.6	4.1	6.7
1947	3.7	14.8	3.4	6.6
1948	3.4	13.7	2.7	4.9
1949	3.1	12.9	2.5	5.8
1950	2.9	13.0	2.2	5.1
1951	2.8	13.4	2.1	6.6
1952	2.2	13.2	1.3	7.7
1953	1.8	12.6	1.2	5.5
1954	1.7	12.7	1.1	6.9
1955	1.6	12.9	1.1	7.8
1956	1.5	13.3	1.0	6.6
1957	1.4	18.0	1.4	6.4
1958	1.3	17.6	1.6	9.3
1959	1.2	18.0	1.6	10.3



MANITOBA

FIGURE 7

TABLE 65. TRACTORS, TRUCKS AND OTHER MACHINES ON MANITOBA FARMS AS RECORDED IN CENSUS DATA - 1921 to 1966

Year	Tractors	Trucks	Combines	Swathers	Balers
1921	10,027	—	—	—	—
1926*	10,705	917	—	—	—
1931	14,366	3,260	355	—	—
1936	14,685	3,299	498	—	—
1941	22,050	7,586	1,714	—	—
1946	30,802	9,970	5,724	—	—
1951	50,984	21,163	15,268	—	—
1956	59,265	28,556	21,425	—	—
1961	61,463	31,806	23,662	20,408	8,573
1966	65,552	36,689	24,815	23,530	12,712

* Figures for 1926 only record number of farms reporting.
 Figures for other years are the total number on farms.

More detailed information may be gleaned from yearly records of farm machinery sales, as reported in the provincial annual crop bulletins during the 1925-1959 sub-period, and in the succeeding period. Farm machinery sales for these periods, including combines, swathers and pick-ups, are presented as Table 66. However, as figures in the latter table represent sales, they do not necessarily imply the number on Manitoba farms. Neither do successive summations of the annual sales of a specific type of machine give more than the approximate number of such machines in use on Manitoba farms in any given year for which summations of sales may be calculated. Any such summations should be corrected by comparison with the respective numbers recorded as "on farms" by census years. Furthermore, the earliest year in which a specific type of farm machine is recorded in the census is generally later than the earliest year in which such a machine was first introduced.

Nevertheless, the figures in these tables imply that although the practice of combine harvesting was introduced in the early years of the 1925-1959 sub-period, that it was retarded by the adverse conditions during the decade of drought, enlarged gradually during the 1940's, and rapidly adopted during the 1950's. This enlarged mechanization of harvest operations by combine harvesters and farm trucks was a further factor in the replacement of horses on grain farms during the last portion of the 1925-1959 sub-period.

The accelerated substitution of mechanical for horse traction-power (first noticeable towards the close of the M.A.C. Sub-Period), and the rapid decline in horse population from the middle to the close of the Post M.A.C. Sub-Period, set up chain reactions resulting in far-reaching effects on the operation and management of Manitoba farms.

One aspect of this change (i.e. the effect it had on the attitude of a younger generation to farm livestock) should not be overlooked. The passing of farm horses as the major source of traction power on Manitoba farms also coincided with the passing of most of the remaining old-time farm horse-

TABLE 66. FARM MACHINES SOLD IN MANITOBA AS REPORTED IN ANNUAL CROP BULLETINS IN POST M.A.C. SUB-PERIOD, 1925-1959; AND IN SUBSEQUENT PERIOD

Year	Tractors	Combines	Threshers	Swathers	Pick-Ups	Automatic Hay Balers
1925	1,008	—	—	—	—	—
1926	1,498	2	—	—	—	—
1927	1,414	21	—	—	—	—
1928	2,209	206	1,062	—	—	—
1929	2,423	158	466	—	—	—
1930	1,541	134	379	—	—	—
1931	186	33	77	—	—	—
1932	195	5	55	—	—	—
1933	223	4	54	—	—	—
1934	457	12	67	—	—	—
1935	550	98	74	—	—	—
1936	996	101	113	—	—	—
1937	2,858	140	173	—	—	—
1938	3,008	266	334	171	259	—
1939	1,892	279	200	160	250	—
1940	2,385	480	99	199	351	—
1941	2,343	671	56	209	620	—
1942	2,352	808	93	207	711	—
1943	905	433	13	11	274	—
1944	2,630	798	22	248	781	—
1945	2,362	945	22	434	1,002	—
1946	2,765	974	48	595	1,112	—
1947	3,535	1,415	128	1,034	1,465	—
1948	4,945	2,320	134	1,546	2,014	—
1949	7,741	2,288	123	1,822	2,008	—
1950	6,179	2,079	91	1,370	2,243	—
1951	5,510	2,704	78	1,997	2,540	—
1952	4,508	2,675	44	1,761	2,061	—
1953	3,663	1,899	8	1,291	1,547	—
1954	2,250	669	4	571	635	—
1955	2,216	892	—	679	521	—
1956	2,189	1,101	—	1,443	1,032	—
1957	2,015	877	—	861	722	963
1958	2,263	739	—	—	—	1,157
1959	2,486	1,009	—	768	—	1,547
1960	2,461	1,079	—	783	—	1,518
1961	1,763	511	—	493	—	1,124
1962	2,135	1,181	—	961	—	1,849
1963	2,791	1,373	—	1,355	—	1,314
1964	3,225	1,595	—	1,323	—	1,372
1965	2,891	1,902	—	2,590	—	1,194
1966	3,699	1,664	—	1,840	—	981
1967	3,096	1,369	—	1,896	—	660
1968	1,778	1,310	—	—	—	560

many of whom were devoted stockmen who were of like mind to the Manitoba farm lady of Scottish ancestry living on a section farm that kept (with profit) a herd of Ayrshire cattle, who stoutly maintained that "Ye canna farm wi'oot a few coos".

As the tractor and farm truck progressively replaced the draft horse, and the automobile inevitably replaced the driving horse and buggy, the care and operation of power machines naturally fell to the younger generation, many of whom became more and more enamoured of power machines but, unfortunately, less and less concerned with farm livestock than the generation they succeeded.

Figures 8 and 9 show several striking changes in numbers of cattle recorded on Manitoba farms during the 1925-1959 sub-period. The recorded numbers of milk cows show little change from 1925 to 1931, subsequent to which there was a sharp increase up to 1936, then followed by a temporary regression enforced by a shortage of labor in the war years; the numbers then recovered and rose to a peak point of approximately .5 million head in 1944. Following this peak year, and coinciding closely with the decline in horse population, the numbers of milk cows persistently decreased to a point somewhat lower than at the beginning of the sub-period, and continued to decrease still further in the following period.

Changes in the amount of dairy products also accompanied changes in numbers of milk cows on Manitoba farms. Table 67 shows the changes in number of creameries and in the relative amount of creamery and farm butter produced annually, and the corresponding amounts of cheddar, home-made and cottage cheese produced during the years of the sub-period. In this connection, reference may be made to the general high quality of Manitoba dairy products, to the greater efficiency in production that accompanied the smaller number of dairy herds, and to the changes made in respect of fluid milk production outlined in Pages 450-457.

As indicated in Figure 9, the numbers of beef cattle, or cattle other than milk cows, show a different pattern of annual and aperiodic variation. In general, a falling off is noted from over 400,000 head at the beginning of the sub-period to an extreme low level of 267,000 in 1936, when scarcity of feed and water in the drought area forced the liquidation of cattle which otherwise would not have been marketed at that time. From the low level of approximately 330,000 cattle other than milk cows in 1940, the number increased to a high of over half a million head in 1945, coinciding roughly with the introduction and development of community pastures in Manitoba. Following this rapid rise there was a 10 year period of low numbers of cattle. This may be explained by partial liquidation through sales made to take advantage of the abnormally high prices that prevailed from 1948 to 1953, and the high prices of cattle in the United States which caused large numbers of animals to be exported as feeders. These circumstances appear to have prevented the building-up of Manitoba herds which otherwise might have taken place.

At the close of the sub-period there was a definite build-up in the total number of cattle, other than milk cows, but part of the increase noted may have been due to the changeover from dairy to beef cattle production that

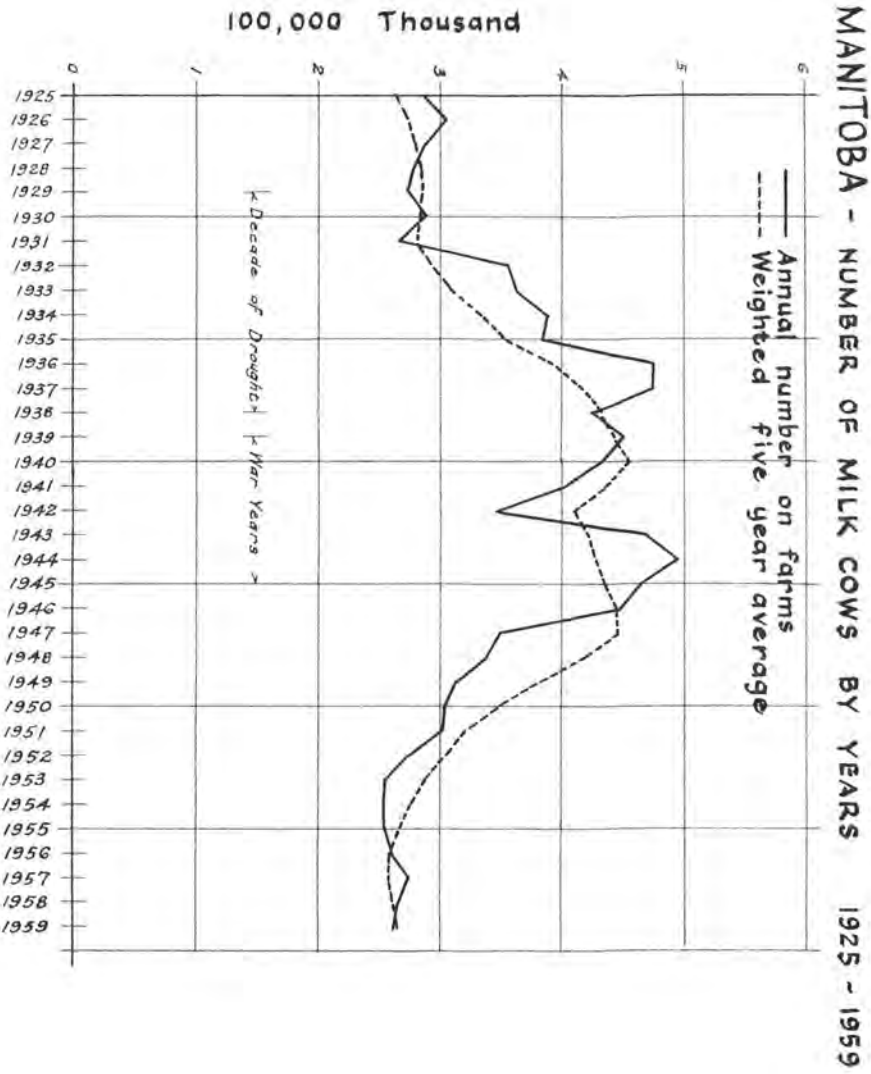


FIGURE 8

MANITOBA - NUMBER OF CATTLE OTHER THAN MILK COWS BY YEARS 1925 - 1959

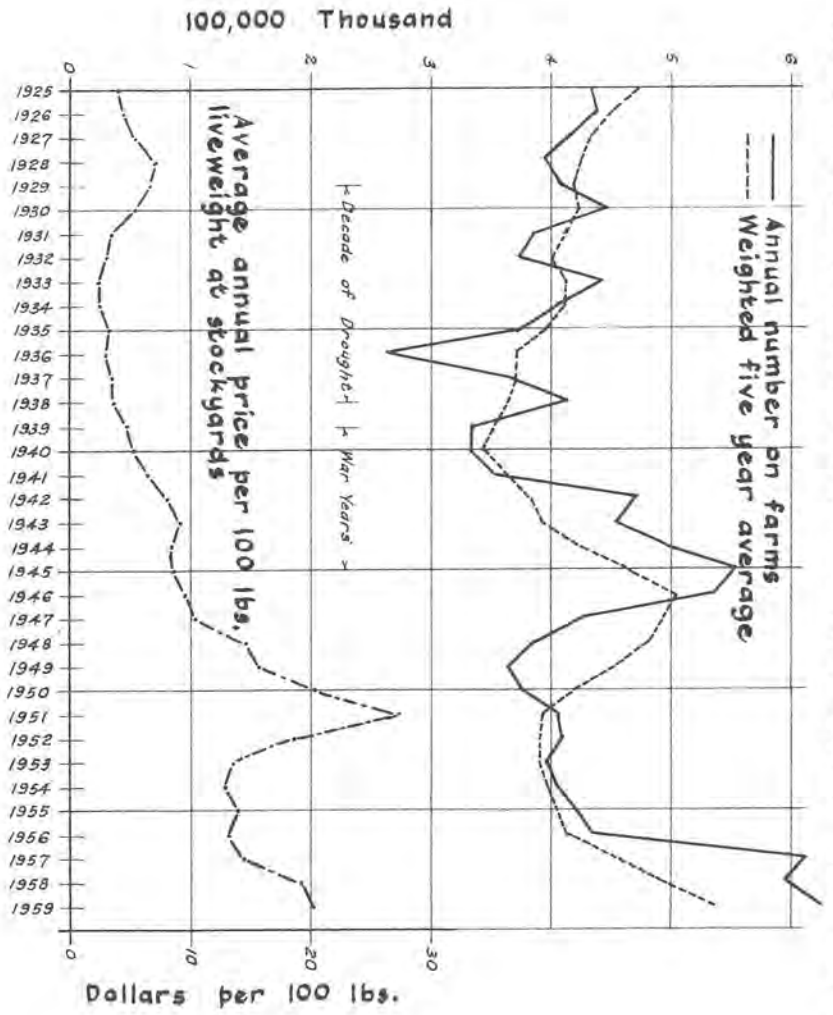


FIGURE 9

TABLE 67.

NUMBER OF CREAMERIES AND CHEESE FACTORIES IN MANITOBA AND
PRODUCTION OF DAIRY PRODUCTS BY YEARS - 1925 to 1959

Year	No. of Creameries	Creamery Butter (000) lbs.	Average Pr./lb. (cents)	Dairy Butter (000) lbs.	Average Pr./lb. (cents)	Total Butter (000) lbs.	No. of Cheese Factories	Cheese (000) lbs.	Average Pr./lb. (cents)	Home-Made Cheese (000) lbs.	Cottage Cheese Made in Dairy Plants (000) lbs.	Average Pr./lb. (cents)
1925	50	13,663	35.0	9,261	22.0	22,924	13	765	19.6	—	—	—
1926	55	15,449	34.5	9,236	22.0	24,685	15	911	17.2	—	—	—
1927	57	14,231	36.5	8,497	22.0	22,728	15	664	22.0	—	—	—
1928	58	13,782	37.0	8,250	23.5	22,032	12	526	21.2	—	—	—
1929	58	15,472	37.5	8,200	24.0	23,672	13	559	20.1	—	—	—
1930	57	15,787	29.5	8,250	20.0	24,037	12	560	16.5	—	—	—
1931	57	21,078	21.5	8,500	15.0	29,578	11	523	13.0	—	—	—
1932	56	19,300	17.5	8,750	12.0	28,050	13	677	9.5	—	—	—
1933	62	19,558	18.5	9,225	14.0	28,783	16	954	10.5	—	—	—
1934	66	20,674	19.0	9,240	14.5	29,914	15	1,299	10.4	—	—	—
1935	69	21,532	20.0	9,250	15.5	30,782	13	1,457	11.1	—	129	7.1
1936	69	23,011	21.7	9,255	17.2	32,266	15	2,141	12.8	167	128	7.0
1937	69	24,343	24.0	10,200	19.5	34,543	19	2,924	13.5	168	130	7.5
1938	71	25,704	24.0	10,710	19.5	36,414	17	3,344	13.4	165	214	7.4
1939	72	26,524	21.5	10,844	18.0	37,368	20	3,493	11.6	165	243	9.3
1940	72	27,279	23.5	10,840	21.0	38,119	23	4,526	13.3	166	264	8.0
1941	71	31,087	32.3	9,420	29.3	40,507	22	3,672	19.2	167	254	9.7
1942	71	31,644	33.0	7,900	30.0	39,544	24	5,127	21.0	160	356	9.6
1943	70	33,983	32.5	5,925	32.7	39,908	24	3,328	22.4	120	—	—
1944	70	31,572	33.0	5,627	32.6	37,199	24	3,903	22.7	119	600	11.6
1945	70	26,995	33.4	5,565	33.0	32,560	24	3,842	22.6	118	642	11.1
1946	70	26,067	37.8	5,837	36.8	31,904	23	3,197	22.8	117	800	9.9
1947	70	26,265	51.5	5,963	48.7	32,228	23	3,456	29.7	117	604	16.0
1948	68	25,351	66.5	6,697	63.8	32,048	21	2,500	34.6	115	992	—
1949	69	24,431	58.0	6,034	59.4	30,465	16	1,812	32.3	113	761	—
1950	69	22,514	53.0	5,300	53.0	27,814	9	1,435	37.0	—	854	25.7
1951	67	22,277	62.7	4,726	60.0	27,003	8	1,450	39.0	—	974	—
1952	66	23,549	57.2	4,286	56.0	27,835	6	1,415	32.0	—	1,096	—
1953	66	24,992	59.0	2,533	57.0	27,525	6	1,199	33.5	—	1,226	—
1954	64	25,012	58.7	1,999	56.0	27,011	6	1,237	32.0	—	1,348	—
1955	64	25,018	58.3	2,089	56.0	27,107	5	1,043	37.0	—	1,548	—
1956	63	23,362	58.0	2,004	56.0	25,366	5	1,069	38.0	—	1,793	—
1957	62	23,552	60.0	1,642	57.0	25,194	5	1,263	37.0	—	1,875	—
1958	61	26,601	63.1	1,556	61.0	28,157	4	693	38.0	—	1,971	—
1959	60	25,630	64.0	1,460	62.0	27,090	4	379	39.0	—	2,110	—

In addition, factory made ice cream, which was recorded as 406,076 gallons in 1925, increased to an annual total of 1,889,000 gallons in 1959.

was noticeable due to increased specialization and consolidation of the dairy industry, to the rising price of beef, and to the development of community pastures and of Crown grassland which favored beef cattle production. Some of the increase in cattle at this time may have been influenced by the restrictive operation of the delivery quota control of market grain.

Figure 10 shows that sheep, which had achieved a peak number of 167,000 on Manitoba farms in 1919, and which had been reduced in number to 101,000 in 1925, strangely enough now increased to a somewhat higher level during the "decade of drought" and increased sharply in the four years, 1942 to 1945, subsequent to which the number fell off rapidly to lower levels in the 1950's; and incidentally continued to decrease further in the 1960's, thus following a pattern not unlike that of dairy cattle in Figure 8.

Figure 10 also shows the number of swine, by years, and the five year moving average number of swine throughout the sub-period. A characteristic of the graph for numbers of swine is the saw-tooth or zig-zag pattern which appears to be due to the relative rapid and sensitive reaction of the hog industry to such factors as grain prices, the market price of hogs, and labor supply. The most striking feature of the graph, however, is that, after a downward trend in number of swine during the drought years when feed grain was scarce on upland farms, hogs showed a tremendous increase in number on Manitoba farms during the years 1940 to 1945 (despite the restrictive influence of war-time ration stamps on domestic consumption of bacon), reaching the peak point of 877,000 in 1943. The phenomenal increase during these years reflects the effort put forth by Manitoba farmers, in spite of labor shortage, to honor the Canada-United Kingdom Bacon Agreements during the war years before again resuming the pre-war zig-zag pattern in the post-war years.

Poultry underwent even more remarkable changes on Manitoba farms in the years 1925-1959. The numbers of kind of poultry in Manitoba by years, during this sub-period, as recorded in the annual crop bulletins are indicated in Table 68. However, these figures should be considered as approximations only, and for a specific time in the year, because of the relative rapid cycle of restocking and finishing achieved under specialized broiler production.

During the first portion of the sub-period most farm families kept relatively small flocks of hens and chickens for subsistence or domestic use. At that time, in many cases, eggs and dressed poultry, along with dairy butter, were used by farm wives in barter for goods obtained in country-town and village stores. A fewer number of farms kept a limited number of turkeys, largely for Hallowe'en, Christmas and New Years' celebrations. During the decade of drought, turkeys increased in numbers on prairie farms where they roamed the fields, feeding on grasshoppers, and played a not insignificant part in farm family subsistence in drought affected areas (Page 436). A few kept two or three geese (until in later years when a few large flocks were characteristic of Hutterite colonies) and still fewer had any interest in ducks.

With the return of more prosperous years, and especially towards the close of the sub-period, poultry as a sideline became of less and less importance on prairie farms. On the other hand, a highly organized system

MANITOBA - NUMBER OF SWINE AND SHEEP BY YEARS 1925 - 1959

FIGURE 10

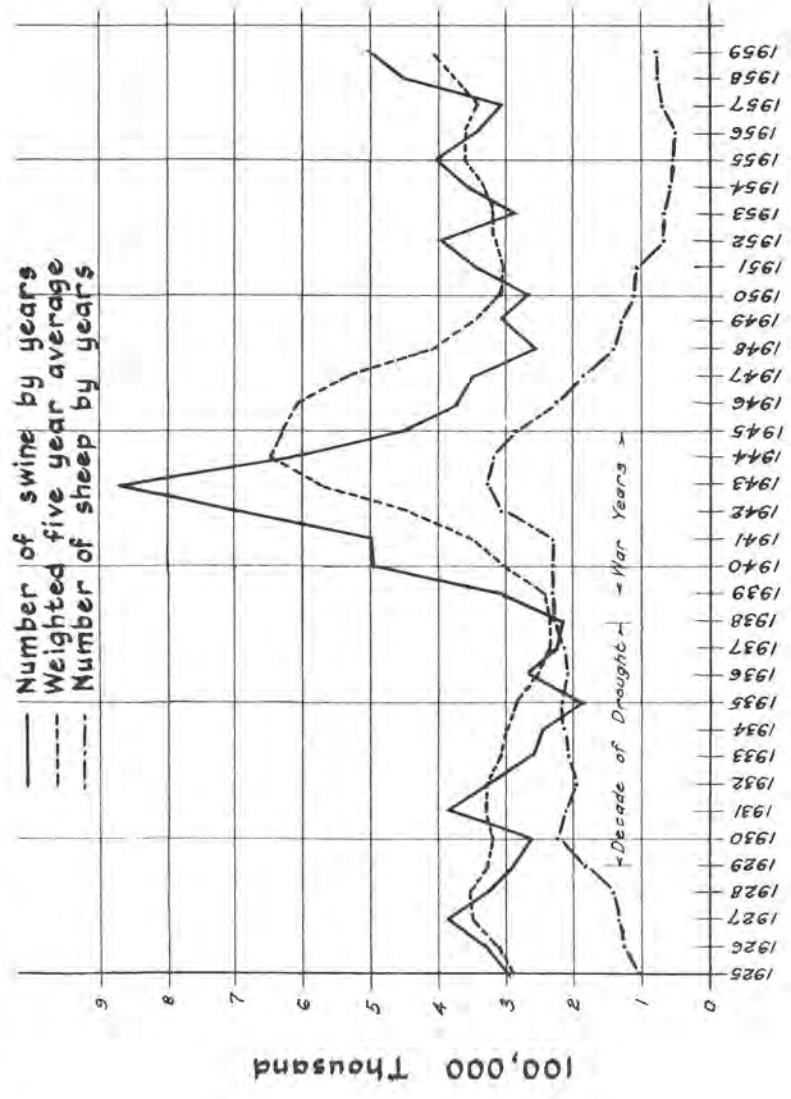


TABLE 68. NUMBER AND KIND OF POULTRY IN MANITOBA
1925 to 1959

Year	Chickens (000)	Turkeys (000)	Geese (000)	Ducks (000)
1925	3,414	272	109	97
1926	3,415	317	116	97
1927	3,647	312	117	87
1928	3,920	319	102	73
1929	4,942	438	114	91
1930	5,035	435	114	75
1931	4,848	497	122	80
1932	4,929	500	119	69
1933	4,061	571	109	71
1934	4,096	535	103	61
1935	3,712	431	77	42
1936	4,253	380	59	41
1937	3,832	393	72	36
1938	4,512	451	73	45
1939	5,278	551	78	44
1940	5,640	580	80	51
1941	6,003	551	79	53
1942	7,240	884	79	131
1943	8,052	512	85	86
1944	9,049	514	47	101
1945	8,937	457	77	120
1946	8,891	372	82	82
1947	7,619	448	77	80
1948	7,035	253	36	36
1949	6,670	338	43	49
1950	5,230	350	43	42
1951	6,166	327	50	60
1952	6,667	418	62	65
1953	6,190	355	59	63
1954	7,300	500	60	65
1955	6,600	630	60	70
1956	6,850	760	50	60
1957	6,350	780	34	40
1958	6,980	950	42	44
1959	7,000	1,250	42	36

TABLE 69. NUMBER OF BEEKEEPERS: NUMBER OF COLONIES: AND
ESTIMATED TOTAL PRODUCTION OF HONEY AND
BEESWAX IN MANITOBA BY YEARS -
1925 to 1959

Year	No. of Beekeepers	No. of Colonies	Total Prod. (lbs.)	
			Honey (000)	Beeswax (000)
1925	1,400	19,160	2,054	28
1926	1,760	21,450	1,762	—
1927	1,990	30,240	3,694	—
1928	1,960	29,680	2,887	—
1929	2,000	33,320	3,426	—
1930	1,960	43,340	5,055	84
1931	1,750	31,000	3,676	—
1932	2,350	32,776	5,886	—
1933	2,600	28,000	3,800	—
1934*	3,133	41,700	4,669	45
1935	3,300	51,416	4,978	49
1936	3,440	51,312	8,135	82
1937	3,550	55,189	6,749	67
1938	3,359	56,650	9,540	95
1939	3,244	58,000	5,400	—
1940	2,946	53,575	3,670	37
1941	2,581	45,178	4,970	50
1942	2,250	39,150	3,142	33
1943	3,100	47,400	4,503	45
1944	3,915	56,079	5,271	52
1945	4,500	60,000	4,860	70
1946	4,600	65,000	4,810	70
1947	4,500	70,000	5,180	77
1948	3,420	75,000	6,525	97
1949	2,350	49,000	5,586	83
1950	1,740	45,000	5,891	88
1951	2,140	50,900	5,400	83
1952	1,260	37,400	3,600	53
1953	1,030	34,000	4,830	72
1954	1,250	36,500	4,080	61
1955	1,200	38,600	5,365	80
1956	1,200	40,000	5,360	80
1957	1,200	42,000	5,166	77
1958	1,030	44,300	5,183	78
1959	1,080	44,400	5,994	90

* Annual registration of beekeepers made compulsory.

of production and marketing was introduced (involving hatcheries, egg producers, raising of broilers, feed dealers, eviscerating plants, packers, retailers and chain stores), as poultry became more and more a specialized commercial venture. This venture was greatly enlarged towards the close of the sub-period to the point where the export of eggs and broilers to other provinces, etc., became an important commercial business in which the majority of Manitoba farms, by and large, played but a relatively insignificant role.

Beekeeping in Manitoba was never a general farm occupation; the production of honey was more or less an ancillary occupation carried on, in some cases, by an interested member of a farm family, and, in other cases, by persons other than farm residents. However, until beekeepers and apiaries were required, under The Animal Husbandry Act, Part VIII, to be registered with the Ministry for purposes of disease control, the total number of beekeepers recorded is open to question. However, from and subsequent to 1934, the number of beekeepers and of colonies were registered yearly and recorded in the provincial annual crop bulletins as shown in Table 69. This table therefore provides a reliable indication of the development of beekeeping and honey production in Manitoba from 1934 onward.

The chief point of interest in this connection is that (although there was considerable annual variation in honey produced due to seasonal conditions) the number of beekeepers increased from 3,133 in 1934 to a high of 4,600 in 1946, only to fall rapidly to 1,080 in 1959; whereas the number of bee colonies increased from 41,700 in 1934 to 75,000 in 1948, but decreased to 44,400 in 1959. Thus, except for some expansion in the 1940's, there was no spectacular overall increase in beekeeping over the 1925-1959 sub-period, but it is of significance to note that the provincial production of honey and beeswax was more than maintained by a smaller number of operators. With fewer operators involved, it is apparent that beekeeping also became more and more a business venture and less and less a source of revenue to Manitoba farmers during this sub-period.

IV. ADDITIONAL COMMENTS - 1925-1959 SUB-PERIOD

Before closing this review of the evolution, development and activities of the Ministry and of the part played by the Department of Agriculture in the development of Manitoba during 1925 to 1959, attention should be directed (1) to innovations initiated by the government in respect of agricultural credit and crop insurance; (2) to the special role of the agricultural representatives in implementing the policies of the Ministry; and (3) to urban-oriented or "exo agronomos" influences that invaded and affected agriculture in Manitoba towards the close of the sub-period.

(1) INNOVATIONS INITIATED AT THE CLOSE OF THE 1925-1959 SUB-PERIOD

At the close of the 1925-1959 sub-period, two legislative Acts were passed by the Manitoba Government to be administered by the Ministry of Agriculture (a) in respect of agricultural credit and (b) in respect of crop insurance.

(a) The Agricultural Credit Act

The Agricultural Credit Act was enacted by the Manitoba Legislature on November 7th, 1958. This Act was designed primarily to assist young farmers by granting long-time loans to establish and develop family farms; to facilitate the transfer of farms from one generation to another; and to assist in the conversion of uneconomic farms to economic units. Credit advanced under the Act was to be supervised in respect of the expenditure of the loan and of the operation of the farm unit involved until the loan was paid.

To carry out this program a Board of Directors was appointed by Order-in-Council consisting of R.C. McLennan, Chairman; J.R. Bell, Vice Chairman; J.M. Parker; R.R. Usick; and C.R. Durston. The administrative staff consisted of R.C. McLennan, Manager; L.W. Leggat, Assistant Manager; E.J. White, Treasurer-Comptroller; T.G. Wright, Solicitor; and S. Bohemier, Construction Supervisor; together with a field staff of credit agents consisting of A.A. Romanyk, W. Rines, R. Ter Horst, F.B. Laird, S. Westdal, W.K. McComb, J.M. Barr, and J. G. De Pape.

During the first year of operation 2,030 applications for loans were received from prospective borrowers, appraisals were made of 738 properties and 435 loans were approved. This project, as an activity of the Ministry of Agriculture, therefore, was well launched in the last year of the 1925-1959 sub-period.

(b) Crop Insurance

Action in respect of crop insurance (which had been a subject of discussion on and off for 20 years, during which interval two Royal Commissions had been appointed by the Legislature to report on the feasibility of crop insurance in this Province) was taken in 1959.

Firstly, the Parliament of Canada passed a "Crop Insurance Act" in 1959, which authorized contributions and loans out of Consolidated Revenue for the operation of provincial crop insurance programs. This federal legislation was followed by the passing of "The Crop Insurance Test Area Act" by the Manitoba Legislature which was assented to on August 4th, 1959.

Action by the Government of Manitoba was announced on September 29th, 1959. A Board of Directors was named and instructed to set up test areas. This Board consisted of J.C. Gilson, Chairman; V.R. Falloon, Vice Chairman; Ralph Hedlin; J. Patterson; and L.B. Kristjanson; with a staff consisting of: L.B. Kristjanson, Managing Director; Harrison Hsia, Director of Research; A. McRitchie, Comptroller; R.K. Toulton, Chief, Field Operations; and G. McGregor, Supervisor South-West Test Area and Chief Adjuster.

The task assigned the Board of Directors was to formulate a program of crop insurance that would be helpful and acceptable to Manitoba farmers; produce sufficient premium income to cover all costs not borne by the Federal and Provincial governments so that the program would be self-sustaining; permit the recruiting and training of field and office staff; and provide for the collection of statistics and experience on a test area basis which could be used if a province-wide crop insurance program subsequently was undertaken.

**WOMEN'S INSTITUTE
ACTIVITIES**



68.
Public Speaking Group
at Leadership School



69.
Leisure time Craft
Group at Work



70.
Mrs. S.D. Price, Warren,
Manitoba, President,
Women's Institute Advisory
Board, 1969-70, with some
of the Manitoba entries in
Homecraft Competition

SOME EXTENSION
ACTIVITIES



71.
Beef cattle judging
demonstration



72.
Poultry culling demonstration



73.
4-H Club Manager's Visit -
Kenton



74. SOME 4-H CLUB ACTIVITIES

- (a) Seed Grain Clubs
- (b) Beef Cattle Clubs
- (c) Swine Clubs
- (d) Dairy Heifer Clubs
- (e) Garden Clubs
- (f) Poultry Clubs



75. Better Farming Train - 1912
Afternoon program for women and school children

76. Field Husbandry Forage Crop Exhibition Car
Livestock Special Train - 1923
(Courtesy of Manitoba Archives)

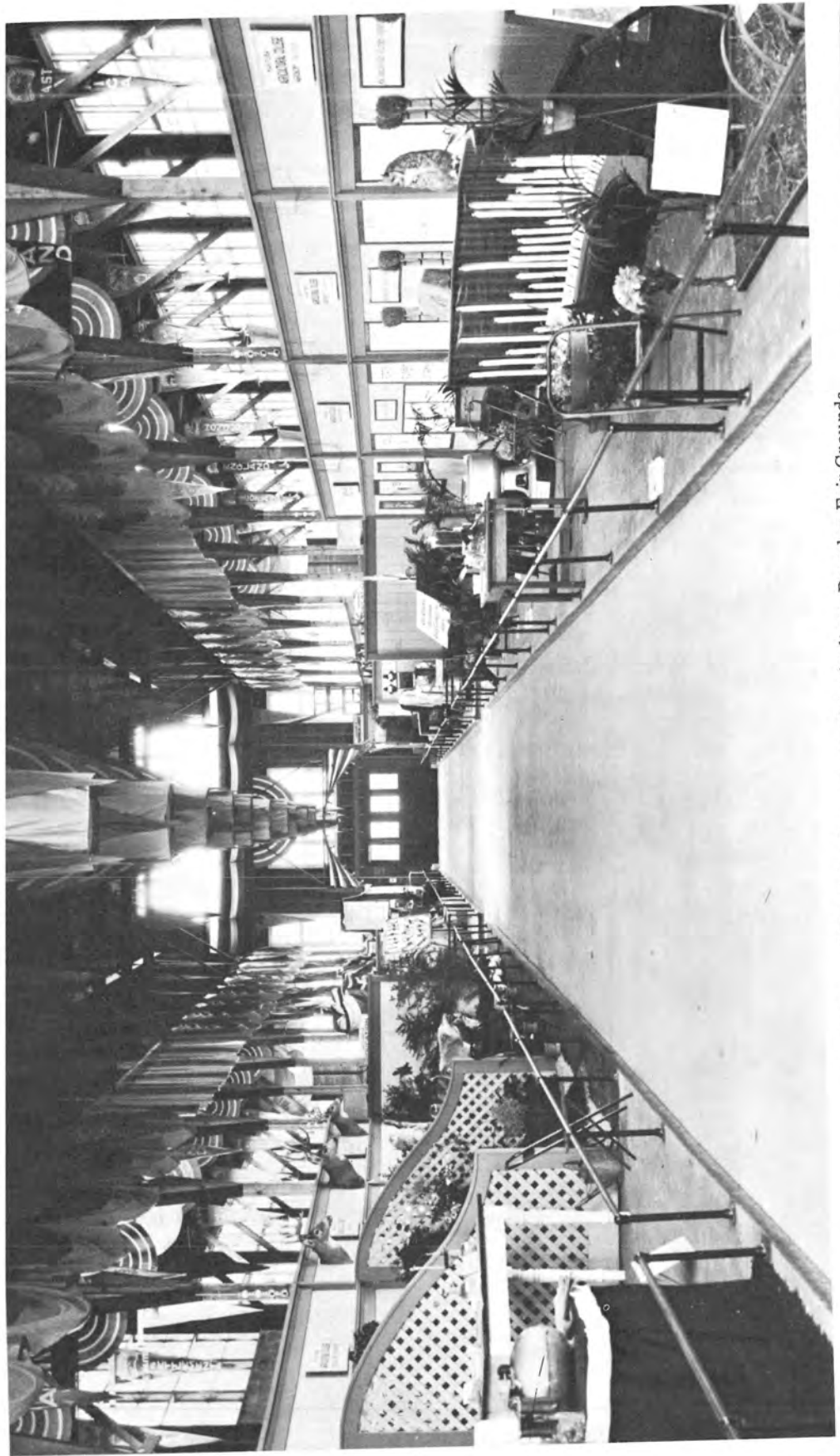




77. Extension lecture at farmers' meeting on a farm in Gilbert Plains District

78. Agricultural Representative demonstrating spraying for Warble Fly Control





— 20 — Building of Manitoba Department of Agriculture, Brandon Fair Grounds



80. Field Crops Division experimental plot of tobacco at Marchand

81. Alfalfa with and without sulphur applied as gypsum -
South Junction - Southeastern Manitoba





82. Home-made hay stacker by means of which hay was stacked quickly efficiently without the high overhead for expensive machinery

83. Herd of beef cattle and stacks of native hay grown on leased Crown land - Interlake Area



Four initial test areas were organized on a trial basis for the following year consisting of:

- South West Area - Rural municipalities of Edward, Arthur, Brenda, Albert and Pipestone;
- South Central Area - R.M. of Grey, Dufferin, Thompson, Roland, Stanley and Rhineland;
- West Red River Area - R.M. of Macdonald, Morris and Montcalm; and
- Northern Area - R.M. of Dauphin, Gilbert Plains, Grandview, Boulton and Silver Creek.

The insurable crops in these first trials were limited to wheat, oats and barley (other crops were added in later years) and the designated hazards against which the crops could be insured included: hail, drought, excessive rainfall, flood, frost, wind (including tornado), disease (including rust) and pests. Although crop insurance under this scheme was sold on a voluntary basis, "The Crop Insurance Act" required that at least 25 percent of the qualified farmers or 25 percent of the insurable acreage must be insured in each area.

From the experimental trials thus initiated at the close of the 1925-1959 sub-period, the crop insurance program expanded rapidly. "The Manitoba Crop Insurance Test Areas Act" was amended in 1961, and under the changed designation of "The Manitoba Crop Insurance Corporation" this branch of the Ministry was able, within the next decade, to offer an insurance service designed to reduce losses from uncontrollable hazards in crop production throughout the whole of the organized portion of the province.

(2) THE SPECIAL ROLE OF THE AGRICULTURAL REPRESENTATIVES

During the one-third of a century covered by the 1925-1959 sub-period, the Ministry (in greater measure than in preceding periods and through policies of education and service) gave direction and leadership in all phases of agriculture in Manitoba. In this connection credit must be accorded to the outstanding husbandmen, stockmen, and public-spirited men and women who, in the earlier years, first urged government attention to the need for educational involvement; to those who were involved, over the years, in the field of research and were thus enabled to supply the Ministry with needed information; and to those who, as individuals or as group organizations, co-operated with the Department in initiating, supporting, or enlarging various departmental endeavors.

Especial tribute, however, must be accorded to the part played by agricultural representatives, subsequent to the re-establishment of the agricultural representative service under N.C. MacKay in the 1930's. Again and again in the foregoing pages reference is made to many and varied services rendered by the agricultural representatives and by the associated district home economists, but in addition, the following comments should be appended. In the farm and rural programs sponsored by the Department of Agriculture, the agricultural representatives formed the front line of action, and (together with Branch specialists) constituted the educational arm of the

Ministry - passing on technical and research findings to farm operators, conducting training programs for farm youth, and giving leadership in farm and community affairs - . This close contact with individual farmers and their families gave the college-trained farm-raised boys, who after graduation became agricultural representatives, first hand knowledge of personal as well as general district problems which enabled them to evaluate such problems sanely and to recommend practical solutions adapted to individual farm needs. Furthermore, the experience gained through close contact with farm and district problems enabled the agricultural representatives to bring current needs to the attention of the Ministry, and to draw unsolved problems to the attention of research workers in the Faculty of Agriculture. In many cases, also, the agricultural representatives were called upon to act as liaison personnel in the implementation of programs for other government departments in matters pertaining to rural areas and communities.

By and large, the educational policies carried out by the agricultural representative service on behalf of the Ministry were based on concepts inherited from the Manitoba Agricultural College when agricultural extension work was first introduced into Manitoba, i.e.: that farmers (whether of high or low degree as well as persons in other vocations) were all concerned with their own welfare and with improving their respective "lot in life"; and that if presented with useful educational material pertinent to their needs and circumstances (and if in the sympathetic presentation of such material the recipients could be sufficiently inspired) farmers had the intelligence, as well as the right, to manage their own affairs and to adapt the proffered information to their own needs, without would-be advisors extending pontifical pronouncements or belittling their accomplishments.

Consequently, by devotion to service in the public weal, the agricultural representatives won general support from chambers of commerce, boards of trade, service clubs and school boards; and by personal contact with the operators and families on individual farms, and through consultations in the district offices - answering questions, finding solutions and arousing interest - they invariably gained the confidence and respect of rural people in the districts they served. Consequently, Manitoba owes honor and respect to these men and women for services rendered and for the contributions they continue to render to provincial agriculture.

(3) URBAN-ORIENTED INFLUENCES

In the wake of increasing agricultural prosperity in the late 1940's and the 1950's, and coinciding in large measure with increasing mechanization in the production of grain in farm fields, other factors emerged which exercised varying degrees of influence on farming in Manitoba.

These influences may be grouped into two categories, i.e.:

- (a) "exo agronomos" policies emanating from urban-oriented personnel and business concerns advocating the fractionation of agriculture; and
- (b) invasion of farming by financial interests through industrialization and exploitation of fractionated portions of agriculture which (where practised) threw prairie farming further out of balance.

(a) Fractionation of Agriculture

As shown in the foregoing text, the Ministry of Agriculture was not unmindful of the economic and bookkeeping aspects of farming. Orderly and efficient recording of farm operations was recognized as an essential skill in the hands of husbandmen, but not as the only skill involved in the management of farm and field. Through the Extension Service, education and assistance was provided farm operators in connection with farm bookkeeping, cost accounting, farm account clubs and farm business associations (Pages 443-446). Despite this service, and the provision already made through the agricultural representative service and the respective branch specialists for personal consultation with farm operators in respect of all phases of farm management, certain urban-oriented personnel and business concerns undertook the role of economic planners and consultants or farm business advisors; and some, with delusions of possessing infallible "managerial ability", concerned themselves with advocating systems of farm management, and with prescribing agricultural programs and policies for others to practice and assume the risks. Thus neo-economic theories about commercial farming as a business venture were advanced and expounded by certain urban-oriented personnel and commercial concerns apparently without the balance wheel of experience in permanent systems of agriculture, or the wit to accept fundamental principles of husbandry and soil management.

It is of course elementary to reaffirm that agriculture in Western Canada grew beyond the consumptive capacity of domestic markets because the prairie region was pre-eminently suited to the production of grain as an exportable commodity; and also that the parallel development of grain production and grain disposal through export markets were responsible for the rapid development of agriculture in Western Canada and for grain growing to continue as the dominant type of arable land use on prairie farms. Nevertheless, until the replacement of horses by mechanical traction power, the production of family subsistence together with varying degrees of diversification were generally practised along with commercial grain growing as the major activity on the majority of family farm holdings. Moreover, because grain growing was the dominant type of land use, the introduction of larger tillage, seeding and harvesting machines by implement companies to enlarge their trade (Page 494) was generally welcomed and played an important role in increasing the size of farm which a farm family could operate.

Unfortunately, however, enlarged mechanization on larger sized grain farms, together with the passing of many knowledgeable old-time husbandmen and stockmen, reacted by causing many of the younger generation to become more enamoured with mechanics and less concerned with farm livestock and multiple land use or diversification (Page 509). Consequently the neo-economic doctrines, which advocated exclusive monoculture of grain with the abandonment of ancillary sources of income and of provision for family subsistence, provided farm operators, who were so inclined, with what appeared to them, at the time, to be justification for the exclusive growing of grain as a so-called "business enterprise" in opposition to the fundamental agrarian principle of multiple land use and sustained yield.

Farmers throughout the ages have had to adjust to aperiodic vicissitudes of climate and to be prepared to survive periods of adversity due to failure or partial failure of crops. During the 1925-1959 sub-period the drastic reduction of cash income, due to adverse weather conditions in the 1930's, also impressed farmers of that day and generation (as in the days of the earlier generation of pioneers) with the fundamental importance of providing for family subsistence and for continuity while awaiting more favorable conditions. On the other hand, the succeeding generation found out - especially in the decade following the 1925-1959 sub-period - that the exclusive growing of grain as a business enterprise confronted them with a different form of adversity that arose from economic dependence on the Federal Government monopoly of grain sales (Page 500) and on the unpredictable vagaries of international trade, of industry and of transport.

(b) Invasion of Farming by Financial Interests

The fractionation of agriculture, evidenced in the elimination of cattle from a number of prairie farms, favored attempts by certain commercial concerns such as processors, packers, supermarkets, promoters, speculators and investors (with the encouragement of city-oriented planners and consultants) to undertake or finance industrial establishments for the feeding of livestock, thereby not only invading but forcing further fractionation and exploitation of farming for the benefit of "exo agronomos" financial interests. It is therefore of historic interest to note that, although relatively few in number, large commercial establishments for feeding (finishing) cattle on purchased feeds in confined feed lots were introduced into Manitoba during the latter portion of the 1925-1959 sub-period. More were added in the following decade.

Though relatively few in number, these factory-type establishments were sufficiently in evidence to emphasize the fact that the more concentrated such an industry becomes, the greater the pollution potential. For example, when the waste (liquid and solid excreta) from 2,000 cattle is produced by feeding one thirty-sixth of that number on each of 36 farms on a township of land, this waste material can be used to improve the physical condition of farm fields and add to their fertility, while at the same time the sale of cattle can serve to buffer the shock of restricted grain sale quotas. On the other hand, the waste from 2,000 cattle closely confined in a feed lot establishment on one site soon presents plenty of problems in respect of the pollution of soil, of subsoil, of ground water and of surface run-off, as well as pollution of vegetation on sites where such waste is perforce applied in excessive amounts because of insufficient land, together with problems of air pollution and health hazards to employees (especially in the case of swine feeding factories), while at the same time the whole enterprise is vulnerable to the uncertainties of a single enterprise and to the vagaries of United States markets (Page 509), which in times past have had very disastrous as well as beneficial effects on livestock markets in Manitoba.

4. THE FOURTH PERIOD - 1960 TO 1969

The last decade of Manitoba's first "one hundred years" has been designated in this treatise as the Fourth Period of the Provincial Ministry of Agriculture. From 1960 to 1967 the Ministry was designated, under "The Department of Agriculture and Immigration Act Amendment Act" (8 Elizabeth II, Chap. 4) 1959, as The Department of Agriculture and Conservation; but subsequent to 1967, under "The Department of Agriculture Act" (15 and 16 Elizabeth II, Chap. 3) 1966-67, the designation was again changed and became "The Department of Agriculture".

(1) DEPARTMENTAL REORGANIZATIONS

During the 1960-1969 period the Ministry went through three departmental reorganizations. The first reorganization was in the initial year ending March 31st, 1960, when the Water Resources Branch of the Department of Mines and Natural Resources was transferred and added as a Water Control and Conservation Branch to the Ministry of Agriculture under the same Act that changed the name of the latter to The Department of Agriculture and Conservation.

In referring to this reorganization, Dr. J.R. Bell, Deputy Minister, wrote:*

"The amalgamation of provincial staffs concerned with administration of acts and construction of works in respect to water, under a single administration, provides for expansion of programs and for improved efficiency in services rendered in an area which is of great significance to the citizens of this Province.

"This amendment together with The Conservation Districts Act and The Manitoba Water Supply Board Act provides a new approach to the control, conservation, and use of water for agricultural, domestic, and industrial purposes, and represents a tremendous forward step."

The activities and duties of the newly created Water Control and Conservation Branch, with J.A. Griffiths as Director, involved the administration, on behalf of the Minister, of the following Acts:

The Dyking Authority Act; The Land Drainage Arrangement Act; The Manitoba Water Supply Board Act; The Rivers and Streams Act; The Water Power Act; The Water Rights Act; The Water Supply Districts Act; and The Watershed Conservation District Act.

Additional changes at this time included the transfer of the Weeds Commission activities from the Publications Branch to the Soils and Crops Branch which was enlarged to three divisions, i.e. Soils Division with R.A. Wallace as Chief; Crops Division with P.H. Ford as Chief; and Weeds Division with J.O. Forbes (former Secretary of the Weeds Commission) as Chief; and with J.M. Parker continuing as Branch Director. Moreover, in addition to the Agricultural Extension Centre at Brandon, a second District Specialist Centre was initiated at Dauphin.

* Annual Report of the Department of Agriculture and Conservation for the year ending March 31st, 1960.

The organization of the Department of Agriculture and Conservation at the beginning of the 1960-1969 period, therefore, can be shown in the accompanying Figure 11 for comparison with the organization outline of the Ministry of Agriculture, during the 1906-1924 and 1925-1959 sub-periods, presented earlier in this treatise as Figure 5.

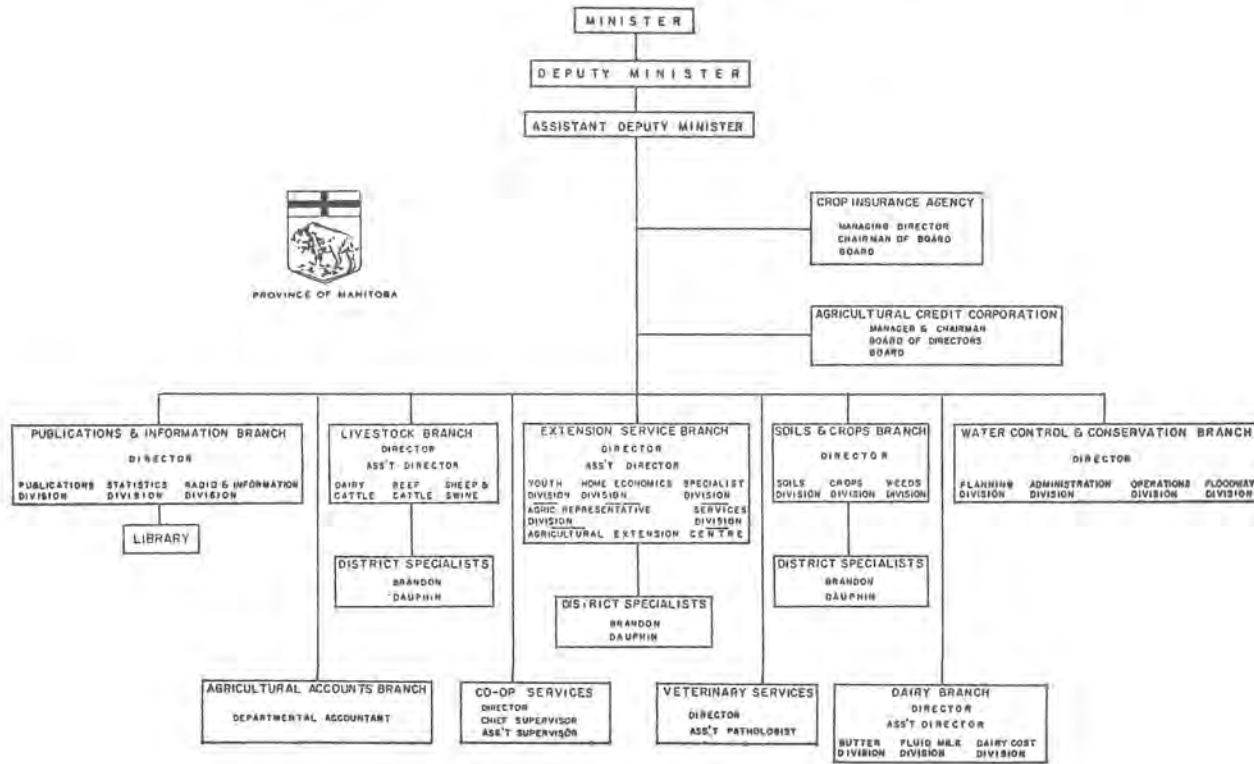
The second reorganization of the Ministry took place in the fiscal year 1964-65. This was more of an internal alignment and consolidation than a drastic reorganization. In this realignment, horticultural promotion work was transferred from the Extension Service Branch to the Soils and Crops Branch (with F.J. Weir continuing as Chief, Horticultural Division) thereby consolidating all crop production work under one Branch; the poultry specialist also was transferred from "Extension" together with the whole of the Dairy Branch, and incorporated with cattle, sheep and swine activities into an Animal Industry Branch, thereby replacing the former Livestock Branch. C.H.P. Killick, formerly Director of the Dairy Branch, was appointed Director of the newly established Animal Industry Branch until, on retirement, he was succeeded by A.J. Church in October, 1965. An exchange also took place between the Extension Service Branch and the former Publications and Information Branch. An Agricultural Editor-Writer and an Audio-Visual Technician were appointed, and together with the Promotion Officer, Agricultural Products, and the Information Section, were transferred from Publications to the Extension Service Branch. The departmental activities in respect of agricultural economics and farm business clubs were transferred from Extension and added to Agricultural Statistics, Publications and the Department Library, to form a reorganized Economics and Publications Branch with H.A. Craig continuing as its Director (Figure 12).

The third departmental reorganization involved the separation of Water Control and Conservation from the Ministry of Agriculture. Under "The Water Control and Conservation Act" (S.M. Chap. 70, 1967) the Legislature enacted that "The Water Control and Conservation Branch" shall be part of such department of Government as is from time to time designated by the Lieutenant-Governor-in-Council, and the Minister of the department so designated shall manage and administer those matters that are subject to the administration and control of the Executive Government of the Province. Thus the Water Control and Conservation Branch was first transferred from the Ministry of Agriculture to the Department of Highways in the fiscal year 1966-67, but it was again transferred back to the Department of Mines and Natural Resources in the fiscal year 1968-69.

In consequence of the separation of the Water Control and Conservation Branch from the Department of Agriculture, the administrative acts for which this Branch was responsible under the Minister were also transferred, so that the acts for which the Ministry of Agriculture remained responsible subsequent to 1967 were:

The Agricultural Credit Act; The Manitoba Agricultural Productivity Council Act; The Agricultural Societies Act; The Animal Diseases Act; The Animal Husbandry Act; The Beekeepers Act; The Coarse Grain Marketing Control Act; The Credit Unions Act; The Crop Insurance

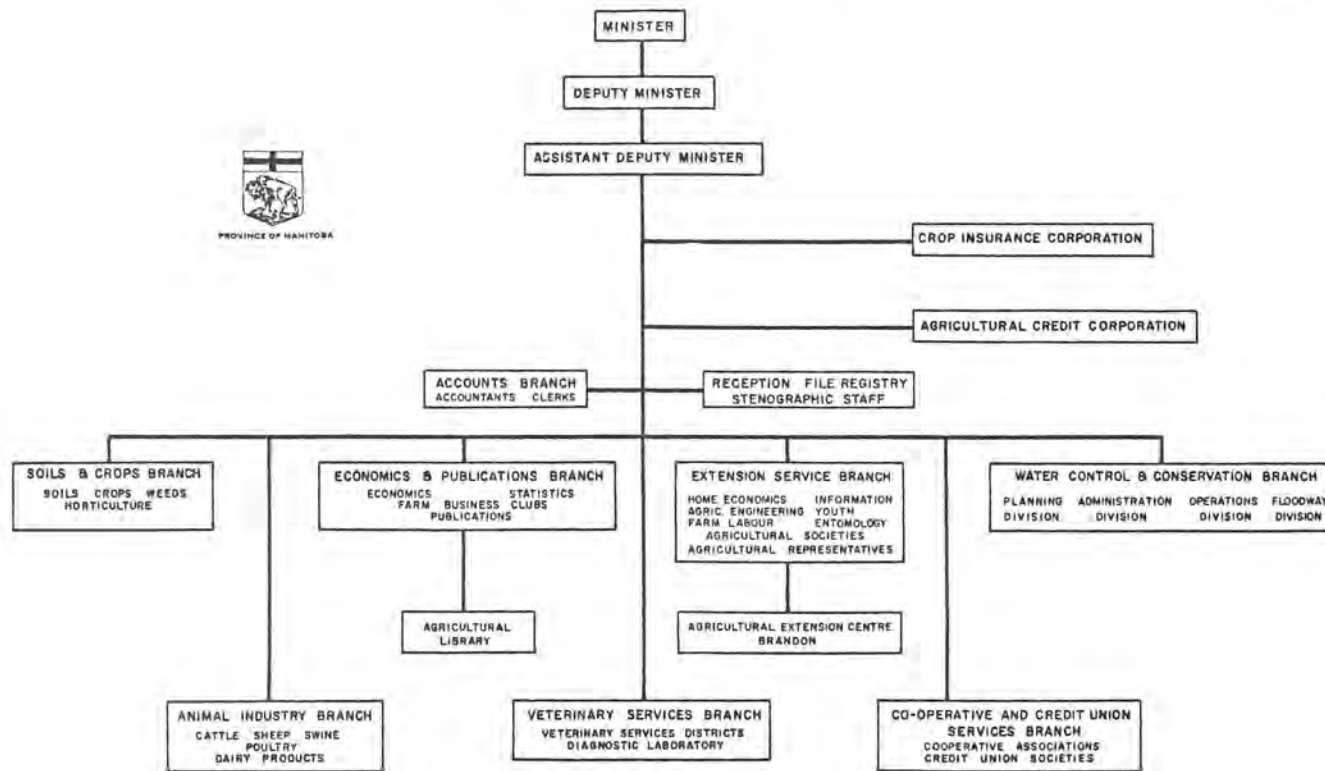
T
 C
 C
 C
 T



1959-60 to 1963-64

MANITOBA DEPARTMENT OF AGRICULTURE AND CONSERVATION

FIGURE 12



- 534 -

1964-65 to 1965-66

Test Areas Act; The Crop Payments Act; The Dairy Act; The Farm Implement Act; The Fruit and Vegetable Sales Act; The Horned Cattle Purchases Act; The Horse Racing Regulation Act; The Horticultural Society Act; The Land Rehabilitation Act; The Livestock and Livestock Products Act; The Margarine Act; The Milk Control Act; The Natural Products Marketing Act; The Noxious Weeds Act; The Pesticides Control Act; The Plant Pests and Diseases Act; The Poultry Breeders Act; The Seed and Fodder Relief Act; The Community Seed Cleaning Plant Loans Act; The Veterinary Science Scholarship Fund Act; The Veterinary Services Act; and The Women's Institute Act.

To carry out the duties and activities required under these acts at the close of Manitoba's first century, the Department of Agriculture was organized - as outlined in Figure 13 - into a small number of larger branches, i.e.: Soils and Crops; Animal Industry; Extension Service; Economics and Publications; Veterinary Services; with the addition of the Co-operative and Credit Union Services; the Crop Insurance Corporation; and the Agricultural Credit Corporation.

(2) LEGISLATIVE SUPPORT OF THE MINISTRY

The Fourth Period of the Ministry of Agriculture coincides with the sessions of the 26th, 27th and 28th Legislatures. The supply voted by the Legislature for the support of the Ministry of Agriculture, in each of the component sessions for the years ending March 31st, 1960 to March 31st, 1969, is shown in Table 70, together with the current estimates prepared for the third session of the 28th Legislature. However, the Legislature was dissolved in May, 1969, before legislative concurrence, except for two-tenths of the current estimates approved for interim supply. Consequently, the estimates for the fiscal year 1969-70 have been included in Table 70 only to indicate government intent before dissolution in comparison with supply voted by the 28th Legislature in its first and second sessions.

In connection with the designation of the sub-headings listed in the supply vote tables, it should be noted that specific items were not always included under the same designation, hence, in some cases, the data in these summary tables can be confusing if not misleading, unless checked with the Detailed Estimates prepared for the Legislature or included in the Statutes of Manitoba. Nevertheless, the summary data presented in Tables 70 and 28 indicate a few facts of striking importance to which attention should be drawn.

Comparison of Table 28 (Pages 280-287) with Table 70 shows that the Ministry of Agriculture became increasingly involved in soil erosion and water control subsequent to 1954, coincident with the establishment and development of the Soils and Crops Branch of the Department. The increasing activity in respect of soil and water erosion is reflected in the increasing amount voted for this item up to the year ending March 31st, 1959. This item was included later under a different designation along with Soils and Crops Branch activities.

TABLE 70. SUPPLY VOTED BY THE LEGISLATURE FOR DEPARTMENT OF AGRICULTURE AND

	Legislative Session				
	1st of 26th June 9 to Aug. 4, 1959	2nd of 26th Jan. 19 to Mar. 26, 1960	3rd of 26th Feb. 14 to Apr. 15, 1961	4th of 26th Oct. 16 to Oct. 20, 1961	5th of 26th Feb. 15 to May 1, 1962
	Supply Voted for Year Ending				
	Mar. 31, 1960	Mar. 31, 1961	Mar. 31, 1962		Mar. 31, 1963
Administration	\$ 63,370	\$ 69,550	\$ 76,770		\$ 81,710
Agriculture	1,123,160	1,275,375	1,280,060		1,350,255
Agricultural Development	564,340	554,860	551,820		557,010
Canada-Manitoba Agreement (ARDA)	—	—	—		—
Canada-Manitoba Agreement (FRED)	—	—	—		—
Economic Research	394,900	445,500	517,500		532,000
Publications, Statistics and Radio Information Service	67,350	81,920	86,140		91,370
Agricultural Research	—	—	—		—
Farm Labour Services	5,400	—	—		—
Agricultural and Horticultural Societies	203,300	203,300	193,300		203,300
Predator and Grasshopper Control	40,000	25,000	25,000		67,500
Assistance re Seed and Fodder and Unharvested Acreage Payments	779,500	6,000	—		1,000
Loans to Metis and Indian Co-operatives	—	—	—		—
Co-op Services	46,960	50,645	57,470		63,170
Co-op and Credit Union Services	—	—	—		—
Manitoba Agricultural Credit Corporation	—	—	449,000		415,500
Manitoba Crop Insurance Corporation	—	—	100,000		115,000
(Department of Agriculture)	3,288,280	2,712,150	3,337,060		3,477,815
Water Control and Conservation	1,500,000	1,573,620	1,588,625		1,658,150
Flood Protection (Dept. of Agriculture and Conservation)	—	—	—		—
	4,788,280	4,285,770	4,925,685		5,135,965

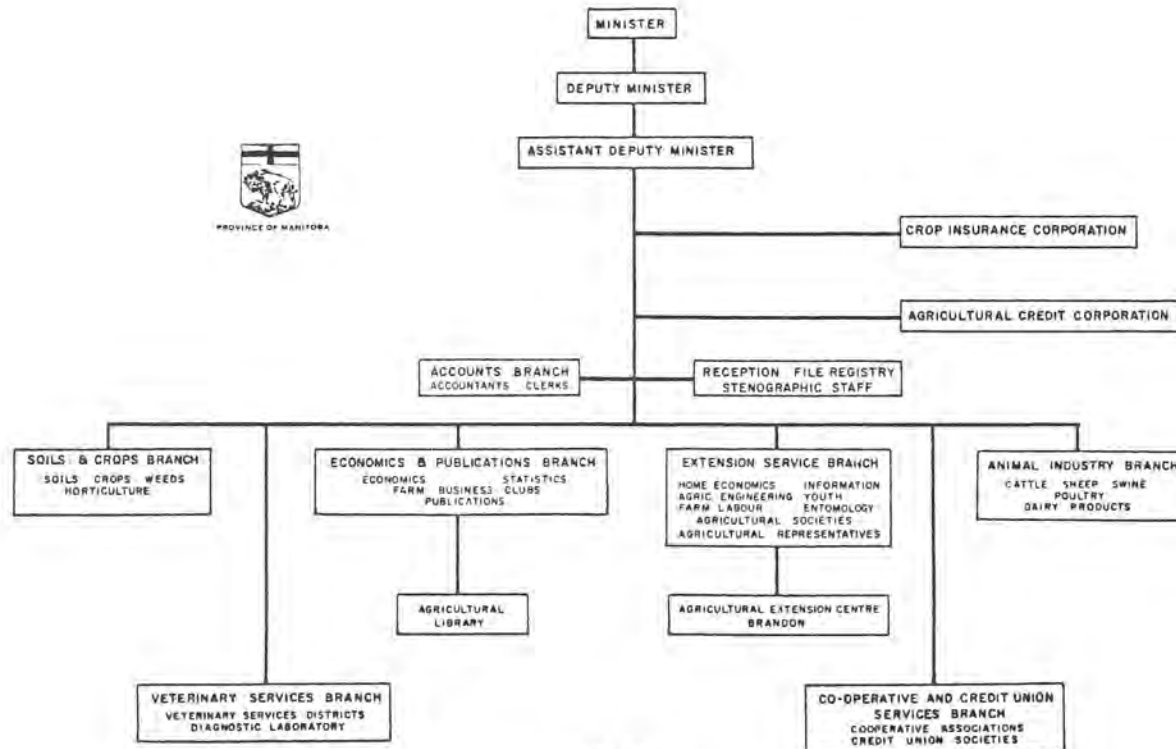
* Current estimates submitted to 3rd Session of the 28th Legislature which was dissolved before legislative concurrence.

CONSERVATION, 1960 to 1967; AND DEPARTMENT OF AGRICULTURE, 1968 to 1970

Legislative Session							
1st of 27th Feb. 28 to May 6, 1963	2nd of 27th Feb. 6 to Apr. 16, 1964	3rd of 27th Aug. 17 to Aug. 27, 1964	4th of 27th Feb. 22 to May 11, 1965	5th of 27th Feb. 3 to Apr. 27, 1966	1st of 28th Dec.5,1966 to May 4, 1967	2nd of 28th Mar. 6 to May 25, 1968	3rd of 28th Feb. 27 to May 22, 1969
Supply Voted for Year Ending							
Mar. 31, 1964	Mar. 31, 1965		Mar. 31, 1966	Mar. 31, 1967	Mar. 31, 1968	Mar 31, 1969	Mar. 31, 1970*
\$ 104,275	\$ 224,047		\$ 230,340	\$ 536,130	\$ 499,149	\$ 318,537	\$ 347,819
1,416,306	1,426,456		2,164,063	2,513,546	3,097,864	3,364,573	3,072,717
557,280	595,972		-	-	-	-	-
301,500	1,359,000		1,241,000	1,240,000	-	-	815,763
-	-		-	-	-	2,308,402	3,127,183
562,534	580,609		606,540	656,860	956,014	420,836	613,148
102,885	126,678		-	-	-	-	-
-	-		-	300,000	100,000	150,000	-
-	-		-	-	-	-	-
182,300	198,000		182,300	180,000	173,000	210,050	231,490
67,500	38,000		38,000	1,000	1,000	2,000	-
1,000	1,000		1,000	1,000	1,000	1,000	-
-	-		-	100,000	-	15,000	15,000
70,645	-		-	-	-	-	-
-	73,320		95,120	123,650	154,386	188,392	159,106
470,125	447,100		567,474	725,310	801,361	718,642	921,893
129,200	141,050		198,265	588,425	593,700	631,250	638,900
3,965,550	5,211,232		5,324,102	6,965,921	6,377,474	8,328,682	9,943,019
1,617,750	1,915,090		3,007,880	3,435,288	-	-	-
7,000,000	9,259,000		7,548,000	11,181,000	-	-	-
12,583,300	16,385,322		15,879,982	21,582,209	-	-	-

MANITOBA DEPARTMENT OF AGRICULTURE

FIGURE 13



1966-67 +

With the addition of the Water Control and Conservation Branch in 1959, the total departmental supply vote for the first year of the 1960-1969 period was increased to \$4.78 million from the \$2.14 million voted for the last year of the preceding sub-period. For the eight years (1960-1967) that the Water Control and Conservation Branch was administered under the Ministry of Agriculture, the supply voted for that Branch increased from \$1.50 million to \$14.61 million (mainly as the result of the construction of the Red River Floodway), thereby raising the total supply voted for the Department of Agriculture and Conservation from \$4.78 million for the year ending March 31st, 1960 to \$21.58 million for the year ending March 31st, 1967. Because the inclusion of the Water Control and Conservation Branch resulted in an enlarged total supply vote for the Department of Agriculture during the eight years, 1960 to 1967, the agricultural items, as shown in Table 70, have been added to obtain a continuing series of comparable amounts voted for the support of Agriculture by the Legislature. To these Department of Agriculture totals, the amount of supply voted for Water Control and Conservation were then added to obtain the total supply vote allocated to the Ministry of Agriculture for the years involved.

With the exception of allocations for "Water Control and Conservation" during the years this Branch was included, temporarily, in with the Ministry of Agriculture, the allocations in the supply votes during the 1960-1969 period chiefly involved funds for the maintenance or enlargement of established activities; for emergency measures; for development of newly established services - i.e. the Manitoba Credit Corporation (Page 517) and the Manitoba Crop Insurance Corporation (Page 518); and, subsequent to 1962, for projects and operations under Canada-Manitoba agreements.

In connection with the maintenance of established or continuing endeavors, the supply item designated as "Economic Research" requires clarification at this point, but the Canada-Manitoba agreements constitute new activities of historic significance which merit separate annotation.

Economic Research - The item "Economic Research" first appeared in the supply vote of the Ministry of Agriculture in connection with the "Manitoba Economic Survey" instigated by Premier John Bracken in 1937-1939.* Prior to 1937 a succession of studies and activities in respect of agricultural and rural problems were carried out by the Ministry** but were financed through allocations designated otherwise. However, over the years, the concept of the connotation "economic" apparently underwent change. Subsequent to the economic survey of 1937-1939, various research activities were undertaken by the Ministry, and by the Soils Department and the Plant Science Department of the Faculty of Agriculture, which were financed by the Ministry through the allocation for "Economic Research". Thus the soil survey and soil investigations from the 1930's onwards, and, by the mid-1940's, the breeding and improvement of barley, alfalfa, corn, other field crops and vegetables; chemical weed control investigations; drought

* Page 329.

** Pages 243; 293; 301; and 307.

control studies; post-war projects; and pasture improvement activities, etc., were all supported through this allocation. Commencing with 1954 and 1955, this allocation was enlarged to extend support for research projects in the additional Agricultural Faculty departments of Entomology, Animal Science, Agricultural Engineering, and Agricultural Economics.

During the 1960-1969 period, the allocation for Economic Research was further enlarged. During this decade an average of approximately 92.5 percent of the funds so provided were used to support an extensive array of research and experimentation in the Faculty of Agriculture as joint projects with or of the Ministry of Agriculture. Therefore, the supply vote for "Economic Research" has been, in effect, an indication that despite its absorption into the University of Manitoba, the Faculty of Agriculture with the passage of time again became, and continued to serve, as the research arm of the Ministry of Agriculture.

(3) CANADA-MANITOBA AGREEMENTS (A.R.D.A.) AND (F.R.E.D.)

In contrast to the supply vote involved with the support of general and specific agricultural research, the items designated in Table 70 as Canada-Manitoba Agreements (A.R.D.A.) and (F.R.E.D.) can be considered as falling more correctly within the scope of political economy and rural sociology.

(a) A.R.D.A.

The Agricultural and Rural Development Act of the Federal Government (R.S.C. 1961, Chap. 30) was passed to

"authorize the Federal Government to enter into agreement with a provincial government for the joint undertaking of alternate land use projects and rural development projects in order to assist farmers with small (sic)* or otherwise unprofitable units and promote the conservation of soil and water resources."**

A further indication of the motivation behind this federal legislation was put forward in the following extract from a provincial brochure.***

"The reasoning behind devising an Act such as A.R.D.A. is best expressed in the preamble to the current Federal-Provincial A.R.D.A. Agreement.

"rural areas and rural people are subject to widespread social, technological and economic changes that necessitate adjustment on the part of many rural areas and people. The income level and standards of living of many people in rural areas (are) unreasonably low.

"Economic and social disadvantages that affect many low income rural people require government action, and there is a need for a more effective use of some lands, soil conservation and improvement, and the management, conservation and development of water reserves."

In view of these two quotations, it is only necessary to point to the foregoing pages of this treatise to exonerate the Provincial Ministry of

* An echo of the fallacy that efficiency in husbandry is necessarily a function of increasing size of operation.

** Canada Year Book; 1961; Page 1237.

*** Giles, J.D. - "A.R.D.A. in Manitoba"; Department of Agriculture; Winnipeg; 1968.

Agriculture from being indifferent to, or negligent in, its obligations in respect either of the development in Manitoba of farm, home and rural areas, or of soil and water conservation.

Consequently, those who had devoted many years to carrying out the policies of the Ministry, in close contact with farm problems and farm folk, and in doing so much more than the two quotations above imply should be done, would be more inclined to believe that the reason behind devising A.R.D.A. may have been pressure on the Canadian government for assistance from less fortunate parts of Canada and federal acceptance of concepts propounded and fostered by urban-oriented economists, self-styled consultants, and sociological planners, who were either unfamiliar with, or unwilling to give credit for, what had been or was already being done by the Department of Agriculture in Manitoba.

However, despite the leadership and assistance extended by the Ministry throughout Manitoba for many decades, the progress made in the development of rural areas in this Province varied with the physical conditions and natural problems, and to some extent with the people involved.

As the result of favorable natural features most of the districts in the prairie region had advanced relatively rapidly, so that pioneer settlements gave place more readily to prosperous communities. On the other hand, because of adverse or restrictive local physical features and natural problems, some districts required a longer time for settlers to learn, by experience, how to combat or adjust to local environment; while other physiographic regions (by virtue of natural problems, unfavorable economic environment, and lack of markets for adaptable products) either remained agriculturally undeveloped or, in making what appeared to be comparatively slow progress, retained much of their pioneer character.

In the same year that the Federal A.R.D.A. was passed, the Manitoba government by Order-in-Council 1107, September 3rd, 1961, and on recommendation of the Minister of Industry and Commerce, established a Committee on Manitoba's Economic Future (C.O.M.E.F.). Forty-two citizens representative of the interests of the people of Manitoba and leaders in the fields of labour, primary production, industry, education, professions and government were appointed to this committee, which was

"directed to study and investigate measures for and to report on appropriate policies for accelerating the growth and development of the economy of the Province so as to provide employment opportunities for the growing labour force."^{*}

In the climate of political administration which at that time prevailed, it was more or less inevitable that the provincial government of the day would welcome the opportunity of obtaining federal assistance through A.R.D.A. to the extent of fifty percent of the cost in implementing certain recommendations for agricultural and rural development, especially as the joint federal-provincial projects under A.R.D.A. involved the enlargement of provincial activities already in progress or under consideration for further action when funds were available.

* Report of the Committee on Manitoba's Economic Future to the Government of Manitoba, 1962-1975; Winnipeg; 1963.

The first A.R.D.A. agreement between Manitoba and Canada was signed in 1962 and expired in 1965. Under this agreement the projects undertaken were designated* (i) Alternate uses of land; (ii) Soil and water conservation projects; (iii) Rural development (such as undertaking local leadership training courses, inventories of community resources and special training exercises); and (iv) Research in respect of physical and human resources (under the 1962 agreement ten percent of A.R.D.A. funds were required to be spent on research).

The second Manitoba-Canada agreement was signed in 1965 to extend A.R.D.A. for five years (1965-1970). Under this agreement no more than fifty percent of the A.R.D.A. funds were to be spent on soil and water conservation projects; and, to the 1962-1965 projects were added (i) Rural development staff and training services (i.e. training fishermen, instructing producer's co-operative leaders in leadership techniques, etc.); (ii) Public information services; (iii) Special rural development areas (which involved financing action projects in the Interlake region but which were subsequently transferred to a new agreement designated as F.R.E.D.); and (iv) Rural development areas involving land development projects and improvement of parks in the agricultural area of Manitoba.

General arrangements under A.R.D.A. agreements required that the projects to be carried out through joint federal-provincial sponsorship must be approved at least once a year by the Province and by representatives of the Federal Government; that a designated sum of money be set aside by the Government of Canada for specified projects for an agreed number of years; that each province match the federal funds with a similar amount from its own Treasury; and that the projects recommended by the Provincial Minister of Agriculture be of high priority to rural people and to the overall provincial program.

In Manitoba all projects financed under A.R.D.A. were undertaken and administered by the provincial departments concerned, such as, Agriculture, Industry and Commerce, Mines and Natural Resources, Tourism and Recreation, and Education. The overall plans were decided by the Cabinet, and the Manitoba Development Authority (a special committee of Cabinet Ministers chaired by the Premier) reviewed the overall plans to ensure that co-ordinated action was taken. Co-ordination of the annual programs was the responsibility of an A.R.D.A. Co-ordinator working within the Department of Agriculture. E.A. Poyser, formerly Soil Specialist in the Soils and Crops Branch of the Provincial Department of Agriculture, was appointed A.R.D.A. Co-ordinator in 1962-63, in which capacity he continued throughout the remainder of the 1960-1969 period.

(b) F.R.E.D.

The Fund for Rural Economic Development as implemented in Manitoba was the outcome of activities and studies begun in 1963 under A.R.D.A. in the Interlake area of Manitoba. In this connection, two resource conferences of local residents and government officials were held in April,

* Giles, J.D. - "A.R.D.A. in Manitoba".

1964, one at Arborg and one at Stonewall, at which a report on "An Economic Survey of the Interlake Region" was made public. As a direct result of these conferences a number of "rural development area boards" (eventually numbering ten) were established to examine their respective communities and offer suggestions to the government in respect of future procedures. By May, 1966, a general broad development plan for the Interlake area had been prepared and was presented for approval at a public conference in Teulon. This plan incorporated the findings of studies made under A.R.D.A. and the suggestions and recommendations made by the local development area boards.

From these preliminaries came the details of an overall regional development program for the territory extending from the Assiniboine River northward between and including Lakes Manitoba and Winnipeg up to Township 37. To implement this special regional development program, which was approved by the federal and provincial administrations, the F.R.E.D. agreement was designed, and was signed May 16th, 1967 by Premier Duff Roblin on behalf of Manitoba, and by the Honourable Maurice Sauve, Minister of Forestry and Rural Development, on behalf of Canada.

Under the F.R.E.D. agreement a fund of 85 million dollars was to be invested in the "so-called" Interlake or F.R.E.D. region by the two governments in Education, Manpower Training and Development, Improved Physical Facilities and Resources, and Research, over a ten year period (1967-1977).

The F.R.E.D. region and the portion of the Province to which A.R.D.A. continued to apply under the Manitoba-Canada agreement at the close of the 1960-1969 period, together with the area in which A.R.D.A. funds could be used for "soil and water projects" only, are outlined in Map VIII.

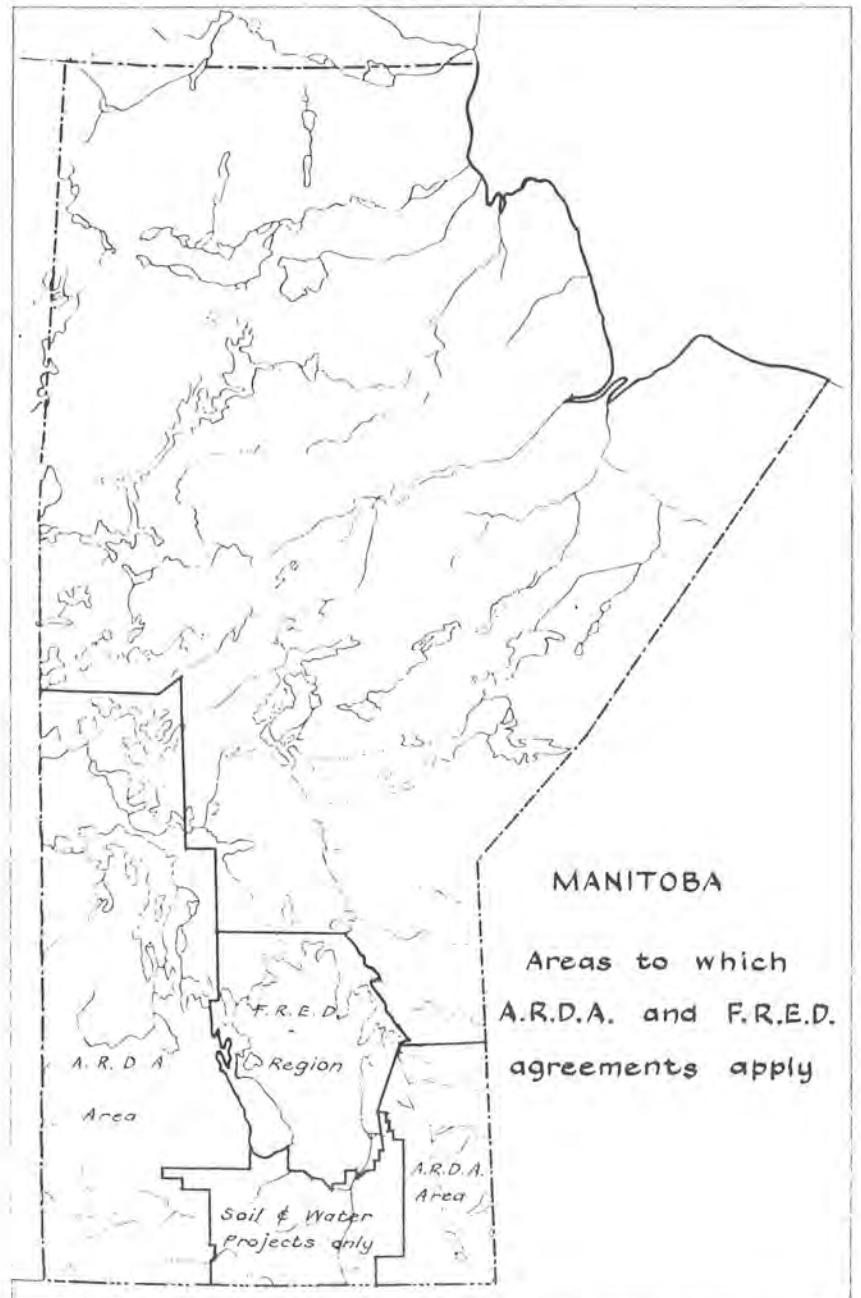
Further future involvement of the Federal Government in regional development in the provinces of Canada appears to have been foreshadowed in the A.R.D.A. Year Book, Manitoba, 1968, by an announcement of a Federal Department of Regional Economic Expansion (D.R.E.E.) to be established in the succeeding year for the purpose of bringing together under one Minister (Federal) the various programs known as A.R.D.A.; F.R.E.D.; P.F.R.A. - Prairie Farm Rehabilitation Administration; A.D.A. - Area Development Act; and A.D.B. - Atlantic Development Board.

(4) COMMERCIAL PRESSURES AND ECONOMIC PLANNING

During the last half of the 1925-1959 sub-period, and out of the travail of the first half of the same, the Department of Agriculture reached a high level of proficiency in giving leadership and rendering service to agriculture. This proficiency, together with the efforts of farm operators and the fortunate combination of weather conditions and economic circumstances, all contributed to a contented countryside and the golden age of agriculture enjoyed in Manitoba in the 1940's and 1950's.

The economic potential indicated by these more prosperous years did not escape the attention of business interests engaged in trade, industry and commerce, with the result that, as the years progressed, agriculture in Manitoba became more and more subject to pressures exerted by certain

MAP VIII



urban and commercial interests that seized the opportunity presented for exploitation of farming. This was attempted through enlarging the business of supplying commodities for farm use, by "giving advice" through extension activities carried out by commercial public relations personnel, and by trying to influence, insofar as commercial concerns were able, the "input" and the "output" of field and farm in the interests of "urban based business".

Furthermore, as it will appear, there was no lack of individuals outside the Ministry of Agriculture who, as the years progressed and farming prospered, were far from loth to exploit the economic climate and to advocate their own theoretic concepts of administrative programs and of political economy; and, from the security of professional or other salaried positions, to accept fees for proposing how farms (which they had never seen) should be operated - with all risks exclusive to the farm operators.

In the 1960's, the Provincial Government also became more and more involved in the field of economic planning. Following up the 1963 report of C.O.M.E.F., the administration, by consolidating Orders-in-Council Nos. 1172, 1749, 1783, 1787, August, 1967, appointed a commission to report on "Targets for Economic Development to 1980". This commission was instructed to study and report on the present and future prospects of industrial, commercial, and related sectors of Manitoba's economy (including agriculture). This assignment was carried out by a sixteen member commission under a director, with a staff of seven assistants, supported by eighteen consulting firms under contract, and thirteen advisory committee chairmen with 288 advisory committee members comprising "a broad spectrum of industrial and business firms, universities, labor organizations, government agencies, and public officials".*

In its report, this Commission made recommendations of "appropriate targets in each relevant area" designated as Targets for Economic Development (T.E.D.) in respect of:

"Primary industries, i.e. Agriculture; Fishing; Fur; Minerals; and Energy";

and in respect of

"Secondary industries, i.e. Food and Beverages; Agricultural Equipment; Agri-Business; Furniture and Wood Products; Apparel; Chemical and Allied Products; Iron and Steel; Aerospace and Electronics; Building materials; Uranium enrichment; and other industries."

This report also dealt with External and Internal trade; Tourism; Regional development; and Rural development.

Meanwhile (despite the metaphysical discourses of planners, consultants and committees), the vagaries of international trade, the increasing supply of "surplus wheat" in a world where thousands are dying of starvation, the reduction in export demand for grain, and the quota system of grain delivery enforced by the Canadian Wheat Board responsible (in Canada) for its sale,

* "Manitoba to 1980" - Report of the Commission on Targets for Economic Development; 1969.

continued to spread discontent throughout the countryside and add to the difficulties and problems of grain growers on prairie farms.*

These growing economic problems emphasized that the fundamental principles of permanent agriculture cannot be ignored with impunity; that the computer, although a useful tool in the hands of "knowledgeable husbandmen", is no substitute for the "wisdom of the peasant" derived from generations of learning to work in harmony with the laws of nature; and that the activities and services developed by the Ministry of Agriculture over the years, in co-operation with farm operators, were still required to fill basic rural needs and to encourage appreciation and revival of balanced types of permanent agriculture and continuity in the face of adversity on such farms in the blackearth soil region that had been degraded into a state of unbalance through over-enthusiastic devotion to exclusive mono-culture.

(5) CONTINUING DEPARTMENTAL ACTIVITIES AND SERVICES, 1960-1969

In the foregoing sections of this treatise, detailed information (gathered from research into various historic documents not so readily available in respect of personnel and activities of the component branches of the Ministry of Agriculture) had been compiled and presented to provide a reasonably complete record of the Manitoba Department of Agriculture up to the end of the 1925-1959 sub-period.

However, commencing with the fiscal year ending March 31st, 1960, the Provincial Government re-established the policy of publishing annual reports of its various departments in bulletin form. These publications contained the reports prepared and submitted by the respective directors of the component branches. Consequently, from 1960 onward, annual reports containing particulars of personnel and activities of each branch of the Department of Agriculture can be found in most public libraries, or can be obtained direct from the Publications Branch of the Department of Agriculture. Therefore, the somewhat lengthy list of personnel contained in this re-established series of annual reports can be omitted in the present outline of the activities and services of the Ministry of Agriculture during the 1960-1969 period.

On the other hand, however, it is imperative that an attempt be made at this point to present a summary of the activities of the Department of Agriculture in effect during the decade of 1960-1969 in order to assess the degree of development attained, the magnitude of the services rendered, and the agricultural leadership achieved by the Ministry in the closing years of Manitoba's first century. This can be accomplished by reviewing (with some inevitable repetition and in some cases by quoting from) submissions of branch directors recorded in the annual reports of the Department and from a brochure prepared by R.A. Wallace,**as Deputy Minister of Agriculture, in 1968.

As shown in Figure 13, the work of the Department of Agriculture was finally consolidated and organized under six departmental branches, with

*Pages 496 and 500.

**Wallace, R.A. - "Programs and Policies"; Manitoba Department of Agriculture, Winnipeg, 1968.

two corporations to discharge, respectively, administrative duties in respect of provincial acts involving agricultural credit and crop insurance. The six departmental branches were designated as: (a) Extension Service; (b) Soils and Crops; (c) Animal Industry; (d) Veterinary Services; (e) Economics and Publications; and (f) Co-operative and Credit Union Services.

(a) Extension Service Branch

As stated by the Director, H.H. Austman, in the branch report of 1967:

"The Extension Service is the largest adult educational service for rural people in Manitoba. As such it provides front line planning and action programs for the Department of Agriculture and to some extent for the Government of Manitoba. It expedites government programs through an educational approach . . . extension work is carried out with both farm and non-farm people in the business of farming, the art of homemaking, the development of human and physical resources, the services of the community, and the personal, social and economic relations that make up a community. Its prime function is to communicate, to teach and to help people utilize various available programs to their advantage."

To accomplish these objectives, the Extension Service Branch, as constituted after the reorganization in 1967, involved: (i) the Agricultural Representative Service; (ii) Extension Advisory Councils; (iii) the Agricultural Extension Centre, Brandon; (iv) the Home Economics Division; (v) Women's Institutes; (vi) Agricultural Societies; (vii) 4-H Clubs; (viii) Entomology and Apiculture; (ix) Agricultural Engineering; and (x) Agricultural and Farm Manpower Services.

(i) Agricultural Representative Service

The Department's prime contact with rural communities in this period was through 38 agricultural representatives with offices strategically located in major towns throughout Manitoba. On the average each agricultural representative served an area with approximately 1,000 farm operators and several towns and villages. The agricultural representatives' duties involved the promotion of good farm management, efficient production and marketing, sound 4-H and youth training programs, home and farm management, soil management and conservation, and local community improvement.

In discharging these duties the agricultural representatives continued to maintain close contact with individual farm families and local community organizations such as agricultural societies, extension advisory councils, Chambers of Commerce, service clubs, area development boards and other community improvement groups. They also maintained close liaison with commercial agricultural organizations, and between farm and non-farm people, local governments and Provincial Government departments.

(ii) Extension Advisory Councils

Extension Advisory Councils consisted of bodies of 12 to 18 local people set up by the agricultural representatives in consultation with local organizations. Each member of these councils was elected to serve a two year term, but could be reappointed. These councils were formed to assist the extension workers in their respective local districts by conducting surveys, promoting programs and pin-pointing projects needing attention.

(iii) Agricultural Extension Centre

The Agricultural and Homemaking School first established in Brandon in 1947* was continued in the 1960-1969 period as an Agricultural Extension Centre under a full time principal. From October to March, this centre offered short courses for farmers, homemakers, local government officials and businessmen, but its facilities were in use throughout the year by farm organizations and various other groups. It formed the headquarters for a regional co-ordinator and an agricultural representative; for specialists (one each in agricultural engineering, crops, weeds and beef cattle); four in soils; two in farm management; and a home economist. These specialists served the western portion of rural Manitoba.

(iv) Home Economics Division

The Home Economics Division of the Extension Service at the close of the 1960-1969 period consisted of a chief, an assistant chief, four specialists (i.e. one each in foods, textiles, home design and 4-H clubs) and 15 district home economists located respectively in association with the agricultural representatives in 15 of the Department of Agriculture offices in rural areas.**The work of the Extension home economists involved

“helping people in rural communities achieve their objectives in personal development, consumer skills, education, money management; and (helping) rural families achieve their economic, intellectual, aesthetic and cultural objectives.”

(v) Women's Institutes

The provincial organization of the Manitoba Women's Institute continued to be administered, in the 1960-1969 period, by an Advisory Board of the ten district presidents, two Provincial Government nominees, the Director of the School of Home Economics, and the Chief of the Home Economics Division of the Extension Service Branch. The latter, as in former years, continued to serve as the Executive Secretary of the Manitoba Women's Institute.

Each year, four planned programs on topics of current interest were made available to local groups or institutes from the Provincial Extension Office. These were voluntary programs offered to assist local groups in their objective of encouraging rural women to undertake leadership in home and community affairs.

(vi) Agricultural Societies

Although the local agricultural societies continued to be the responsibility of the society directors and the members, the overall supervision of agricultural societies was under the Director of Extension as Superintendent of Agricultural Societies, assisted by the current Agricultural Society Advisory Board. The Ministry continued to contribute financial

* Page 369.

** Page 366.

assistance and general policy supervision of the societies, fairs, exhibitions and other activities, and to give grants for building improvements and for the development of fair grounds and buildings as community centres. Towards the close of the 1960-1969 period there were 65 agricultural societies in the Province. Three large exhibitions known as "A" class fairs were held, i.e. the Provincial Exhibition, Brandon; the Manitoba Winter Fair, Brandon; and the Red River Exhibition in Metro Winnipeg. Regional "B" class exhibitions operated at Carman, Portage la Prairie, Dauphin, Swan River and Virden; and subsequent to 1968, the Manitoba Stampede and Exhibition operated by the Valley Agricultural Society, Morris, was placed in the same category. The remainder of the exhibitions staged by the various local agricultural societies were designated as "C" class fairs. These varied in number from 54 to 57 per year. The Provincial Department of Agriculture also assisted the agricultural societies in various endeavors such as educational meetings, tours, field days and 4-H competitions.

(vii) 4-H Club Programs and Policies

The well-established 4-H club programs and policies continued to be sponsored by the Extension Service Branch as a vital contact with youth on farms and in rural towns and villages. The chief purposes of 4-H Club endeavors involved providing

"the opportunity for rural youth between the ages of 10 and 21 to develop their citizenship potential by participating in a voluntary activity and to become aware of improved agricultural and home economics technology."

"The programs were supervised by the 4-H and Youth Programs Division with local organization and operation under the direction of agricultural representatives and extension home economists. Assistance and local sponsorship is obtained from Agricultural Societies and Women's Institutes as well as local service and business organizations."

In respect of the work undertaken it may be noted further that

"The program includes training in public speaking, demonstrations, tours and exchange trips, recreation, and study of careers, along with study and practical demonstrations in a project or projects of their own choice."

(viii) Entomology and Apiculture

The duties and services of the Ministry in connection with combating injurious insects and promoting apiculture during the 1960-1969 period were carried out through a Senior Extension Entomologist and an Entomology Specialist. These specialists were responsible for the administration of the Pesticides Control Act; the work in connection with refunds under the Grasshopper Control Assistance Policy; and the Bee and Bee Diseases section of the Animal Industry Act.

Under the Pesticides Control Act the regulations required that

"all dealers in insecticides sold to farmers for application on cropland and on livestock must obtain a licence. To qualify, each dealer not licensed during the previous year must pass a written examination. Distributors must sell insecticides only to licensed dealers and farmers must buy only from licensed dealers. Dealers must keep accurate records of their stocks of aldrin, dieldrin, DDT, heptachlor, endrin and lindane.

"Farmers buying the insecticides aldrin, dieldrin, DDT, heptachlor, endrin and lindane, must complete declaration of purchase forms indicating the amount purchased and the intended use."

The Grasshopper Control Assistance Policy provided that

"a refund of 50 percent of the purchase price of recommended grasshopper control insecticides is made to the farmer through the rural municipality. Maximum assistance is \$30.00 per quarter-section farmed. Of this assistance the Provincial Government pays half, while the rural municipality pays the remainder. Farmers taking advantage of this policy must treat the road allowances and vacant land bordering their farms."*

Under the Bee and Bee Disease section of the Animal Husbandry Act, all beekeepers were required to register each apiary annually with the Department of Agriculture and all colonies were inspected each year. The inspectors had authority under the Act to destroy diseased colonies.**

The entomology specialists carried on the extension activities of visiting the keepers of bees; of holding meetings to discuss management, extracting and marketing honey; and of keeping close contact with the associated branches of the Manitoba Beekeepers Association. They also held meetings for discussion of insect control, instituted control measures in cases of outbreak of injurious insects, and carried out trials in respect of the effectiveness of new insecticides. Studies of pesticide residues in dairy, meat and vegetable products also were carried out through a Committee on Pesticide Residue Testing.

(ix) Agricultural Engineering

A number of policies in respect of farm engineering were administered by the Ministry through the Agricultural Engineering section of the Extension Service Branch.

The first of these involved the Farm Implement Act which, since 1919, required that all dealers in farm implements must list all new implements and repair parts offered for sale, the maximum retail price, and the credit arrangements.

To assist farmers in planning and constructing suitable and durable farm buildings and equipment, the Extension Service and the Economics and Publications Branch, in co-operation with the Sub-committee of the National Committee on Agricultural Engineering, made provision for distribution of plans drawn in accordance with national and regional specifications. These were made available to farmers on request.

To assist farmers in the construction of proper drainage channels on farms in areas where land drainage is a problem, farmers (with the approval of the Agricultural Representative and the Regional Soil Specialist) could apply for and obtain the technical services of an Extension Agricultural Engineering Specialist, to survey and stake out the drainage ditches approved for a charge of \$10.00 for each of the first two quarter-sections, and \$15.00 for each additional quarter-section. The construction of the drains, however, was the farmer's responsibility.

* Page 483.

** Pages 428 to 430.

The Extension Agricultural Engineering staff of five also continued to give assistance and to co-operate with the horticultural specialists in planning and operating irrigation projects for vegetable, strawberry and potato production, and in seasons when the water levels in farm dugouts were low, operated an emergency dugout pumping program in co-operation with the Prairie Farm Rehabilitation Administration.

In addition to administering these policies and programs, the Agricultural Engineering staff carried on the general extension projects of holding tractor, traction, tillage and harvesting field days; and of giving short courses in welding, farm buildings, farm water supply and sanitation, etc.

(x) Manpower Service

The Agricultural and Farm Manpower Services during the 1960-1969 period involved two policies administered through one officer of the Extension Service Branch.

Student Bursary Policy

The Bursary Policy of the Department of Agriculture, which was initiated in 1957 to assist needy and deserving students to finish their studies at the University of Manitoba, was continued until the 1964-1965 academic year. During these years, 882 bursary awards were made to degree and diploma students in agriculture. In 1965 this policy was transferred to the Department of Education, subsequent to which the duties of the Department of Agriculture were limited to the supervision of outstanding accounts in effect at the time of transfer. Nevertheless, the Department continued to have representation on the Department of Education Agricultural Bursary Committee.

Farm Worker and Manpower Service

The Farm Help Branch* of former years was incorporated in May, 1960 into the Extension Service Branch as a Farm Labour Service under the direction of a Chief, Agricultural Services division.

In 1964-65, committee work was carried on with staff of the National Employment Service, the Federal Department of Labour and the Manitoba Department of Education in studying the problems caused by the disappearance of competent farm workers, and in assessing the need for training courses and planning a pilot course for farm laborers. The first such course was started in February, 1966 at the Glenlea Agricultural Research Station of the University of Manitoba.

In 1965-66 the Farm Worker Service was continued under a Federal-Provincial Agricultural Manpower Committee composed of representatives from Agriculture (with the Provincial Deputy Minister as Chairman), the National Employment Service, the Federal Department of

* Pages 485 to 488. (H.R. Richardson, Director of Farm Help Service Branch, retired April 1st, 1960.)

Citizenship and Immigration, Indian Affairs Branch, and representatives from five major farm organizations, i.e.: Farm Bureau, Manitoba Farmers Union, the Milk Producers Association, the Manitoba Beet Growers Association, and the Manitoba Vegetable Growers Association, The Manitoba departments of Education, Labour and Welfare also became involved. The Agricultural Representative offices served as clearing houses for farmers seeking full time and seasonal workers.

In September, 1966 the Extension Service launched a new type of program by placing four manpower agents (i.e. one each at Arborg, Ashern, Teulon and at Selkirk) to aid rural people in upgrading their occupational skills. The approach was by personal counselling and presenting information in respect of occupational and training opportunities.

A new Canadian manpower program of occupational training came into being on April 1st, 1967, under which a Canadian Manpower Centre was established at Selkirk in connection with the F.R.E.D. program.

(b) Soils and Crops Branch

The programs and policies of the Ministry in respect of Emergency Measures, Soils, Field Crops and Weeds, were carried out in 1960-1969 (and also of Horticulture subsequent to 1964) through the Soils and Crops Branch under J.M. Parker, Director.

(i) Emergency Measures

The emergency programs of former years were continued as required in the Fourth Period as aperiodic measures to aid farm operators when crop failure or restricted yields of field crops resulted in serious livestock maintenance or other problems. These measures included: "The Unthreshed Crop Payment Policy" in locations where Federal P.F.A.A. payments were not received; sharing in the "Federal-Provincial Emergency Fodder Policy" of assisting (with the co-operation of the two railways) in the transport of hay or other fodder; financing the full cost under the "Provincial Feed Grain Assistance Policy" when needed and where the transport distance was a limiting factor; and giving assistance in the movement of livestock from problem areas to areas where forage and feed were available. Assistance also at times was given in the movement of haying equipment to distant areas where native hay could be obtained and transported to farms where fodder was scarce or unavailable on account of uncontrollable adverse conditions. Duties in respect of these problems involved both the Soils and Crops and the Animal Industry branches.

(ii) Soils Division

The programs, policies and projects of the Ministry in respect of soils* during the 1960-1969 period were continued or undertaken as activities by the Soils Division of the Soils and Crops Branch, under the direction of a succession of Division Chiefs, i.e. R.A. Wallace, 1960 to 1964 (promoted to Assistant Deputy Minister); M.C. McKay, 1964-65 (transferred to Land Use Co-ordinator); and G.T. Somers, 1965 and onward.

* Pages 389 to 403.

Programs more or less of an investigational or basic nature involved soil specialists of the Soils Division in a number of specific activities.

Soil Survey and Soil Investigations

Soil survey and soil investigations (initiated as a Provincial project) were continued as a co-operative endeavor between the Manitoba Department of Agriculture and of Mines and Natural Resources, the Canadian Department of Agriculture and the University of Manitoba. The programs undertaken in this period were determined by a Manitoba Soil Survey Advisory Committee and were carried out by the Manitoba Soil Survey staff, including a number of soil specialists in the Soils Division of the Soils and Crops Branch, and with financial support of the Ministry of Agriculture. By 1970 approximately 45,000,000 acres had been covered by the Manitoba Soil Survey.

Land Use Capability Mapping

Land use capability mapping and land use studies, closely allied to and based on soil surveys, were undertaken more especially in problem and pioneer areas by the soil specialists of the Soils and Crops Branch. These land use studies, and the ratings thus secured, were basic to the Regional Land Use Programs subsequently evolved.

Fertility Investigations

Fertility investigations involving fertilizer test plots and demonstrations conducted by soil specialists in co-operation with agricultural representatives, and "off station" fertilizer investigations undertaken by the Soils Department of the University of Manitoba but financed by the Ministry, were continued as routine research on the major soil types and in areas where knowledge of soil fertilizer requirements was considered inadequate.

In 1963-64 a provincial soil testing laboratory service was set up and financed by the Ministry in co-operation with the Soils Department at the University of Manitoba. In the initial year, approximately 4,000 farmers' soil samples were submitted and analysed for indications of fertilizer requirement; within five years, the annual number of soil samples submitted for analysis reached 30,000, for which a charge of \$3.00 per sample was made.

The results of the above fertilizer trials and of fertilizer demonstration plots, and the findings of the Provincial Soil Testing Laboratory, were used as the basis of fertilizer recommendations made to farmers in the Province.

Soil Conservation Areas

Soils programs more or less related to soil conservation and soil management were carried on as continuing activities or as new projects on a conservation area basis. In 1960 the Province was divided into five zones with a soil specialist responsible for promotion work in each zone. By 1968 the number of conservation areas had been increased to nine, each comprised of several agricultural districts with a soil specialist responsible for the soil programs in each area. The soil specialists in the northeastern and eastern

districts of the Interlake area also were responsible for the land improvement policies carried out within the area and thus came to some degree under the supervision of the Provincial Land Development Division.

Soil Conservation Clubs

For some years the Soil Conservation Clubs were continued as a major project involving the soil specialists and the agricultural representatives, but towards the close of the 1960-1969 decade the farm planning program was being phased out and carried over to the Farm Business Group program of the Economics and Publications Branch.

Grassed Waterway Assistance Policy

The policy of encouraging farmers to convert unmanageable gullies into workable grassed waterways was continued. Where in the opinion of the local agricultural representative or the regional soil specialist a gully on any applicant's farm was severe enough to require re-shaping, the Department undertook to pay half the cost of operating large earth-moving equipment such as graders and bulldozers up to a maximum of \$100.00 per farm per year. Grass seed to plant in the re-shaped waterway could be obtained through the "Soil Conservation Forage Policy" at \$2.00 per acre. The farmer had to pay the full cost of the work, but was eligible to receive financial rebate in respect of the cost of hiring machinery to a maximum of \$100.00 per farm per year, or one-half of the hiring of machinery, whichever was the lesser. Technical assistance under this policy was provided free of charge.

Field Shelterbelt Assistance Policy

The field shelterbelt program was initiated in 1954* to encourage farmers to plant and maintain field shelterbelts in areas where soils and crops were subject to damage from wind.

Under the "Field Shelterbelt Assistance Policy" continued during the 1960-1969 period, farmers are given advice and provided with assistance in ordering trees of suitable species through the Soils and Crops Branch from the P.F.R.A. Nursery at Indian Head, Saskatchewan.

Further assistance was provided for by:

"A 50-50 cost-sharing arrangement between the Province and a municipality for the purchase of tree-planting machines; and

"a grant of \$2.00 a mile towards the cost of shelterbelt planting to a municipality that assists the planting operation by providing a tree-planting machine and an operator."

Under this tree-planting policy there was no charge for trees, but farmers had to assist in planting the trees and were responsible for making arrangements with the municipality for the use of the tree-planting machines. From inception in 1954, to 1959, approximately 5,000 farms were involved in this project.

* Page 393.

Land Clearing Assistance Policies

Land clearing assistance was introduced to increase the acreage of productive farm land and to encourage the improvement of wooded pasture areas in specified regions.

A policy for individual land clearing in the Interlake area was introduced as a federal-provincial cost-shared program under the F.R.E.D. agreement, with financial assistance to individual applicants for clearing (knocking down and piling) bush at the rate of \$4.00 per acre up to a maximum of 500 acres. This policy became effective September 1st, 1967, to continue for ten years.

Effective August 1st, 1968, a second policy, which applied to the West Lake area, was introduced replacing the former group action "Hayland and Pasture Program". This policy was undertaken as a federal-provincial cost-shared program under A.R.D.A. and was likewise designed to provide payment grants of \$4.00 per acre for clearing bush land up to a maximum of \$500.00 and a minimum of 20 acres. The grants were made to applicants that qualified after finished work was inspected and approved for payment by a Soils and Crops Branch Specialist.

Assistance also was given in organizing land clearing groups at Souris and Erickson, which operated outside the above regional policies and involved some 1,500 acres.

Individual Farm Services

Specialists of the Soils Division continued to render individual service through farm visits (generally with an agricultural representative) to investigate and discuss soil problems with the respective farm operators. However, as noted above, the work of mapping and planning individual farms formerly carried out in connection with soil management clubs was gradually phased out and transferred to the Farm Business Group Program, and the technical assistance formerly given in respect of drainage and irrigation of individual farms was carried on in co-operation with the Agricultural Engineering Specialists of the Extension Service.

(iii) Crops Division

The field crops programs and policies, which had been well developed in former years,* were continued in the 1960-1969 period as activities of the Crops Division of the Soils and Crops Branch under a succession of Division Chiefs, i.e. P.H. Ford, 1959-60 (transferred to Crop Insurance Corporation); C.C. Cranston, 1960-61 to 1965-66 (promoted to Assistant Director of the Branch); and A.L.D. Martin, 1966-67 onward.

The agronomists of the Crops Division directed, carried out, or were involved in, the Manitoba Crop Improvement Clubs; field crop variety trials; the promotion of special crops; demonstration forage crops; the provincial soil conservation forage seed policy; pasture crop improvement clubs; forage seed production; provincial forage seed multiplication projects; and pasture trials.

* Pages 371 to 389 -

Members of the Crops Division staff currently served on the Board of Directors and on committees of the Canadian Seed Growers Association; inspected fields of registered and certified seed; provided the secretary for the Manitoba Branch of the C.S.G.A.; and a chairman and secretary who served the Stock Seed Distribution Committee responsible for distribution of seed grown by plant breeders under the authority of the C.S.G.A.

The agronomists continued to promote and encourage the exhibition at the Royal Agricultural Winter Fair, Toronto, of cereal, special and forage crops, and of seed potatoes grown by Manitoba farmers and 4-H Club members; to give active assistance to the Manitoba Winter Fair Board; and to promote seed exhibits at the Provincial Exhibitions and at Agricultural Society and 4-H Club fairs.

The Crops Division also was associated with the engineering section of the Extension Service Branch in implementing the departmental "Seed Cleaning Plant Assistance Policy" designed to improve the quality of farm-grown seed by assisting in the establishment of co-operative seed cleaning plants. Under regulations current at that time, the Department's policy provided for a provincial loan up to \$30,000 or one-half the cost of a co-operative seed cleaning plant built to construction plans approved by the Department of Agriculture.

The field crop specialists also worked in close harmony with the Plant Science Department of the Agricultural Faculty, and with the Plant Breeding and Plant Pathology personnel of the Federal Research Branch at the University of Manitoba; and together with the other specialists of the Soils and Crops Branch played a major role in the activities of the Manitoba Agronomists Conferences* and in the preparation and revision of "Field Crop Recommendations for Manitoba" published annually by the Publications Branch.

(iv) Horticultural Division

The horticultural policies and programs of the Provincial Ministry of Agriculture (described in some detail in Pages 403-428 during the 1925-1959 sub-period) were continued by the horticultural specialists in the Extension Service Branch up to 1964; but with the departmental reorganization in 1964-65, the horticultural activities were transferred to and incorporated with the Soils and Crops Branch in which F.J. Weir continued to serve as Provincial Horticulturist and as Chief, Horticultural Division.

Horticultural Societies

From inception to 1964 the administration of the horticultural societies was under the Director of Extension Service, but by an amendment to the Horticultural Societies Act (S.M. Chap. 36, 1965) the Director of Soils and Crops Branch became "director" of Horticultural Societies. By 1968 there were 37 horticultural societies in the Province organized to promote and encourage an appreciation of good horticultural practices both

* Pages 246 to 248 .

on an individual and community basis. These societies had to be responsible for their own programs but depended for assistance on the specialists and agricultural representatives in the Department. The Provincial Government also continued to give grants for prize money at society-sponsored horticultural shows.

Plant Pests and Plant Diseases Act

This Act was designed to ensure that diseased or pest-infested nursery plant material be not distributed in the Province and to maintain a program for control of nursery plant diseases and pests at the nursery level.

This Act was administered by the Provincial Horticulturist or a member of the Department's Horticultural Division staff who was responsible for the inspection and licensing of nurseries operating within the Province. Any individual responsible for management or operation of a nursery was required to apply to the Provincial Horticulturist for registration annually.

Furthermore, all horticultural staff members were appointed inspectors under the Manitoba "Fruit and Vegetable Sales Act" to work closely with the inspection staff of the Fruit and Vegetable Inspection Division of the Canada Department of Agriculture.

General Services

As routine programs, the horticultural specialists continued to promote improvements in quality and in the grading of fruit and vegetables; to encourage the commercial production of strawberries, raspberries and other fruits; to conduct crop damage surveys and give aid in the control of injurious insects; to give assistance to the Nurserymen's Association of Manitoba and Horticultural Societies; and to give direction and assistance in landscaping school grounds and the environs of hospitals and senior citizen homes.

The Vegetable Specialist also gave assistance as secretary and as departmental advisor to the Vegetable Marketing Commission in administering the Natural Products Marketing Act, and continued to render secretarial assistance in connection with the Manitoba Horticultural Society and the Vegetable Growers Association of Manitoba.

Applied research was carried out in co-operation with the agricultural representatives, particularly in respect of potato and vegetable variety adaptation and fertilizer trials, and the irrigation of potatoes; and close co-operation and liaison were maintained with the horticultural specialist at the University of Manitoba and at the Federal Experimental Farms at Morden and Brandon.

(v) Weeds Division

The activities of the Weeds Commission which operated in conjunction with the Publications Branch until the close of the 1925-1959 sub-period were transferred in the fiscal year ending March 31st, 1960 to the Soils and Crops Branch, where, as Chief of the Weeds Division, J.O. Forbes, Secretary of the Weeds Commission from 1956 to 1959, became responsible for the programs of the Department in respect of weeds and weed control.

The Weeds Commission of 1960 was composed of H.J. Mather, D.M. McLean, P.H. Ford and L.H. Shebeski, with the Chief of the Weeds Division, J.O. Forbes, as Chairman and the Weed Specialist, J. Howden, acting as Secretary. The Weeds Commission was continued as an active body until 1964, and then more or less as an advisory body until the Noxious Weeds Act was repealed and replaced by a new Act in 1968.

General Activities

The general activities of the Weeds Division involved the administration, under the Minister, of the Noxious Weeds Act; keeping close supervision of the occurrence of weeds and their distribution in the Province; conducting demonstrations with herbicides at rural points, and of pasture improvement through destruction of weeds and of bush by chemicals; putting on sprayer operation field days; holding weed inspectors training courses; studying various chemicals for use as soil sterilants; investigating complaints of herbicide damage to field crops and gardens; rendering public service in weed identifications; and preparing and distributing publications dealing with weeds and their control.

Weeds Research

The Weeds Division continued to co-ordinate weed research in the Province between university, federal, provincial and commercial weed workers by holding a research planning meeting early in each season; by conducting tours during the growing period to inspect the weed research projects and field trials at the various stations and off-station tests; and by holding a research appraisal meeting in November of each year. Divisional personnel also assisted in assessing the results of the various trials throughout each year, and particularly of the projects conducted by commercial companies. The staff of the Weeds Division also were involved in three departmental projects, i.e. Municipal Road Allowance Weed Control; assistance to municipalities in control of Class I Weeds; and Weed Control Districts.

Municipal Road Allowance Weed Control

This policy was designed to encourage and financially assist municipalities undertaking a planned program for control of weeds or brush on road allowances. The financial assistance in this project was based on fifty percent of the chemical used, with a maximum annual grant of \$300.00 per municipality, provided the municipality was not in receipt of funds or chemical assistance from another source. An especial effort was put forth to encourage municipalities to improve weed control on road allowances and to clean them up in preparation for the Dominion Centennial Year, 1967.

Control of Class I Weeds

A policy of assisting municipalities in the control of weeds listed as Class I in the Noxious Weeds Act was adopted whereby the Department of Agriculture assumed fifty percent of the cost of chemicals (if approved by the Weed Control Division) used by a municipality in the control of Class I weeds up to a maximum of \$350.00 yearly.

Weed Control Districts

A Weed Control District policy was designed to encourage and support inter-municipal co-operation in controlling and destroying weeds. Under this policy one or several municipalities with twelve or more townships could organize as a weed control district and employ a full-time weed control supervisor, whose duties would consist in encouraging control of weeds through education and enforcement of the Noxious Weeds Act. Financial assistance was provided by the Manitoba Department of Agriculture toward the operation of this program to the extent of providing:

- (1) fifty percent of the Weed Supervisor's annual salary up to a maximum of \$1,500.00;
- (2) fifty percent of the Weed Supervisor's total annual expenses to a maximum grant of \$500.00 if approved by the District Weed Control Board involved; and
- (3) fifty percent of the total salary and expenses up to a maximum grant of \$500.00 for an Assistant Weed Supervisor working under the supervision of a full-time Weed Supervisor.

The administration of a weed control district program was the responsibility of a Weed Control Board consisting of representatives of all participating rural and urban councils, the agricultural representative in the area and a representative of the Weeds Division of the Soils and Crops Branch of the Provincial Ministry of Agriculture.

In 1960 there were ten organized Weed Control Districts in operation; by 1968 there were thirty-one such districts involving 67 rural municipalities, 37 incorporated towns, eight cities and four local government districts.

Noxious Weeds Act Revised

In 1968 the Provincial Noxious Weeds Act was revised and rewritten. With the passing of the new Act the Weeds Commission of former years passed out of existence, but provision was made (Section 39(1), Chap. 46, S.M. 1968) for a substitute body, i.e.:

"The Minister may appoint a board to be known as "The Weed Control Advisory Board", to advise him on all matters relating to the control and destruction of noxious weeds and on ways and means of achieving the objects of the Act."

(c) Animal Industry Branch

At the beginning of the 1960-1969 period the administrative duties and activities of the Ministry in connection with farm animals, i.e. cattle, sheep and swine, were carried out through a Livestock Branch under J.H. Clark as Director, and the duties and activities in connection with dairy products, as in former years, were carried out through a Dairy Branch with C.H.P. Killick as Director, while the activities in respect of poultry still remained with the Extension Service Branch.

The Livestock Branch continued as a departmental unit from 1960 to 1964 under a succession of directors, i.e. J.H. Clark to August 1st, 1960; W.E. Jarvis, 1960-61 until transferred to the position of Acting Assistant

Deputy Minister; and A.J. Church, 1962 to October, 1964, when the Livestock Branch, the Dairy Branch and the Poultry section of the Extension Service were organized into one administrative unit designated as the Animal Industry Branch under the senior official, C.H.P. Killick, as Director. Following the retirement of C.H.P. Killick in October, 1965, A.J. Church (who had served as Assistant Director during the first year of reorganization) was appointed and continued to serve as Director throughout the remainder of the 1960-1969 decade.

The duties and activities carried out by the Animal Industry Branch at the close of Manitoba's first century involved a wide range of services, including the administration of provincial programs and policies, and joint participation in several livestock programs sponsored by or in co-operation with the Federal Department of Agriculture.

(i) Farm Livestock Division

The Farm Livestock Division specialists continued to administer the warble fly program under which the Province paid half the cost of the powder used by stockmen to protect cattle against warble fly infestation; co-operating with the Provincial Veterinary Services in a compulsory program of vaccinating calves for Brucellosis, and with the Federal Health of Animals Branch in the eradication of Bang's disease; promoting the Federal-Provincial Beef Cattle Performance Testing Program, under which the Province was responsible for registration of herds and for weighing calves at time of weaning and at one year of age, and the federal authorities were responsible for compiling records and calculating the Record of Performance scores; working with the Manitoba Beef Cattle Performance Association and the McCabe Grain Company in introducing and maintaining the first Manitoba Sire Indexing Station; promoting and directing artificial insemination units (of which 37 were in operation in the Province in 1967); carrying on administrative and educational activities in respect of the Horned Cattle Purchases Act and the Livestock Protection Society; providing secretarial services for most of the livestock breeders associations and for cattle breeders' and feeder cattle sales; and maintaining records of commercial livestock marketings.

The Livestock Branch also administered the Pure-Bred Sire Purchase Policy until it was discontinued in 1963, as were the Boar Rental and the Ram Rental policies of the Ministry. Also up to 1960 the branch had been responsible for both stallion enrolment and cattle brand registration.

Compulsory stallion enrolment and inspection was rescinded on March 26th, 1960, but to complete the records* it may be noted that, in the last year stallion enrolment was required, the number enrolled fell from 82 in the previous year to 67 in 1959-60.

The registration of cattle brands, on the other hand, was not only continued but, under a legislative amendment, was made compulsory in 1962, at which time it became illegal for an owner to use an unregistered

* Pages 464 to 468.

brand. In this connection the first Manitoba Brand Book was compiled and published for sale to the public at one dollar each. The increase in number of cattle brands, during the years subsequent to 1959-60, as recorded in the annual reports of the Animal Industry Branch, can be presented in tabular form as follows:

Fiscal Year	Cattle Brands in Force	New Brands	Renewals
1959-60	524	117	118
1960-61	795	116	68
1961-62	—	262	324
1962-63	—	371	88
	(Approximate)		
1963-64	2,000	1,062	163
1964-65	2,900	560	420
1965-66	3,500	600	N.R.
1966-67	3,760	262	N.R.
1967-68	3,880	120	N.R.

N.R. = Not Recorded.

In connection with the sheep industry the branch specialists were responsible for the provincial activities in respect of the Federal-Provincial Sheep Transportation Policy. This policy was designed to foster improvement in quality of sheep raised in the Province and to promote more economic sheep enterprises by encouraging cross-breeding. Under this policy, sheep producers buying ewes for use in cross-breeding could apply for assistance for transportation of a minimum of 100 sheep for a minimum distance of 200 miles to their own farms. This assistance involved the Canada Department of Agriculture in paying half, and the Manitoba Department of Agriculture and the buyer in each paying one-quarter of the transportation costs.

The branch specialists also rendered such services as sheep shearing demonstrations, parasite control, and assisting with lamb sales and sheep breeders' sales.

In addition to general promotional activities, various duties and services were rendered the swine industry in connection with the "Manitoba Record of Performance for Swine Improvement Policy", and with the Hog Carcass Improvement Policy (instituted in 1962). Branch specialists also assisted at the breeders' sales and carried out surveys and conducted programs in co-operation with the Manitoba Hog Marketing Commission.

(ii) Dairy Division

The Dairy Specialists of the Ministry operated from 1960 to 1964 as the Dairy Branch and subsequently as the Dairy Division of the Animal Industry Branch; and under both circumstances rendered outstanding service.

Under the Dairy Act the dairy specialists continued to be involved in a wide range of duties and activities, such as: inspection of creameries, cheese factories, ice cream plants, milk pasteurizing establishments, condensaries, and cream receiving stations. They also were engaged in carrying out surveys to examine milk for the presence of antibiotics and pesticide residues; arranging or conducting short courses for milk tank truck drivers and cream graders; the compulsory grading of products in manufacturing milk plants; and the licensing of buttermakers, cream graders, milk and cream testers, cheesemakers, margarine manufacturers and wholesalers, tank milk graders and dairy manufacturing plants.

In the duties of inspection, the ice cream inspectors of the Canada Department of Agriculture also were appointed as inspectors for the Manitoba Department of Agriculture to make regular inspections of ice cream manufacturing plants, counter freezers and retail stores.

Farm inspections, in co-operation with the Ontario Dairy Branch, also were undertaken. These were made in the Whitemouth area to assure compliance with the Ontario Milk Marketing Board in respect of milk shipped from this area into Ontario.

The work of the Manitoba Dairy Board* was continued as a Quality Control Committee in an advisory capacity to the dairy industry for the improvement in quality of milk and milk products. This committee consisted of representatives from the University of Manitoba, the departments of Health and Agriculture, and the dairy industry.

As in former years,** however, the control of the production, distribution and price of fluid milk supplied to Greater Winnipeg, Portage la Prairie and Brandon (and subsequent to 1967 the town of Souris) was exercised by the Milk Control Board operating under "The Milk Control Act".

The departmental Dairy Herd Improvement Association program involved the Dairy Specialists in assistance to producer groups in obtaining records that could be used by the members to improve the management of their dairy herds. Under this program the milk producers, that formed each respective district Dairy Herd Improvement Association, employed a technical supervisor whose task was to visit each member's farm once every month to weigh the milk production of each lactating animal, and to collect and analyze samples of milk for butterfat. The Ministry provided an annual grant of \$1,800.00 to each such association and the balance of salary paid to the technical supervisors was provided from fees collected from producers on the basis of each cow tested. The general supervision of all dairy herd improvement associations was the responsibility of the dairy specialists of the Animal Industry Branch.

An Owner-Sampler Cow Testing Plan also was operated as an alternative program for producers where dairy herd improvement associations were not or could not be organized. Under the Owner-Sampler Plan, milk producers

* Page 456.

** Pages 454 to 456.

obtained milk samples from each producing cow in the herd each month. The weights of milk were recorded by the owner and submitted together with the milk samples to the Animal Industry Branch, where butterfat and production calculations were made and returned to the respective producer concerned. A charge for this service was made in the amount of \$5.00 per year for up to ten cows; \$10.00 per year for 10 to 20 cows; \$15.00 per year for 20 to 30 cows; and \$20.00 payment for over 30 cows.

(iii) Poultry Division

From 1960 to 1964, as formerly noted, the poultry work of the Ministry was conducted by the Poultry Specialist of the Extension Service Branch. However, in 1964, the Senior Poultry Specialist, J.R. Cameron, was transferred from the Extension Service Branch, and on November 1st, 1965, was raised to the position of Assistant Director of the Animal Industry Branch, to which branch in January, 1966, D. Waddell was appointed as Poultry Specialist.

The duties and services in respect of poultry promotion, initiated in former years,* were then continued under the Animal Industry Branch. The Hatchery Supply Flock Inspection program was maintained to control pullorum and typhoid diseases in chickens and turkeys by inspecting and blood-testing flocks engaged in supplying eggs to hatcheries.

The services of inspectors, who had authority to reject infected flocks, were retained each year to inspect the supply flocks. A charge was made of \$11.00 for up to 100 birds (hens) or less inspected. Re-tests were charged at the rate of five cents per bird. The charge for testing turkeys was \$20.00 for up to 100 birds, and 15 cents each additional bird or for each bird re-tested.

The Provincial Poultry Specialist supervised the administration of hatchery flock regulations and acted in an advisory capacity in regard to egg and poultry regulations under the Livestock and Livestock Products Act. In respect of the latter, the actual inspection of eggs and poultry were carried out by inspectors of the Canada Department of Agriculture under provincial regulations.

The Poultry Specialist also maintained close liaison, and served in an advisory capacity, with the Manitoba Hatchery Associations; the Poultry Products Institute of Canada, Manitoba Division; the Manitoba Approved Flock-Owners Association; the Manitoba Turkey Association; the Manitoba Egg Producers Association; the Livestock and Poultry Nutrition Council; and served as Secretary-Treasurer of the Manitoba Approved Flock Owners Association and Egg Producers Association.

(iv) Other Activities

To promote more efficient utilization of feeds by livestock, a Feed Analysis Service was instituted by the Ministry in co-operation with the Department of Animal Science, University of Manitoba, in 1964. Under this program the Ministry stationed a nutritionist, J.C. Brown, and equipped a

* Pages 430 to 439 .

laboratory at the university to analyze samples of feeds and feedstuffs submitted by Manitoba stockmen and by provincial and federal governments and university departments concerned with problems of a public nature. By 1967-68 the number of samples submitted and processed had reached a total of 613 for the year. The analytical determinations made included dry matter, protein, fat, fibre, ash, phosphorus and calcium content of feeds; and determinations of carotene, nitrate nitrogen, prussic acid, copper and other minor elements, etc., in connection with special feed and nutrition problems.

Staff members of the Animal Industry Branch continued to serve on, and to accompany, selection committees appointed by the breed associations to appraise animals suitable for the Manitoba livestock exhibits at the Royal Winter Fair, Toronto. Transportation costs for exhibition animals were shared on a federal-provincial basis; and livestock exhibitors fares to and from Toronto, entry and stall fees, and feed allowances were borne by the Province. This policy permitted all breeders of quality livestock to compete at the International Fair and provided a basis for evaluating Manitoba animals in relation to those of other competitors.

Creamery exhibits were also assisted, and it is a tribute to the services of the dairy specialists that Manitoba butter, exhibited at the larger Canadian exhibitions, continued to capture a satisfactory share of prizes.

In co-operation with the Poultry Division of the Canada Department of Agriculture, eggs were selected annually and shipped to the Canadian National Exhibition, and frozen eviscerated poultry were exhibited each season at the Royal Winter Fair, Toronto. For this class of exhibit the Province assisted firms and producers by paying transportation costs to Toronto.

Early in 1965 a Montreal drug firm indicated an interest in obtaining estrogens, and in this connection the Animal Industry Branch made a survey of facilities and mares available in Manitoba. As the result of this investigation a plant was established at Brandon by the commercial concern involved, and pregnant mare urine production (P.M.U.) was organized on a limited number of Manitoba farms.

(d) Veterinary Services Branch

The Provincial Veterinary Diagnostic Laboratory, first established on the Fort Garry site in 1938,* continued under the designation of Provincial Veterinary Laboratory and under Dr. J.M. Isa from the beginning of the Fourth Period to 1963-64, during which time the provincial veterinary programs (with the exception of the Veterinary Laboratory) were administered by the Livestock Branch. In 1964-65, however, all veterinary services of the Ministry of Agriculture were combined into a Veterinary Services Branch with Dr. J.E. McGowan as Branch Director, who served in that position until 1968, and in 1969 was succeeded by Dr. J. McPhedran. Throughout the decade of the 1960's, however, Dr. J. M. Isa continued first as Director of Animal Pathology and Veterinary Laboratory, but after 1965-66 was designated as Director, Veterinary Laboratory and Poultry Pathologist.

* Pages 331 and 465 to 470.

(i) Veterinary Laboratory

During the 1960-1969 period the Veterinary Laboratory program of the Ministry continued to render the services for which it was first inaugurated; namely, to provide diagnostic and technical laboratory services to the veterinary profession, livestock producers and various government agencies.

The laboratory consisted of two divisions, i.e., Animal Pathology and Poultry Pathology. Pathologists, with the assistance of technical staff, examined specimens and carcasses or portions of carcasses submitted by federal and provincial government agencies, the University of Manitoba, the Medical College, practising veterinarians, livestock and poultry raisers, commercial organizations, zoo and parks officials, game preserve personnel, biologists and R.C.M.P.

Examination of the specimens submitted involved various aspects of haematology and serology, biochemistry and urinalysis, bacteriology, histopathology and cytology, parasitology, mastitis milk analysis and autopsies. In addition, investigation work and disease control projects were conducted when service load permitted, which provided material for the scientific papers that were published.

Some indications of the volume of work involved in the services rendered may be obtained from the average number of clinical specimens (including carcasses and portions of carcasses) processed per year over the four year period ending March 31st, 1968: Horses (racing and saddle) - 198; Cattle - 1,036; Sheep - 106; Swine - 787; Dogs and Cats - 504; Wildlife and Zoo Specimens - 156; Milk Samples investigated for Mastitis - 6,054; and bovine and swine blood samples for Brucellosis tests - 31.

In the earlier years of this period, laboratory accommodation also was provided for a federal staff of five personnel who carried out the blood testing work involved in connection with the Brucellosis Control Plan for which the Federal Department of Agriculture was responsible.

(ii) Provincial Veterinary Programs

Various veterinary programs were in operation as provincial projects during the 1960-1969 period in addition to animal disease control programs that were under the administration of the Federal Health of Animals Branch, such as the Bovine Tuberculosis Restricted Area Plan,* as well as the jointly sponsored federal-provincial programs such as activities in the control of Brucellosis in cattle.

By the beginning of the 1960-1969 period the Provincial Brucellosis Control Program was well established. Following an educational campaign conducted as the first phase, a second phase was started in 1950 when the Federal Government offered unlimited supplies of *Brucella abortus* Strain 19 to the Province, and Manitoba in turn issued this vaccine to veterinary practitioners on request and encouraged the vaccination of female calves. Manitoba authorities also urged municipalities to pass by-laws making calfhood vaccination compulsory.

* Page 336.

The next phase started in 1957 when the scheme of Federal Government Brucellosis Control Areas was introduced as an eradication policy. Under the governing regulations, the Federal Government undertook to quarantine requested areas, to blood test the cattle within such areas, and to pay compensation and carcass value of infected animals. The testing of farm herds under this program by the Federal Health of Animals Branch started in 1958, and by 1963-64 over one million head had been tested, 23,084 of which were classified as reactors and approximately 1.6 million dollars paid out as compensation. By 1967-68 some 131 districts in Manitoba were declared Brucellosis-free areas.

The provincial vaccination scheme on the other hand was a control scheme aimed at the compulsory vaccination of female calves. Under this scheme the Veterinary Services Branch provided practising veterinarians with the vaccine and they in turn were responsible for vaccinating all heifer calves between four and nine months of age, for which the basic charge was \$1.50 per head for the first five calves vaccinated and \$1.00 for each additional head. The Provincial Government subsidized the herd owner at the rate of 50 cents per female calf vaccinated.

Another scheme used was called the Market Cow Testing Plan. Cattle producers were given a package of adhesive plastic tags bearing a registered number. When herds were culled, a tag was attached to the rump of each animal. When these found their way to a packing plant a blood sample was taken, identified by the tag number, and tested. In this way the origin was identified and credited with the test status of each animal.

Municipal action in respect of forming veterinary districts under the Veterinary Service District Act* of 1949 appears to have been largely ignored by municipalities. For the year ending March 31st, 1968 only two such districts were in operation, i.e. the Roblin Veterinary Service District (involving Shell River, Hillsburg and Shellmouth) and a new district consisting of the municipalities of Bifrost and Gimli, and the local government districts of Fisher and Armstrong.

Under the Veterinary Science Scholarship Act the Province continued to encourage and assist Manitoba students to enroll in a veterinary science course and upon graduation to practice in the Province. The yearly scholarship, however, was raised to \$400.00 and was tenable for a period of five years. Provision was made for the scholarships to be written off at the rate of 20 percent per year over a five year period, providing the recipient returned to Manitoba to practice for that length of period.

In 1964-65 the Veterinary Services Branch undertook the organization of a short course for practising veterinarians in co-operation with the University of Manitoba, the Medical College and the Manitoba Veterinary Association; and also held regional seminars at Brandon and Dauphin to provide veterinarians with up-to-date information on livestock diseases.

A Mastitis Control Pilot Study Group was instituted composed of personnel drawn from the Manitoba Department of Agriculture, the Manitoba Department of Health, the University of Manitoba, the Dairy

* Page 470.

Association and a commercial dairy. This group was invited to form a control group under the auspices of the Veterinary Services Branch to study the mastitis problem as it relates to the cow, the herd owner, milking machine techniques, milking machines, sanitation and veterinary therapeutics.

The co-operation of twelve dairy herd owners was secured within a working radius of Winnipeg, and all herds placed on a system of production recording. Six practising veterinarians were obtained to carry out the clinical work, to collect the required samples for laboratory examination and to treat affected cows as indicated by laboratory results. This project was financed by funds supplied by the Winnipeg District Milk Producers Co-operative and the Horned Cattle Fund.

The first herd in this pilot study was sampled in December, 1965, and subsequent herds treated at intervals for six weeks, i.e. two herds per week. An educational conference was held for the participating producers in the following March which rounded out and complemented the work and discussions previously carried out on the owner's premises. Thus comprehensive control programs were devised.

A livestock health inspection was introduced in 1966. Veterinary practitioners conducted a health inspection of animals exposed for sale at the Gladstone Auction Market in September on an experimental basis. The animals inspected were separated into three classes, i.e.: A = Clinically healthy; B = Minor ailments that would not affect future economic value - these were declared at time of sale so that the animals could be purchased at the buyer's discretion; and C = Serious affections of obvious or probable fatal outcome - these were declared as unfit for sale and the owner given the opportunity to repossess or to ship the animal for slaughter.

A Westlake Livestock Improvement Project was undertaken in 1966-67 as a co-operative study by six branches of the Manitoba Department of Agriculture. The role of the Veterinary Services Branch was to investigate the current health problems of cattle in the area, and to make recommendations pertinent to the solution of problems encountered. To this end, five owners in the Ste. Rose du Lac area agreed to provide index herds in the area for one annual cycle, during which time regular inspection and samplings could be carried out by the practising veterinarian resident in the area.

In carrying out various duties and services, the Veterinary Services Branch worked in close co-operation with game and wildlife officers of the Provincial Department of Mines and Natural Resources, the Animal Industry Department of the University of Manitoba, and the Federal Health of Animals Branch.

(e) Economics and Publications Branch

As previously noted, the Publications Branch of the Department of Agriculture, at the close of the 1925-1959 sub-period, was involved in a variety of activities such as publications, agricultural statistics and information services;* weeds legislation and the Weeds Commission;** and

* Pages 477 to 480.

** Pages 470 to 477.

activities in respect of pesticides and grasshopper control;* all of which were administered under H.A. Craig as Director.

In the reorganization of the Department of Agriculture in the year ending March 31st, 1960, H.A. Craig continued as Director in charge of the reorganized Publications, Statistics and Information Branch; but the activities and duties in respect of weeds and weed control under J.O. Forbes were transferred to and made a division of the Soils and Crops Branch. The activities and duties in respect of pesticides and grasshopper control had already been transferred to the Entomology and Apiculture section of the Extension Service Branch in 1958-59.

In a further reorganization of the Department of Agriculture in 1964-65, the agricultural economics and farm account club services (developed in the Extension Service from 1957 to 1964)** were transferred to and became a section of the branch, which at this time was reorganized and designated as the Economics and Publications Branch. At the same time, the general information services involving radio, television, movie films, news releases, etc., were transferred as an extension activity from "Publications" to the Extension Service Branch.

Consequently, although the activities and services in respect of publications and agricultural statistics continued during the 1960-1969 period under the same departmental branch as in former years, it should be noted that the activities in respect of information services on the one hand, and of agricultural economics on the other, continued on with the same content but at different times under different departmental branch directors.

(i) Publications

The publications services of the Ministry of Agriculture, which had developed over the years under G. Batho (1925-1940), H.E. Wood (1940-1956), and H.A. Craig (1956 and onward), were continued with diligence in the 1960-1969 period. This is indicated by more than 250 separate bulletins, circulars, pamphlets, special publications and proceedings that were edited and published from 1960 to 1969. The various Department publications supplied current information on practically all phases of agriculture and, as copies were kept for distribution in the offices of all agricultural representatives, as well as supplied from the Publications Branch on demand, timely information was thereby immediately available in any district and wherever required by the public.

Additional publication services included processing the proceedings of conferences, the annual reports of the Department, soil survey reports, the Yearbook of Manitoba Agriculture, posters, plans and maps; the distribution of publications purchased from federal departments; together with the keeping of an inventory and maintaining stocks of departmental publications for distribution on demand.

* Pages 480 to 483 .

** Pages 443 to 446 .

(ii) Agricultural Statistics

As in former years* the compilation, recording and publication of agricultural statistics in the 1960-1969 period, were continued as an activity of the reorganized Publications Branch, but in 1959-60 departmental duties in this connection were assigned to an official agricultural statistician. R.B. Proud served in this position from 1959 to 1961, followed by L.R. Rigaux from 1961 to 1965, and in turn, by M. Daciw from 1965 onward. The Dominion Bureau of Statistics processed the June and December surveys of main crops and livestock surveys (involving 10,000 or more farmers and a staff of correspondents resident in the Province) and submitted the results back to the Provincial Statistician for assessment of validity prior to publication. Inter-censal revisions also were made jointly with the Dominion Bureau of Statistics.

The Agricultural Statistician of the Publications Branch conducted regular surveys of special crops and vegetable production, forage seed production, the acreage of crops grown under contract with commercial concerns, hail damage, feeder cattle, tame hay yields, the use of herbicides, and fertilizer sales to farmers by crop reporting districts, etc. In addition (commencing in 1959-60), data was collected on damage to grain by wild ducks and forwarded to the Canadian Wildlife Service. Other branches, departments and associations also were assisted in gathering information on agriculture required for various specific purposes.

At weekly intervals during the growing season, the Agricultural Statistician prepared crop reports for use by members of the Department, radio stations and the press. Night letters were received each week from the agricultural representatives which provided the basic information for these reports. Basic information also was provided from close contact with approximately 200 farmers who reported to the Publications Branch monthly.

Data in respect of monthly cold storage stocks of dairy products and eggs in Greater Winnipeg, dairy production throughout the Province, and similar information in connection with vegetable production were gathered, compiled and forwarded to the Dominion Bureau of Statistics for monthly release. Five monthly reports on "Crop Conditions" were prepared each season by the statistician and distributed to the press, business organizations, radio stations and others.

The agricultural data originating from the provincial surveys, the Dominion Bureau of Statistics surveys, and other sources during each calendar year were consolidated and published in the numbered series of Manitoba Crop Bulletins designated (up to 1962) as the "Report on Crops and Livestock, Etc." The last of the publications in this series was Crop Bulletin No. 141, for the calendar year 1962. This series of bulletins was replaced in 1963 by a new crop bulletin series designated as "Yearbook of Manitoba Agriculture", which subsequently was published annually.

* Pages 478 to 479 .

(iii) Department of Agriculture Library

Prior to 1961 most branches of the Department of Agriculture were housed in the Legislative Building. Consequently, up to that time, staff members were able to use the facilities and services of the extensive and comprehensive Provincial Library. In 1961, however, the various branches of the Department of Agriculture were transferred to, and consolidated in, the newly constructed Norquay Building, which made it necessary to provide the departmental staff with a more conveniently located library service. A departmental library therefore was established under the Director of Publications.

The first departmental Librarian, Mrs. E.E. Riley, was appointed in January, 1961. On March 20th, 1961, the library moved with the Publications Branch to space in the Norquay Building. On her retirement in March, 1967, Mrs. Riley was succeeded by Mrs. J.E. Preston. This library not only provided reference material for the staff of the Department but, as it became known, was used extensively for reading, studying, and research by university students and members of various government departments. Also, all books and periodicals for the offices of rural agricultural representatives and for the Agricultural Extension Centre, Brandon, as well as those for the departmental library, were ordered by the Librarian. A system of departmental newsletters was adopted to keep the departmental staff informed of new additions to the library, and periodicals of particular interest received in the library were circulated to the branches concerned and returned to the library for filing and future reference.

(iv) Agricultural Economics

The activities in respect of agricultural economics and farm account clubs (which up to 1964 were under the Extension Service Branch and in subsequent years under the Economics and Publications Branch) were carried out by a staff designated as agricultural extension economists and farm management specialists. The extent to which this field of extension expanded in the years subsequent to 1958-59 is indicated by the number of specialists engaged which increased from four in 1960 to ten in 1968. The two major programs of the Ministry in this connection were designated as the "Farm Business Group Program" and the "Farm Management Consulting Service".

Farm Business Groups

The farm business groups were organized initially to provide farmer education in respect of the economic aspects of farm accounting and farm business management. Groups of at least 25 farmers in an agricultural representative area were organized to form a "Farm Business Group" to operate on a three (formerly four)* year basis.

In practice, new groups were organized each year to replace the same number of groups that currently completed the three year term program. In carrying out this program,

* Page 445.

"The provincial agricultural economists and agricultural specialists provide instruction in record keeping, record analysis, income tax management, father and son agreements, estate planning, agricultural policy, and management of soils, crops, livestock and farm machinery."

About \$10.00 or less, per member per year, as required, was charged to cover local costs such as hall rental for group meetings, etc.

Farm Management Consulting Service

The farm management consulting service (believed to be the first government-sponsored farm consulting service on a fee basis in Canada) was introduced in 1966 at the request of a number of farmers who had completed the Farm Business Group Program. Farmers participating were given personal assistance in respect of problems relating to individual farm business management. This involved farm visits with each participating farmer by an economic specialist or farm management specialist. The current fee for the farmers who participated in this program in 1967 was \$200.00 per member per year to cover the operating costs involved.

Other Activities

In 1967-68 the Economics and Publications Branch assumed responsibility for extension activities of the Carman and Western Manitoba Farm Business Associations formerly undertaken by the Department of Agricultural Economics, University of Manitoba.* This involved auditing and processing farm records, preparation of financial statements and interpretation of the findings for each farm as well as interviews with new members.

(v) Information Services

The Publications Branch was not only the section of the Department of Agriculture engaged in editing, processing and distributing various agricultural publications and statistics but, over the years, had introduced and developed various methods of disseminating agricultural information, which for want of a better designation became known as "Information Services". These services (which subsequent to 1964 were transferred and operated under the Extension Service Branch) included news releases, radio programs, television presentations, moving picture films, photographs, projection slides, etc., depending on whether the information to be disseminated was in the nature of news items, material prepared for instruction or inspiration, visual aids to education for use by extension workers, or material for reference.

News Releases

Throughout the decade (1960-1969) a weekly news release service - "Farm and Home News" - was continued and well received with much favorable comment. Approximately ten releases were made each week and

* Page 445 -

300 or more copies of each issue were sent to the Manitoba newspapers, radio stations, farm journals, and to personnel of the Department of Agriculture and the agricultural industry. This service provided an effective source of information for farmers, business interests and homemakers.

A service, somewhat akin to the weekly "Farm and Home News", was inaugurated in 1966 in co-operation with the Canada Manpower and Extension Farm Manpower Services in the form of "Manpower News", by means of which the public was informed through the press of vacancies in the farm labour market - bi-monthly from June to October and monthly during the winter months.

A monthly news release service to extension home economists also was maintained by the Home Economics Division for presentation through the columns of local rural weekly papers.

Radio Service

The main agricultural radio service of the Department of Agriculture continued to be "Country Comment" presented as a noon broadcast over C.B.C. and six rural radio stations which served Manitoba farmers. The programs presented included reports on research; farmer information on crops, livestock and departmental programs; and farmer interviews.

Another continuing radio program was the five-minute "Consumer Comment" broadcast presented three times a week on five rural radio stations directed to rural, suburban and urban homemakers.

In addition, a four-minute "Food and Market Report" was initiated and broadcast weekly each Thursday morning on the C.B.C. Winnipeg radio station, and special broadcasts were presented from time to time in respect of grasshopper outbreaks, University Farm Conference Week, etc.

During the 1966-67 fiscal year a Communications Specialist was stationed on the campus of the University of Manitoba to ensure liaison in respect of news items, and in 1967-68 the Extension Communications Specialist, stationed at the University of Manitoba, prepared 20 of the programs presented on "Country Comment" and 120 five-minute radio shows which were given over the Altona and one of the Winnipeg broadcasting stations.

Television

During the 1960-1969 period constant liaison was maintained with a number of television stations. By 1961-62 a weekly fifteen minute program prepared by the Agricultural Extension Centre, Brandon, called "Agri-Views", was telecast over CKX TV Brandon as a continuing feature.

Also commencing in 1962 the Department of Agriculture, in co-operation with the University of Manitoba and the C.B.C., made history by organizing seven one-half hour telecasts in the form of a short course in farming and rural living entitled "This Business of Farming". This televised short course was continued as an annual feature in the month of January and was later enlarged to include co-operation with, and participation by, the Saskatchewan, Alberta and Canada Departments of Agriculture.

Other television programs, added later, were contributed by the Manitoba Department of Agriculture, including a tri-weekly five-minute program called "Focus on Agriculture" (prepared by the Extension workers in the northwestern portion of the Province and presented over the Yorkton station); a weekly half hour program on CJAY TV Winnipeg (which included ten minutes of agricultural content and ten minutes of homemaking content supplied in the form of sound film and slides, or talks by staff members as program participants); contributions by the agricultural representatives and home economists in the south and southwestern portion of Manitoba (involving ten minute presentations of special events or on agricultural and consumer topics in "Around the Country" over KCND North Dakota); and other programs over other television stations as special or occasional features.

One special television presentation over C.B.C. stations at Winnipeg, Brandon and Yorkton was initiated as a twelve program series on farm accounting designated as "A Matter of F.A.C.T.", which in the 1967-68 presentation included about 900 farmers in Manitoba and Saskatchewan who paid the \$5.00 registration fee and received the correspondence and study material supplied.

Assistance also was given at various times by members of the Department to such television programs as "Buy of the Week"; "Farm Round-up"; and "Country Calendar"; etc.

Moving Pictures and Films

Although moving pictures had been used in the early days of extension work, the first moving picture to be completed entirely by members of the Department was a color film made in 1958-59 entitled "The Conservation Farmer". Subsequently, many films in black and white and in color with sound were made covering a wide variety of subject matter. These, together with slides, charts and photographs, were used by extension workers generally as visual aids in their respective educational and inspirational endeavors.

(f) Co-operative and Credit Union Services Branch

The Co-operative and Credit Union Services Branch, during the 1960-1969 period, was involved in three main lines of endeavor, i.e.: (i) Supervision of Co-operative Associations; (ii) Supervision of Credit Unions; and (iii) Duties and responsibilities in connection with the Natural Products Marketing Act.

(i) Co-operative Associations

The supervision of co-operative associations (as required under Part VII - later Part X - of the Companies Act) was carried out, as in former years* by a section of the Department of Agriculture designated up to 1961-62 as "Co-operative Services", and subsequent to 1962-63 as "The Co-operative

* Pages 488 to 490.

and Credit Union Services Branch". Under the governing Act, annual returns for all co-operatives were required to be filed with the Co-operative and Credit Union Services Branch.

The annual reports of the Department of Agriculture show that, during the years 1960 to 1966, the number of "active" commercial co-operatives varied from 383 to 394 associations per year, which were listed by the Director as carrying on business at from 900 to 1,000 locations - fifty to sixty percent of which were classed as urban. To these numbers, however, must be added the limited number of associations that failed to make submissions in time for inclusion in the current annual reports, and also over 40 associations that were non-commercial co-operatives (i.e. community halls, rinks, etc.). In respect of the commercial co-operatives the Director reported a steady growth of business during the decade of the 1960's.

In connection with the growing interest in, and the use of, co-operative methods by Indian and Metis communities, the staff of the Co-operative and Credit Union Services Branch, subsequent to 1963-64, was called upon to give an increasing amount of advice and assistance. The Ministry also adopted a policy of fostering economic development in such communities by assisting in the formation and management of community co-operatives which were largely concerned with the harvesting and marketing of pulpwood, fish and wild rice, and in some cases with farming. Under this policy, assistance was given in setting up bookkeeping systems; in auditing accounts; and in supervising the co-operative associations formed in Indian and Metis communities. Under some circumstances, assistance also was given in the form of guarantees to banks in the case of loans to finance these co-operative ventures.

In 1967-68 the report of the Co-operative Promotion Board was combined with the annual report of the Co-operative and Credit Union Services Branch for the first time. This was the forty-second annual report of the Co-operative Promotion Board, which at that time was composed of the Minister of Agriculture as Chairman; G.E. Felstead; James F. Mants; John F. Warburton; Donald W. Wilton; and R.D. Chase as Secretary.

(ii) Credit Unions

The staff of the Co-operative and Credit Union Services Branch continued to be responsible for supervision and inspection of credit unions in Manitoba.

The number of incorporated and active credit unions involved, the number of members, and the number of loans issued annually from 1960 to 1968, as recorded by the Director in the annual reports of credit unions, may be listed in tabular form as follows:

TABLE 71. NUMBER OF CREDIT UNIONS, NUMBER OF MEMBERS AND
NUMBER OF LOANS ISSUED, 1960 TO 1968

Year	Number of Credit Unions		Number of Members	Number of Loans Issued
	Incorporated	Active		
1960	301	236	92,622	48,276
1961	317	250	101,162	52,235
1962	325	252	109,749	54,945
1963	335	258	119,017	59,714
1964	340	254	132,451	64,181
1965	345	258	144,641	63,573
1966	347	256	157,745	63,796
1967	348	252	168,195	68,755
1968	350	241	177,574	72,501

The figures in this tabulation show that credit unions, as well as co-operative associations, also enjoyed "a noteworthy growth of business" during the decade of the 1960's. This may be further emphasized by the following comparison of the amount of loans issued from 1960 to 1968 with the amount of loans issued from inception of credit unions in 1937 to 1946 (the date of the new Credit Unions Act) and from 1947 to 1959 (the end of the 1925-1959 sub-period).

Loans Issued	Total	No. of Years	Average Amount Loaned Per Year
1937 to 1946	\$ 4,992,634.00	10	\$ 499,263.00
1947 to 1959	132,717,126.00	13	10,209,009.00
1960 to 1968	<u>528,709,340.00</u>	<u>9</u>	<u>58,745,482.00</u>
From inception to 1968	<u>\$666,419,100.00</u>	<u>32</u>	

The purposes for which loans were issued by the credit unions in the period were classified in the annual report of credit unions for 1968 as loans for:

Consolidation of debts; automobile purchases and repairs; insurance premiums; to make investments; education; medical and dental; taxes; holidays; home repairs and renovations; purchase of real estate - housing, farm, commercial and other; purchase of equipment - household, farm, fishermen, commercial and other; operating expenses - household, farm, fishermen, commercial and other; and estate loans.

(iii) Manitoba Marketing Board

Under regulations established by the Government of Manitoba, the Manitoba Marketing Board continued to carry out the duties and

responsibilities in connection with the administration of the Natural Products Marketing Act. This Act provided for the establishment and election of producer boards or appointed marketing commissions to control the orderly marketing of specified products.

At the beginning of the 1960-1969 period only one board (Manitoba Honey Marketing Board established in 1953) was in operation. This Board, since its inception, exercised its control powers only by establishing minimum floor prices below which honey should not be sold.

In 1957-58 a vote of vegetable producers was taken in respect of a Vegetable Marketing Plan which failed to carry. Early in 1962, hearings again began by the Marketing Board on a Vegetable Marketing Plan proposed by the Vegetable Growers Association of Manitoba, and again a vote of the producers taken in 1962-63 failed to carry. Late in 1962, consideration of a Potato Marketing Plan began and proceeded into 1963, and in 1964 hearings continued in respect of proposed producer marketing boards for potatoes and hogs.

Also in 1964, the Natural Products Marketing Act was completely revised, and under the new legislation a Hog Marketing Commission was set up late in 1964 which started the teletype auction of hogs on February 25th, 1965; and a Potato Commission, which started operations on January 4th, 1965.

The latter was discontinued on November 30th, 1965 and replaced by a Vegetable Marketing Commission on December 1st, 1965. The powers of this commission were exercised in the control of prices and delivery quotas of seven kinds of vegetables, including potatoes.

Under the revised Natural Products Marketing Act of 1964 the appointed members of the Board consisted of: A.W. Wood, Chairman; F.H. Downing; A.G. Wilson; and R.D. Chase, Secretary.

Late in 1964, F.H. Downing retired after almost 25 years of service, and the Marketing Board was reorganized with the appointment of the following members for a three year period: A.W. Wood, Chairman; Mrs. H.J. Mather; E.I. Dalgliesh; Stewart A. Searle, Jr.; and R.D. Chase, Secretary and Vice-Chairman.

The same Board continued and was in office in 1968.

(6) PROVINCIAL CORPORATIONS OF AGRICULTURAL AFFILIATION

In addition to administering the six branches which comprised the Department of Agriculture at the close of the 1960-1969 decade, the Minister of Agriculture, during this period, represented the Government of Manitoba in the administration of two corporations established by the Provincial Government, namely: (a) The Manitoba Credit Corporation, and (b) The Manitoba Crop Insurance Corporation.

(a) The Manitoba Credit Corporation

The Manitoba Credit Corporation was established to carry out the duties required under the Agricultural Credit Act of 1958.* The purpose of

* Page 518.

this Act was to provide long-term loans to farmers, with especial regard to young farmers, and to assist them in the establishment and development of family farms as economic units.

The activities under this Act were administered through an appointed Board of five Directors (two of whom represented farm organizations and three civil service members. The staff consisted of a Manager, an Assistant Manager, a Treasurer-Comptroller, a Solicitor, a Construction Supervisor, and eight Credit Agents or field staff. During the years 1960 to 1968, three of the Directors (Dr. J.R. Bell, J.M. Parker and C.R. Durston) were continued in office until the Corporation was reorganized in 1968. Of the other two Directors, the initial Chairman, R.C. McLennan (deceased in April, 1960), was replaced on May 25th, 1960 as Manager and Chairman of the Corporation Board by L.W. Leggat (initially Assistant Manager), and R.R. Usick was replaced in April, 1963 by J.H. Andresen (President of the Manitoba Farmers Union), who in turn was replaced in 1966 by K.J. Singleton.

In respect of the administrative staff, the position of Assistant Manager, vacated by the promotion of L.W. Leggat, was filled by W.C.R. Bradford from May 25th, 1960 to August 21st, 1963, who in turn was succeeded by S.N.H. Westdal subsequent to October 1st, 1963.

Initially, under this Act, long-term farm credit could be advanced, which was supervised as to expenditure of the loan and operation of the farm unit until the loan was repaid. Such long-term farm loans could be issued in amounts up to \$30,000.00 for a term not exceeding 30 years, at not less than one-quarter of one percentum per annum more than the rate of interest at which the Provincial Government could borrow money on the security of its debenture equivalent.

To encourage and assist young farmers under 31 years of age, the rate of interest was reduced by one and a half (1½) percentum per annum for the first five years subsequent to issue of the loan; after which the rate of five and a half (5½) percentum per annum applied for the remainder of the term. The latter was the initial rate throughout the whole term on loans issued to all borrowers other than those classed as "young farmers".

However, subsequent to 1964, the rates of interest on new loans were raised to four and a half (4½) and six (6) percentum per annum respectively, and in 1966-67 interest rates on new loans were again raised by one quarter (¼) of one percentum to four and three-quarters (4¾) and six and one-quarter (6¼) percentum per annum respectively, and the age limit for young farmer changed to (21 to 34 or) "under 35 years".

An amendment to the Agricultural Credit Act was passed in 1963 which provided for the issue of intermediate-term credit (up to 10 years) extended to beef cattle purchasers for the purpose of enlarging the size of their herds. The rate of interest in such cases was to be the same for all borrowers, i.e. the prevailing rate established for long-term loans issued to farmers other than "young farmers", and the total of both "long-term" and "intermediate-term" loans issued to be not more than \$30,000 to an individual farmer.

Under the initial Act the purposes for which loans were issued were designated as: Purchase of land by the borrower; permanent improvements to be effected in respect of buildings and land; removal of encumbrances; consolidation of debts; purchase of livestock; purchases of equipment; and other purposes.

Because the initial Agricultural Credit Act was not passed until November, 1958, it was not until the fiscal year ending March 31st, 1960, that the Manager and Chairman of the Corporation's Board of Directors could submit a report of the first year's business operations under the Act. Subsequently, the extent of the business conducted by the Manitoba Credit Corporation during the years 1959-60 to 1967-68 may be shown by the number and the amount of approved loans issued each year, as recorded in the annual reports of the Manitoba Agricultural Credit Corporation.

TABLE 72. NUMBER OF APPROVED LOANS AND AMOUNT OF APPROVED LOANS ISSUED BY MANITOBA AGRICULTURAL CREDIT CORPORATION 1959-60 to 1967-68

Fiscal Year	Number of Approved Loans	Amount of Approved Loans Issued
1959-60	443	\$4,141,705.22
1960-61	554	5,922,285.73
1961-62	393	4,533,987.68
1962-63	303	3,622,113.08
1963-64	281	4,079,658.60
1964-65	283	4,838,159.95
1965-66	310	7,169,395.76
1966-67	285	6,981,211.42
1967-68	276	6,991,759.52

The Agricultural Credit Act was repealed and superseded by the Agricultural Credit and Development Act (17 Elizabeth II, Chap. 1) which was assented to on May 25th, 1968. This 1968 Act established the Manitoba Agricultural Credit and Development Corporation, having as its objects:

- “(a) the guaranteeing or underwriting, to the extent permitted by the Act and Regulations, of losses sustained by banks and approved lending institutions in respect of approved loans made to farmers under the Act; and
- “(b) the acquisition of real and personal property and the construction and erection of buildings and structures on such real property to provide accommodation and facilities for agricultural programs and services.”

Thus no new direct loans could be made by the Corporation to a borrower, and on May 31st, 1968, further loans to farmers as provided for under the previous Agricultural Credit Act were discontinued.

However, regulations under the 1968 Act provided that in cases where a farmer was unable to obtain his complete line of credit requirements (long-term, intermediate-term, and operational or short-term) from other sources, the farmer, acting on his own or upon the suggestion of the

responsible officer, could apply to the Corporation for assistance. After investigation and appraisal of such a case by the Corporation, the latter, in its discretion, could issue a "Certificate of a Line of Credit" guaranteeing to a bank or approved loaning institution the issue of a loan not to exceed \$50,000.00, at a rate of simple interest charged by the bank commensurate with the risk as determined by the bank.*

The Board of Directors of the Manitoba Agricultural Credit and Development Corporation appointed February 7th, 1969 consisted of: H.J. Andresen, Chairman; G. Franklin; H.L. McKay; A.V. Rampton; and L.W. Leggat. The administrative staff under the reorganized corporation consisted of: L.W. Leggat, Manager; S.N.H. Westdal, Assistant Manager; T.G. Wright, Solicitor; E.J. White, Treasurer; S.H. Bohemier, Construction Supervisor; and R. Ter Horst, Office Manager; together with a field staff of Farm Credit Agents consisting of: J.G. DePape, W. Rines, A.A. Romanyk, W. Van Wynsberg, E. Braun, B. Anderson, J. Patterson, J.K. Fleming, S. Schwartz, J.M. Sinclair, K. Steele, and K. Webster.

(b) Manitoba Crop Insurance Corporation

Although first steps were taken in the closing year of the 1925-1959 sub-period,**it was not until the decade of 1960-1969 that the Manitoba Crop Insurance Program developed from an embryo stage to a province-wide service, with the initial objective of providing insurance to Manitoba farmers and later of underwriting crop losses due to such natural causes as hail, drought, flood, excessive rainfall, frost, wind, diseases and pests.

For the first year of its existence this service was established (under S.M. 1959, Chap. 14) as the Manitoba Crop Insurance Agency; but by amendment (S.M. 1961, Chap. 11) this service was organized and continued as the Manitoba Crop Insurance Corporation.

Five directors were appointed by the Lieutenant-Governor-in-Council to administer the Crop Insurance Act under the direction, supervision and control of the Minister of Agriculture. In respect of the directors it may be noted that the first Manager Director, L.B. Kristjanson, served only from April 1, 1960 to July 15th of the same year, when P.H. Ford was appointed as a Director and Manager of the Corporation and thereafter, in association with three of the five original directors, continued to serve in that capacity throughout the 1960-1969 period. The fifth director, V.R. Falloon, served from 1960 until 1966, and in 1967 was replaced by S.R. Harris. In 1960-61 an Executive Committee of three directors, consisting of J.C. Gilson, R. Hedlin and P.H. Ford, was appointed by the Board of Directors to deal with urgent matters requiring prompt attention, but all decisions of the Executive Committee were subject to ratification by the Board.

The Crop Insurance Service was initiated by selecting 19 municipalities to be formed into four test areas on the basis of what - from information at that time available - were considered to be

* By a new Agricultural Credit Corporation Act, October, 1969, provision was made for the re-institution of direct loans to farmers through the Corporation.

** Pages 518 to 527 .

- (i) a low risk area;
- (ii) a medium low risk area;
- (iii) a medium risk area; and
- (iv) a high risk area.

A field supervisor was then engaged and appointed to serve in each of the four crop insurance test areas. The task of each respective supervisor was to contact and arrange with the required agents and sub-agents - generally one in each municipality - to sell crop insurance to farmers on a commission basis.

In the first year of operation provision was made to insure wheat, oats and barley crops against specified disasters, and later flax also was made eligible for crop insurance. In 1961 sugar beet crops were added under somewhat modified regulations, and in 1967-68, fall rye, rapeseed and cultivated mustard crops were made eligible. At the same time, insurance was provided against losses on summerfallow land which could not be seeded in the spring due to excess moisture, and consideration and study were given to finding a basis for insuring field peas and other crops.

Initially, farmers who took out crop insurance in the test areas signed up for a crop insurance coverage of 60 percent of the long-time average yield of the crops grown in the respective areas involved; and the premiums, which varied with the crop and the area, were established on a township basis. Subsequent to 1961 however, as the result of extensive research, the premiums (25 percent of which were provided by the Government of Canada) were established on the basis of the type of crop, the average price per bushel, and soil productivity ratings.

With further research and study of crop and soils data, premiums were established on the basis of 60, 70 and 80 percent coverage of local long-time average crop yields for each of the 16 "Risk Areas" into which the Province was finally divided, and within each of the various "Risk Areas", soil productivity ratings were established on the basis of soils information supplied by, or worked out in co-operation with the Manitoba Soil Survey.

The development of the Manitoba Crop Insurance Program over the decade of 1960-1969 (as shown by records given in the annual reports of the Crop Insurance Corporation) was remarkable. Of the 19 municipalities originally selected for organization on a trial basis in 1959-60,* 14 municipalities were operated in four groups or supervisory areas. In the fiscal year 1961-62 the number of supervisory areas was increased from four to five, and in 1963 to six areas, with six supervisors working under the supervision of the Chief of Field Operations. From the 14 municipalities involved in 1960, the number of municipalities involved increased to 28 in 1961, to 37 in 1963, to 45 in 1964, to 63 in 1965, and to 77 in 1966. Furthermore, by the fiscal year 1966-67 the Manitoba Crop Insurance Corporation had completed the expansion program by offering crop insurance to all rural municipalities and local government districts not

* Annual Report of Department of Agriculture, 1959-60; Page 100.

previously covered, so that a provincial-wide program, involving 121 municipalities and local government district areas grouped into six districts, was achieved by the Corporation in somewhat less than a decade.

The number of persons insured with the Manitoba Crop Insurance Corporation in the initial and the following years are recorded in the annual reports of the Corporation as:

1960-61 - 2,472	1964-65 - 6,141
1961-62 - 3,654	1965-66 - 8,610
1962-63 - 4,413	1966-67 - 12,915
1963-64 - 5,142	1967-68 - 14,116

The foregoing tabulation indicates the extent to which Manitoba farmers became increasingly appreciative of the insurance protection against crop losses provided under this service by the Ministry of Agriculture. It was estimated that by 1967-68 approximately 48.2 percent of the farmers eligible carried crop insurance with the Manitoba Crop Insurance Corporation. In that year a total of 2,215,551 acres were insured at a cost in premiums to the farmer of \$2,065,443.00 and to the Government of Canada of \$688,481.00, for a coverage of \$33,268,298.00.

The administrative staff of the Corporation in the same year included a Managing Director, an Assistant Manager, a Research Director, a Comptroller Secretary, a Legal Counsellor and a Chief of Field Operations having supervision of six area supervisors, 46 part-time supervisors and adjusters, and 68 agents working either on salary or on a commission basis.

In 1965 the Governments of Manitoba and Canada accepted responsibility for joint re-insurance of the Manitoba Crop Insurance liabilities. Subsequently, re-insurance premiums were paid each year to the Governments of Manitoba and Canada. In the event of indemnity payments exceeding the total of a current year's premiums and the reserve held by the Corporation, then all indemnity payments would be met through terms of this joint agreement between the two governments without the necessity of the Corporation assuming burdensome debt.

(7) PREDATOR CONTROL

In 1935, the administrative duties in respect of the Wolf Bounty Act were transferred from the Treasury Department to the Ministry of Agriculture and later enlarged to "Predator Control".* However, the responsibilities and duties connected therewith were discontinued by the Department of Agriculture on August 31st, 1965 and transferred on September 1st to the Department of Mines and Natural Resources. Therefore, to complete the records of predator bounties shown in Table 35,** for the years 1935 to 1959, particulars of the bounties paid by the Ministry of Agriculture during the years 1959-60 to 1965-66 are here included as Table 73.

* Pages 296 and 336.

** Page 337.

TABLE 73. NUMBER OF MUNICIPALITIES INVOLVED, AND TOTAL NUMBER OF BOUNTIES FOR BEARS, COYOTES, AND FOXES, PAID OUT ANNUALLY BY MUNICIPALITIES FROM 1960 to 1965, ON THE BASIS OF 50 PERCENT REIMBURSEMENT BY DEPARTMENT OF AGRICULTURE UNDER "THE PREDATOR CONTROL ACT"

Year	Bears		Bear Cubs		Coyotes		Red Fox	
	No. of Municipalities	No. of Bounties	No. of Municipalities	No. of Bounties	No. of Municipalities	No. of Bounties	No. of Municipalities	No. of Bounties
1959-60	23	273	7	13	99	10,555	67	5,107
1960-61	20	157	6	12	96	7,610	68	6,309
1961-62	6	50	1	2	100	7,915	71	7,394
1962-63	8	50	2	5	95	7,937	68	6,804
1963-64	7	77	1	3	86	8,180	64	8,064
1964-65	4	53	1	1	86	6,331	59	6,438
1965-66	4	84	2	4	76	5,333	50	4,800

Bounty for timber wolves discontinued in 1955. Wolf control undertaken, where necessary, by Game Branch, Dept. of Mines and Natural Resources.

(8) THE HUMAN ELEMENT

The foregoing review of the activities of the Department of Agriculture in the closing decade of Manitoba's first century - though necessarily abbreviated - testifies to the high degree of development attained, the magnitude of the services rendered, and the quiet leadership achieved by the Ministry, through many decades, in all phases of agriculture that come within the jurisdiction of the Province. These multitudinous endeavors carried out by the personnel of the respective departmental branches along the lines of education, inspiration, and services rendered to farm, home, and community, are contributions of which Manitoba can be justly proud.

In thus pointing to the virtues of the Ministry and its departmental personnel, it is recognized that - because they are human - it would be too much to affirm that all involved were paragons of excellence; nevertheless, there continued to be during this last decade - as in all periods throughout the history of the Department - a hard core of devoted and efficient personnel who - through the Ministry - have made service to agriculture and to Manitoba their vocation and their professional lifework. The works of these devotees, both men and women, and of the public-spirited rural men and women who aided in the prosecution of their endeavors, were woven into the warp and woof of the tapestry that portrays the provincial mosaic; and in the absence of marble monuments to their persons are themselves enshrined in the pattern of the countryside and in the hearts and lives of so many of those "whose furrow oft the stubborn glebe has broke".

(9) AGRICULTURAL DEVELOPMENT IN MANITOBA
DURING THE 1960-1969 PERIOD

Although the years involved in the Fourth Period prior to 1969 are few in number, it is essential that a summary of agricultural data, gleaned from the Manitoba Yearbook of Agriculture and the Federal Census, be incorporated in this section (as in each of the sections dealing with former periods) and thus complete the statistical story of agricultural development in Manitoba during its first century.

The historic change that began in the latter portion of the 1925-1959 sub-period, involving an increase in size of farms and a decrease in number of farms and of farm population, continued on into the decade of the 1960's. The total land under cultivation on Manitoba farms increased from 10.5 million acres in 1959 to 11.4 million acres in 1969 - an average of approximately 90 thousand acres per year. This was a definite overall increase in land under cultivation, but it was in line with the decreasing rate of annual increase that began in the 1925-1959 sub-period, incident to the development of agriculture on the wooded lands in the aspen grove and forested regions, in contrast to the more rapid rate of agricultural expansion incident to the development of farming on prairie grasslands in earlier years.

(a) Production of Field Crops and Arable Land Use

The type of arable land use during the 1960-1969 period is indicated (as in former sections of this treatise) by the acreage of the various classes of crops and by the percent of grain crop land occupied by the various kind of crops, here submitted in Table 74 as a continuation of data presented in Table 60.

TABLE 74. CULTIVATED FARM ACREAGE, AND THE CLASSES
OF CROPS IN ACRES AND PERCENT GROWN
IN MANITOBA BY YEARS
1960 to 1969

Year	Grain Crops*		Grasses, Clovers and Alfalfa		Intertilled Crops		Fallow		Total Cult. Acreage (000)
	Acres (000)	Percent	Acres (000)	Percent	Acres (000)	Percent	Acres (000)	Percent	
1960	6,590	63.1	870	8.3	98	1.0	2,886	27.6	10,444
1961	6,673	63.9	922	8.8	113	1.1	2,742	26.2	10,450
1962	6,556	60.8	1,045	9.7	107	1.0	3,068	28.5	10,776
1963	6,527	59.6	1,039	9.5	127	1.1	3,260	29.8	10,953
1964	6,934	62.4	1,128	10.2	161	1.5	2,880	25.9	11,103
1965	7,043	62.5	1,150	10.2	166	1.5	2,900	25.8	11,259
1966	7,615	65.7	1,235	10.6	148	1.3	2,600	22.4	11,598
1967	7,407	65.5	1,117	9.9	129	1.2	2,650	23.4	11,303
1968	7,507	66.3	990	8.7	125	1.1	2,710	23.9	11,332
1969	7,038	61.6	1,050	9.2	134	1.2	3,200	28.0	11,422
Means		63.1		9.5		1.2		26.2	

* Includes Miscellaneous Field Crops.

During the years in question the total acreage of grain and miscellaneous crops continued to remain fairly constant but in slightly decreasing percentages of the total land under cultivation until 1963, and then to increase both in acreage and percentage from 1964 to 1968 and to decrease appreciably in 1969.

The soil improvement crops, i.e. grasses, clovers and alfalfa, increased by small acreage increments until, in 1966, the highest acreage ever recorded for this class of crops in Manitoba reached 1,235,000 acres or 10.6 percent of the farmland under cultivation.

Intertilled crops, i.e. fodder corn, sugar beets, potatoes, etc. - which normally occupied between one and two percent of the arable acreage - increased somewhat from 1959 to 1965 but failed to reach the acreage levels of two to two and a half percent recorded for this class of crops in the years 1940 to 1942.

In general, the overall data in respect of classes of crops indicate an increase in the total acreage sown to grain and miscellaneous cash crops and a subsequent reduction in land under summerfallow until 1968, accompanied by a definite but limited interest in the growing of cultivated grass and legume mixtures.

The relative percentage of the total grain acreage sown to the various crops, i.e. wheat, oats, barley, flax, rye and mixed grains, subsequent to 1960, as shown in Table 75, imply that there was - during this period - varying degrees of confusion and uncertainty in regard to the cash grain crops which should be produced, especially in respect of barley, oats and flax. This uncertainty appears to have been influenced further by the relatively high yields of wheat (which except for the dry season of 1961 were above the long-time average) resulting in larger annual production and thereby increasing the problem of disposition of the increasing stocks of wheat in storage in a period of restricted markets and of limited and fluctuating farm grain delivery quotas. Further and more detailed evidence is presented in Table 76 which shows the acreage planted and the annual yields of the various grain crops in Manitoba during the ten year period 1959 to 1968, and the decrease in wheat acreage with a change in ratio of grain crops in 1969. To complete the evidence of increased production as the result of higher yields, the total annual production of the respective grain crops, by years, is presented in Table 77.

TABLE 75. RELATIVE PERCENTAGE OF TOTAL GRAIN ACREAGE SOWN TO WHEAT, OATS, BARLEY, FLAX, RYE AND MIXED GRAIN IN MANITOBA - 1960 to 1969

Year	Wheat	Oats	Barley	Flax	Rye	Mixed Grains
1960	40.9	28.2	16.5	10.9	1.3	2.2
1961	42.1	30.7	12.1	11.1	1.2	2.8
1962	48.1	27.7	9.7	10.8	1.8	1.9
1963	49.2	25.3	9.1	12.8	1.6	2.0
1964	50.0	24.1	7.3	14.5	2.2	1.9
1965	47.5	22.4	8.8	17.0	2.2	2.1
1966	47.2	20.8	11.3	16.5	1.8	2.4
1967	49.4	22.4	13.6	10.1	2.0	2.5
1968	46.8	21.7	16.1	11.3	1.6	2.5
1969	37.3	22.9	17.0	16.4	2.7	2.8

TABLE 76.

ACRES PLANTED AND AVERAGE YIELD PER ACRE OF GRAIN CROPS
IN MANITOBA - 1959 to 1969

Year	Wheat		Oats		Barley		Flax		Rye		Mixed Grains	
	Acres Planted (000)	Average Yield Per Acre	Acres Planted (000)	Average Yield Per Acre	Acres Planted (000)	Average Yield Per Acre	Acres Planted (000)	Average Yield Per Acre	Acres Planted (000)	Average Yield Per Acre	Acres Planted (000)	Average Yield Per Acre
1959	2,670	23.1	1,420	35.3	1,270	25.9	575	8.0	83	20.0	136	30.8
1960	2,800	23.6	1,500	37.3	930	26.1	707	9.1	83	20.0	126	31.7
1961	2,914	11.7	1,300	18.5	655	13.7	748	5.7	80	11.1	157	18.2
1962	3,042	26.3	1,794	49.6	629	33.4	667	11.7	119	25.2	124	40.3
1963	3,153	19.3	1,620	38.3	584	27.4	820	11.3	95	22.4	126	31.0
1964	3,385	25.1	1,635	44.6	497	32.2	1,025	10.3	133	20.8	126	38.9
1965	3,240	24.4	1,525	48.5	601	36.6	1,350	12.0	133	22.5	146	41.1
1966	3,255	24.3	1,553	41.2	875	32.0	1,107	9.0	101	23.9	184	37.2
1967	3,520	25.6	1,600	41.2	970	34.0	660	8.6	141	18.9	178	37.6
1968	3,400	26.8	1,580	51.3	1,170	36.8	820	11.6	120	20.8	178	43.3
1969	2,500	25.6	1,530	45.1	1,200	35.0	1,100	10.2	183	18.3	190	37.4

TABLE 77. ANNUAL PRODUCTION OF GRAIN CROPS IN MANITOBA
1959 to 1969

Crop Year	Wheat (000) Bushels	Oats (000) Bushels	Barley (000) Bushels	Flax (000) Bushels	Rye (000) Bushels	Mixed Grains (000) Bushels
1959	62,000	50,000	33,000	4,600	1,660	4,189
1960	66,000	56,000	24,000	6,400	1,660	3,994
1961	34,000	24,000	9,000	4,300	886	2,857
1962	80,000	89,000	21,000	7,800	3,000	5,000
1963	61,000	62,000	16,000	9,300	2,128	3,900
1964	85,000	73,000	16,000	10,600	2,766	4,900
1965	79,000	74,000	22,000	16,200	2,992	6,000
1966	79,000	64,000	28,000	10,000	2,400	6,845
1967	90,000	66,000	33,000	5,700	2,667	6,700
1968	91,000	81,000	43,000	9,500	2,500	7,700
1969	64,000	69,000	42,000	11,200	3,358	7,100

A further factor, which undoubtedly contributed to the increased production of cash crops on Manitoba farms in the 1960's, was the striking increase in the amount of commercial fertilizer sold and used on farm crops in the Province. The rapid increase in the amount of fertilizer sold in Manitoba by years during the 1960's, in comparison with the amount of fertilizer sold by years in the last decade and a half of the preceding sub-period, is shown in Table 78. It is of interest to note that the most striking increase in the amount of fertilizer sold by years occurred following the establishment of the Provincial Soil Testing Laboratory service in 1963-64.*

In respect of miscellaneous crops, definite trends are indicated in the increasing acreage of rapeseed, mustard seed, buckwheat and sunflowers, as shown in Table 79. Nevertheless, the total acreage of miscellaneous field crops during this period was relatively small and of minor importance in comparison with the acreage of white straw crops with which they are included under the designation of "Grain Crops and Miscellaneous Field Crops" in Table 74. To indicate the relative importance of the miscellaneous

* Page 553.

crops grown in the 1960's in comparison with the same crops grown on Manitoba farms in the preceding sub-period, the acreage of miscellaneous crops in Manitoba prior to 1960 are given in Table 80.

TABLE 78. COMMERCIAL FERTILIZER SALES IN MANITOBA,
IN THE 1960's, IN COMPARISON WITH
FERTILIZER SALES 1946 to 1959

Year Ending June 30	Materials (Tons)	Mixtures (Tons)	Total (Tons)
1946	7,605	163	7,768
1947	10,125	273	10,398
1948	12,253	268	12,521
1949	16,746	291	17,037
1950	21,233	327	21,560
1951	22,385	330	22,715
1952	26,718	366	27,084
1953	31,381	490	31,871
1954	21,593	470	22,063
1955	14,118	498	14,616
1956	14,780	680	15,460
1957	14,910	754	15,664
1958	15,478	811	16,289
1959	20,204	890	21,094
1960	21,607	857	22,464
1961	28,684	1,246	29,930
1962	33,073	1,986	35,059
1963	45,608	1,517	47,125
1964	57,229	2,620	59,849
1965	71,764	2,668	74,432
1966	149,427	3,957	153,384
1967	176,835	4,301	181,136
1968	238,352	3,910	242,262
1969	—	—	147,000

(b) Problem of Grain Disposition

Because of its involvement in grain marketing and in delivery quotas of farm grain, it is appropriate that some reference be made at this point to the Canadian Wheat Board and to the farm problems created by the increasing supply of unsold wheat at the end of successive grain-trade years. It may be noted, however, that the Canadian Wheat Board operated under the Federal Wheat Board Act and was not under provincial jurisdiction.

Up to the end of World War I, wheat storage facilities in Canada were cleared each year to within a few million bushels and the Canadian "carry-over" of unsold wheat was considered by the grain trade as of little

TABLE 79. (a) ACREAGE OF MISCELLANEOUS FIELD CROPS
GROWN IN MANITOBA - 1960 to 1969

Year	Rapeseed	Mustard Seed	Field Peas	Buck-wheat	Corn for Grain	Sunflowers for Seeds	Total Acreage
	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)
1960	33,000	450	41,000	15,000	5,500	28,000	122,950
1961	29,300	10,800	46,700	13,200	4,100	30,500	134,600
1962	32,200	17,000	31,800	10,000	3,300	20,500	114,800
1963	45,000	27,000	37,000	15,000	4,500	37,000	165,500
1964	84,000	12,000	59,000	26,000	5,000	48,000	234,000
1965	145,000	28,000	42,500	20,000	6,000	48,000	289,500
1966	170,000	31,500	46,000	22,700	2,900	43,100	316,200
1967	145,000	29,000	30,000	45,000	5,500	44,000	298,500
1968	91,000	65,000	33,000	50,000	2,500	37,000	278,500
1969	196,000	37,000	52,000	50,000	3,000	48,000	386,000

(b) AVERAGE YIELD PER ACRE OF MISCELLANEOUS FIELD
CROPS GROWN IN MANITOBA - 1960 to 1969

Year	Rapeseed	Mustard Seed	Field Peas	Buckwheat	Corn for Grain	Sunflowers for Seed
	(Pounds)	(Pounds)	(Bushels)	(Bushels)	(Bushels)	(Pounds)
1960	722	700	18.7	15.6	32.5	800
1961	614	383	15.0	10.8	30.0	700
1962	902	720	15.7	21.0	40.0	750
1963	844	775	18.9	20.0	40.0	950
1964	875	675	23.0	15.4	25.0	525
1965	830	850	22.2	10.0	25.0	550
1966	620	549	15.9	15.0	44.8	594
1967	795	700	23.3	11.7	50.0	800
1968	880	846	16.0	10.6	40.0	650
1969	895	810	14.4	13.0	21.5	708

TABLE 80. ACREAGE OF MISCELLANEOUS FIELD CROPS GROWN
IN MANITOBA PRIOR TO 1960

Year	Rapeseed	Mustard Seed	Field Peas	Buck- wheat	Corn for Grain	Sunflowers for Seed	Total Acreage
1925	—	—	1,053	—	—	—	—
1926	—	—	1,156	—	—	—	—
1927	—	—	962	8,058	—	—	—
1928	—	—	1,331	9,866	—	—	—
1929	—	—	1,476	6,036	—	—	—
1930	—	—	1,300	2,900	—	—	—
1931	—	—	1,300	2,800	—	—	—
1932	—	—	2,000	5,700	—	—	—
1933	—	—	2,500	7,800	—	—	—
1934	—	—	2,000	7,900	—	—	—
1935	—	—	1,700	4,700	—	—	—
1936	—	—	1,600	5,700	—	—	—
1937	—	—	2,600	5,800	2,350	—	—
1938	—	—	3,000	8,100	9,300	—	—
1939	—	—	1,600	7,200	33,000	—	—
1940	—	—	1,700	5,000	50,000	—	—
1941	—	—	1,500	3,100	76,900	—	—
1942	—	—	2,500	3,000	100,000	—	—
1943	1,500	—	4,000	3,600	40,000	4,300	53,400
1944	6,000	—	7,200	3,800	30,000	11,300	58,300
1945	4,000	—	15,000	5,300	10,000	8,500	42,800
1946	2,500	—	30,400	4,500	11,700	23,000	72,100
1947	—	—	31,200	2,300	10,500	23,000	67,000
1948	—	—	17,000	2,200	9,900	29,000	58,100
1949	—	—	10,000	2,100	22,000	60,000	94,100
1950	—	—	10,000	6,500	30,000	26,000	72,500
1951	—	—	14,900	7,400	25,000	21,500	68,800
1952	6,500	1,300	18,500	13,000	19,700	3,000	62,000
1953	4,500	500	37,000	23,000	15,000	6,500	86,500
1954	9,000	—	30,000	24,000	9,900	20,000	92,900
1955	7,000	300	41,000	35,000	6,300	20,000	109,600
1956	29,100	600	55,600	61,800	7,100	33,000	187,200
1957	27,500	150	56,000	35,000	8,000	30,000	156,650
1958	21,000	325	52,000	30,000	7,000	45,000	155,325
1959	12,000	240	49,000	15,000	5,000	32,000	113,240

significance; but from 1918 to 1935 the annual "carry-over" of wheat began to increase in volume as shown in the following tabulation:*

CANADIAN CARRY-OVER OF WHEAT IN THOUSAND BUSHELS
AS AT AUGUST 1, EACH YEAR 1918 TO 1935

1918 - 5,400	1924 - 33,000	1930 - 141,000
1919 - 9,200	1925 - 42,000	1931 - 138,000
1920 - 24,000	1926 - 58,000	1932 - 219,000
1921 - 39,000	1927 - 94,000	1933 - 203,000
1922 - 32,000	1928 - 130,000	1934 - 215,000
1923 - 47,000	1929 - 130,000	1935 - 214,000

Prior to the establishment of the Canadian Wheat Board in 1935, the Canadian Government had been obliged to undertake a measure of state control of wheat marketing when, during World War I, it appointed a Board of Grain Supervisors in 1917 to take over all wheat produced in Canada, and to act as an intermediary between producers and the buying agency for the Allied Governments.

After functioning for two years, this Board was superseded in 1919 by a Canada Wheat Board which was appointed because of the uncertainty existing in respect of marketing conditions following the close of the war of 1914-1918. This Board also was short-lived and ceased operations in 1920. In the meantime, farmer co-operatives had taken action in respect of marketing grain grown in Western Canada. This movement and the assistance given to the Manitoba Wheat Pool by the Manitoba Government, up to 1927, have been outlined in a former section of this treatise.

Following the war of 1914-1918 the average annual price of wheat (which had risen to \$2.21 per bushel basis No. 1 Northern, Fort William, in 1917-18, to \$2.24 in 1918-19, and to \$2.63 in 1919-20) fell to 59 cents per bushel in 1931-32 and to 54 cents in 1932-33.** Consequently, as a result of the low price of wheat in the 1930's, the Canadian Government attempted to arrest the falling price by purchasing and stockpiling large quantities of wheat.

The Canadian Wheat Board (subject to renewal every five years until made a permanent body in 1967) was first appointed under the Canadian Wheat Board Act of July 5th, 1935, to buy, store, transfer and sell wheat; and to transfer operating deficits to the Government of Canada at the termination of the year's business which closed on July 31st in each year. On the other hand, in the case of surplus money at the close of the year's operation, the Board was required to distribute the surplus to the producers involved, either as a single payment or as an interim payment set by Order-in-Council, and a final payment.

* Strange, H.G. - "A Short History of Prairie Agriculture", Appendix VII; Winnipeg, 1954.

** Ibid. Appendix IX.

In the early years of operation the delivery of wheat to the Canadian Wheat Board was on a voluntary basis. In the first three years the price of wheat delivered by the producers was set at 87½ cents per bushel, basis No. 1 Northern, Fort William. This agreement, however, was to be effective only if the Fort William price for No. 1 Northern fell below 90 cents per bushel; but as the open market for this grade of wheat did not fall below 90 cents per bushel in 1936-37 and 1937-38, the Board did not accept wheat in these two years. It undertook operations again in the following year and continuously thereafter.

As the result of lowered production in Western Canada during the "decade of drought" the carry-over of wheat in storage, as at August 1st in the years 1936 to 1939, was considerably reduced; but in 1940-41, as the result of World War II many markets for wheat were cut off, so that with more favorable seasons and a return to more normal crop yields, the volume of unsold wheat in Canada again increased and became large. The carry-over of grain from previous seasons, together with the current season's production in successive years, became so much in excess of storage and handling facilities that transport lines became clogged and some method of orderly marketing of wheat, which would afford producers in all regions of the country the largest possible equity of delivery, appeared to be imperative.

Thus, in 1941, the Canadian Wheat Board Act was amended to allow the Board to administer a quota system of controlled grain deliveries, and in September, 1943, the Canadian Government suspended private trading in wheat futures on the Winnipeg Grain Exchange and the Canadian Wheat Board was made the sole marketing agency for Canadian wheat (except for registered and certified seed).

In 1948-49 the Board was empowered to buy Winnipeg oats futures or cash oats at a price per bushel, basis No. 1 Feed Oats, Fort William, and Winnipeg barley futures or cash barley at a price per bushel, basis No. 1 Feed Barley, Fort William, which, respectively, would assure that producers in Western Canada would be continuously offered a stated price per bushel for oats and for barley. The stated price per bushel of these two crops varied from time to time, but effective August 1st, 1949, oats and barley produced in the three Prairie Provinces were marketed through compulsory oat and barley pools operated by the Canadian Wheat Board on a basis similar to the annual wheat pool already in operation.

From 1942-43 to 1946-47 the Board was the sole agency for the purchase of flax seed from producers.* During these years the Board purchased flax seed from producers at a fixed price and a final price with surpluses and deficits for the account of the Government of Canada, but effective August 1st, 1947, a policy of price support and of an open market for flax was adopted and the Board was "empowered to purchase flax seed at \$5.00 per bushel (later increased to \$5.50 per bushel) basis No. 1 C.W. Flax Seed, Fort William." In 1948 a floor price of \$4.00 per bushel (same basis) was established for flax seed, and in 1948-49 the Wheat Board was

* Annual Report of Canadian Wheat Board, 1948-49.

“empowered to buy Winnipeg flax seed futures or cash flax seed at a price which would ensure that the producer would be continually offered \$4.00 per bushel, basis No. 1 C.W. Flax Seed, Fort William, and Grade Number One Canada Eastern, Montreal.” In addition, the Board was empowered to buy rapeseed and sunflower seed at a price to assure that producers in Western Canada would be continuously offered a price of six cents per pound for top grades of rapeseed and sunflower seed, basis of delivery points to be designated by the Board.

With the passing years the Canadian Wheat Board became more and more involved in the disposition and marketing of grain grown in Manitoba, Saskatchewan, Alberta, and parts of British Columbia and Western Ontario. From first attempting to arrest falling prices of wheat, the Board was required to enlarge its activities by successively serving as the sole marketing agency for Canadian wheat, operating wheat, oats and barley pools, and at various times extending price supports, at various levels, to various ancillary field crop products.

The problem of marketing grain in world markets was by no means peculiar to Canadian wheat. In 1947 an International Wheat Conference was held in London, attended by representatives of 35 grain importing countries, which convened in an attempt to evolve an orderly world system of trading in wheat. This conference lasted six weeks but failed to arrive at definite conclusions. In 1948 a similar conference of 33 wheat importing countries, together with representatives of Canada, United States and Australia, met in Washington, at which time an agreement was drafted for the sale of 500,000,000 bushels of wheat for five years at a maximum price of \$2.00 and a minimum price starting at \$1.50 per bushel in the first year but dropping by 10 cents per bushel every year. This agreement was submitted for ratification by the governments of the countries represented, but was not ratified by the United States and was not put into effect.

In 1949 a further international meeting of 57 countries was held in Washington with delegates from U.S.S.R. also present. At this time 37 importing countries undertook, on the one hand, to purchase from five exporting countries, i.e. Canada, United States, Australia, France and Uruguay, some 456,000,000 bushels of wheat per year for four years at not less than \$1.50 per bushel in the first year, \$1.40 per bushel in the second year, \$1.30 per bushel in the third year and \$1.20 per bushel in the fourth year. On the other hand, the exporting countries agreed to sell wheat at prices not exceeding \$1.80 per bushel. Under this first “International Wheat Agreement”, Canada’s allocation was 203,069,635 bushels per year.

After 18 years of “International Wheat Agreements”, the fifth (I.W.A.) agreement in 1962 established a price range of \$1.62½ to \$2.02½ U.S. funds on the basis of No. 1 Northern, Fort William. Some ten exporting and 26 importing countries were involved in this 1962 I.W.A. agreement, which was designed for a three year term but which was extended for a fourth year and then renewed for an additional year. In 1964 negotiations were started in Geneva under what was designated as the “Kennedy Round” discussions in an attempt to arrive at a comprehensive pact covering domestic as well as international trade policies for all grains. In 1967 the old International

Wheat Agreement lapsed, and a new International Grains Agreement consisting of two legal instruments - a Wheat Trade Convention and a Food Aid Convention - came into effect July 1st, 1968. Under the new Cereal Agreement, concluded under a General Agreement on Trade and Tariffs (G.A.T.T.), there was a general increase in the minimum and maximum prices for wheat. In the case of Canada, the minimum and maximum prices rose by approximately 21 cents per bushel, basis No. 1 Northern, Fort William. However,

"Whereas previously No. 1 Northern from Canada was the only wheat for which there was a clearly defined minimum price, now the price obligations of all members are known with greater precision because of the establishment of a schedule of minimum and maximum prices for major classes and grades of wheat moving in international trade."*

Under the new international agreement a schedule of minimum and maximum prices for specified grades of (wheat in) member countries was established, based on prices in U.S. funds for specified grades in store at Gulf of Mexico ports, i.e.: Dark Northern Spring, \$1.83 and \$2.23; Hard Red Winter No. 2, \$1.73 and \$2.13; Western White No. 1, \$1.68 and \$2.08; and Soft Red Winter No. 1, \$1.60 and \$2.00 respectively; but no attempt appears to have been made to establish quantities to be traded.

In the meantime, to meet its responsibilities which increased with passing years, the Canadian Wheat Board evolved various endeavors in attempting to effect the orderly movement of grain from western farms to domestic consumers and overseas buyers. By use of a quota system, the Board regulated the amount of grain delivered by producers to country elevators. Each producer was supplied with a Permit Book and every delivery of grain made to country grain elevators or mills was entered into the permit book of the respective producer. The basic types of quotas evolved were the "Unit Quota"; the "Specified Acreage Quota"; the "Seeded Acreage Quota"; and the "Supplementary Quota"; but "Over Quotas" could be issued for special purposes.

The "Unit Quota" made each producer holding a permit book eligible to deliver 100 units of grain**consisting of either 300 bushels of wheat, 500 bushels of barley, 500 bushels of rye, 1,000 bushels of oats, or combinations equivalent to 100 units. The "Specified Acreage Quota" (sometimes called the General Quota) provided for further deliveries (varying from 1 to 7 or more bushels per acre as established from time to time by the Board) based on the specified acreage listed in the individual producer's permit book (i.e. the permit holder's acreage of wheat, durum, oats, barley, rye, eligible forage crops and summerfallow).

The "Seeded Acreage Quota" applied in the case of special crops such as flax and rapeseed, and, in some years, durum wheat. As the marketing year progressed, the Board set quotas for the delivery at a certain number of

* Annual Report, Canadian Wheat Board, 1967-68.

** Grain units were set annually by the Board. In October, 1969, the grain unit consisted of four bushels of wheat, or ten bushels of oats, or six bushels of barley.

bushels per acre. To determine how much grain of the special crop a farmer could market, the acreage declared by the farmer, in the spring as seeded, was multiplied by the quota established by the Board.

The "Supplementary Quota" was a quantity in addition to the "Specified Acreage Quota" that could be announced from time to time by the Board for delivery of certain grains in short supply. It may be noted also that an open delivery quota could be declared under which no limitation would be placed upon the right of a producer to deliver grain, if in the judgment of the Board there was adequate storage space available.

Provision also was made for the issue of "Special Quotas" to meet special circumstances, such as delivery of high moisture grain that required drying through elevator facilities; or grain threatened by flood damage; and in a case where the farmer was retiring or deceased.

"Over Quotas" were introduced to apply in such cases as when certain grades of grain were not on hand in sufficient quantities to fill sales commitment; or an "Over Quota" of one carload of barley could be "permitted" in the case of malting barley to be delivered to a malting company, or of one carload of this kind of grain to be delivered to a processing mill for conversion into pot or pearl barley. In such cases the malting or processing firm had to examine the grain in question and agree to purchase and accept delivery. Barley so authorized under an "Over Quota" permit had to be delivered, for recording, through an elevator operator to be loaded directly into a railway car, and thus avoid the mixing that otherwise would occur in the bins and handling machinery of the elevator. Wheat also could be delivered under permit to flour mills for conversion into a family grist, but it is obvious that in the latter case very small quantities only were involved.

Under the conditions which prevailed at the time, only the Board could sell grain across provincial borders. Farmers could, however, sell any grain they wished to other farmers, feedlot operators, and feed mills within the province. Quota restrictions did not apply to those forms of sale.

In respect of the handling and transportation of grain, it may be noted that the Canadian Wheat Board made no effort to acquire handling facilities of its own. Handling agreements were made with the privately owned elevator companies, the Western Pool organizations, the United Grain Growers, and flour and feed mills, for the purchase, storage and shipment of grain authorized for producer delivery. Through the handling agreements negotiated each year by the Board, the companies involved undertook to act as "Country Agents" of the Board in the handling and sale of wheat, oats and barley for specified maximum handling charges and at a specified rate paid for carrying charges (including storage and interest) on grain stored in country positions for Board account. The role of the "Country Agents" involved such activities as the purchase of producer's grain for Board account and the issuing of cash tickets and participating certificates to the producer; the storage of Board grain in country positions; the delivery of grain to the Board at terminal points in accord with Board instruction; and the sale of commercial grain locally for feed, seed or milling purposes.

Contracts also were negotiated between the Board and private companies in respect of Shippers and Exporters Agreements. The services rendered under these agreements related to the forwarding of wheat to Eastern Canada; the sale of wheat in domestic and export markets in accordance with the Board's pricing policy, and when required, the loading of wheat to ocean vessels at Atlantic ports, Pacific Coast ports and Port Churchill.

Furthermore, close liaison was maintained between the Board and the railway companies in connection with the supply and distribution of railway cars in the controlled movement and transport of grain according to requirements of the Board.

In connection with the disposition of grain to domestic and export markets, the policy of the Board was to sell wheat through its agents to any customer in the world, either on the basis of the cash prices of the Board or, in some special cases, on a deferred price basis. In addition to the sales effected through Board agents, the Board also sold wheat directly to customers through contracts negotiated with foreign governments, or the government agency, for the sale and purchase of large quantities of wheat to be shipped more or less at regular intervals over an extended period of time.

The Board's operations in the marketing of oats and barley were less extensive than those relating to wheat. These two types of grains were sold in in-store positions at terminal elevators at the head of the Lakes and Vancouver. The movement of oats and barley from the Lakehead and from Vancouver continued to be the prerogative of private grain trade.

The direct selling of wheat by the Board to foreign governments or government agencies in large quantities, under contract in a given year or over an extended time, had important repercussions on the continuation and expansion of wheat growing in Western Canada. For example, the relative large sales of wheat made by the Board to Exportkhleb, U.S.S.R., to Czechoslovakia and to China in 1960-61; the further contract made between the Board and the U.S.S.R. grain trading organization in 1963, with an additional three year contract in 1965 for large deliveries of wheat in 1966 to 1969; and a new contract with the China National Cereals, Oils and Foodstuffs Import and Export Corporation in 1965-66, for deliveries of wheat and barley in 1966 to 1969, led certain personnel in official positions to proclaim - and grain growers at large to hope - that solution of the persisting problem of unsold surplus wheat in Canada was in sight.

However, despite these special highly heralded sales, data in respect of wheat, and of wheat, oats and barley "carry-over", contained in the annual reports of the Canadian Wheat Board from its inception in 1935 to the trade crop year 1968-69 - which have been compiled and presented herewith for reference as Tables 81 and 82 respectively - indicate quite forcibly that the problem of surplus grain in Western Canada during this period was far from being solved. Furthermore, these data show that the "surplus wheat" problem was not peculiar to the 1960's, but one that had been building up in Western Canada for at least three decades. This is shown by the graphic presentations in Figures 14, 15, 16 and 17, which respectively indicate: the annual supply of wheat in Western Canada (i.e. the yearly production and

the annual carry-over) during the years subsequent to the establishment of the Canadian Wheat Board; the annual disposition of wheat through domestic channels and export markets; the five year moving average production, exclusive of carry-over, compared with the disposition; and the wheat carry-over expressed by years and by five year moving averages.

When, late in the 1960's, the surplus wheat problem became of serious concern and could no longer be ignored, and it was estimated that the carry-over of Canadian wheat for 1969-70 would be in the neighborhood of one billion bushels, various explanations were forthcoming such as, on the one hand, falling market demands due to changed conditions in international trade; to increasing self-sufficiency being achieved in food production by many importing countries; to decreasing demand from traditional wheat-importing countries for high quality wheat resulting from changing milling techniques and lowered per capita consumption of bread; to increasing ability of certain competing wheat-exporting countries to supply wheat on a guaranteed high protein basis to importing countries that demand high quality; and, on the other hand, to over-production of wheat in Western Canada due to increased acreage of wheat and to higher yields from increased use of commercial fertilizers.

However, little appears to have been advanced or recorded of the effect on the overall quality of wheat due to extension of wheat growing into northern areas and to changes in farm practices in Western Canada such as combine harvesting of weathered and swathed grain unfit for storage because of excessive moisture (especially in years of unfavorable harvest weather and more especially in cases of late harvesting incident to seeding too late in the spring), or the effect these and other such practices may have had on the flow of inferior or damaged grain into the national pipeline, or to its accumulation in storage because its quality compared unfavorably with that of wheat exported in earlier years which first made "Manitoba's" synonymous with high quality, or of the restrictions resulting from or imposed by governments or government agencies in conducting commercial business, or from offering Canadian grain for sale at prices which potential buyers were not prepared to pay.

Whatever the cause or causes, it is ironic that the problem of increasing surplus quantities of unsold grain in Canada, and in some other countries, developed at a time when millions of people elsewhere faced starvation and death from malnutrition and scarcity of food, and when world population was increasing so rapidly that it was referred to in sociological and anthropological disciplines as a "population explosion".

(c) Livestock Production

The general trends in respect of livestock, noted on Manitoba farms towards the end of the 1925-1959 sub-period, continued on into and throughout the succeeding decade, but to complete the statistical data presented previously in Tables 63 and 64, similar data in respect of farm livestock for the years 1960 to 1969 are included here as Tables 83 and 84 respectively. However, because the total number of farms and the number of farms recorded as keeping livestock - as well as certain classes of livestock as

TABLE 81. CANADIAN WHEAT SUPPLIES AND DISPOSITION FOR
CROP YEARS (AUG. 1 TO JULY 31)
1935-36 to 1968-69*

Crop Year August 1 to July 31	Supplies			Disposition		
	Carried over August 1	Production August to July	Total August to July	Domestic (Farm and) (Commercial)	Export Wheat and Flour	Total
	(000) Bus.	(000) Bus.	(000) Bus.	(000) Bus.	(000) Bus.	(000) Bus.
1935-36	213,852	281,935	495,787	113,999	254,425	368,424
1936-37	127,363	219,218	346,581	99,758	209,773	309,531
1937-38	37,049	180,210	217,259	97,137	95,586	192,723
1938-39	24,536	360,010	384,546	121,601	160,034	281,635
1939-40	102,911	520,623	623,534	130,387	192,674	323,061
1940-41	300,473	540,190	840,663	129,328	231,206	360,534
1941-42	480,129	314,710	794,839	145,259	225,828	371,087
1942-43	423,752	556,067	979,819	170,492	214,701	385,193
1943-44	594,626	282,377	877,003	176,717	343,755	520,472
1944-45	356,531	414,859	771,390	170,371	342,946	513,317
1945-46	258,073	316,320	574,393	160,685	340,108	500,793
1946-47	73,600	411,601	485,201	156,202	242,858	399,060
1947-48	86,141	338,506	424,647	151,955	194,982	346,937
1948-49	77,710	381,413	459,123	124,383	232,329	356,712
1949-50	102,411	366,028	468,439	131,102	225,137	356,239
1950-51	112,200	466,490	578,690	148,526	240,961	389,487
1951-52	189,203	553,678	742,881	169,878	355,825	525,703
1952-53	217,178	701,973	919,151	150,439	385,527	535,966
1953-54	383,185	634,040	1,017,225	143,469	255,081	398,550
1954-55	618,675	331,981	950,656	161,999	251,909	413,908
1955-56	536,748	519,178	1,055,926	164,092	312,260	476,352
1956-57	579,574	573,040	1,152,614	154,672	264,396	419,068
1957-58	733,546	392,508	1,126,054	157,307	320,293	477,600
1958-59	648,454	397,730	1,046,184	163,637	294,546	458,183
1959-60	588,001	444,520	1,032,521	155,642	277,291	432,933
1960-61	599,588	518,379	1,117,967	156,377	353,249	509,626
1961-62	608,341	283,394	891,735	142,655	358,022	500,677
1962-63	391,058	565,585	956,643	138,029	331,367	469,396
1963-64	487,247	723,500	1,210,747	156,759	594,548	751,307
1964-65	459,440	600,726	1,060,166	147,548	399,594	547,142
1965-66	513,024	649,412	1,162,436	157,408	584,906	742,314
1966-67	420,122	827,338	1,247,460	155,402	515,307	670,709
1967-68	576,751	592,920	1,169,671	166,115	336,010	502,125
1968-69	667,546±	649,844±	1,317,390±			

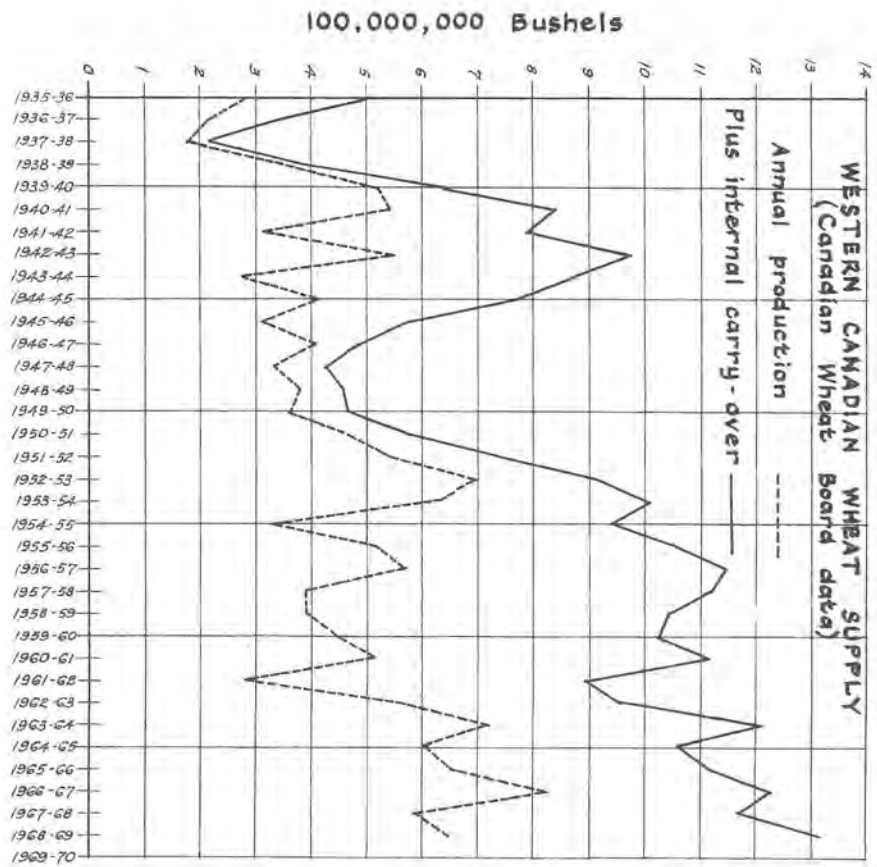
* Canadian Wheat Board data.

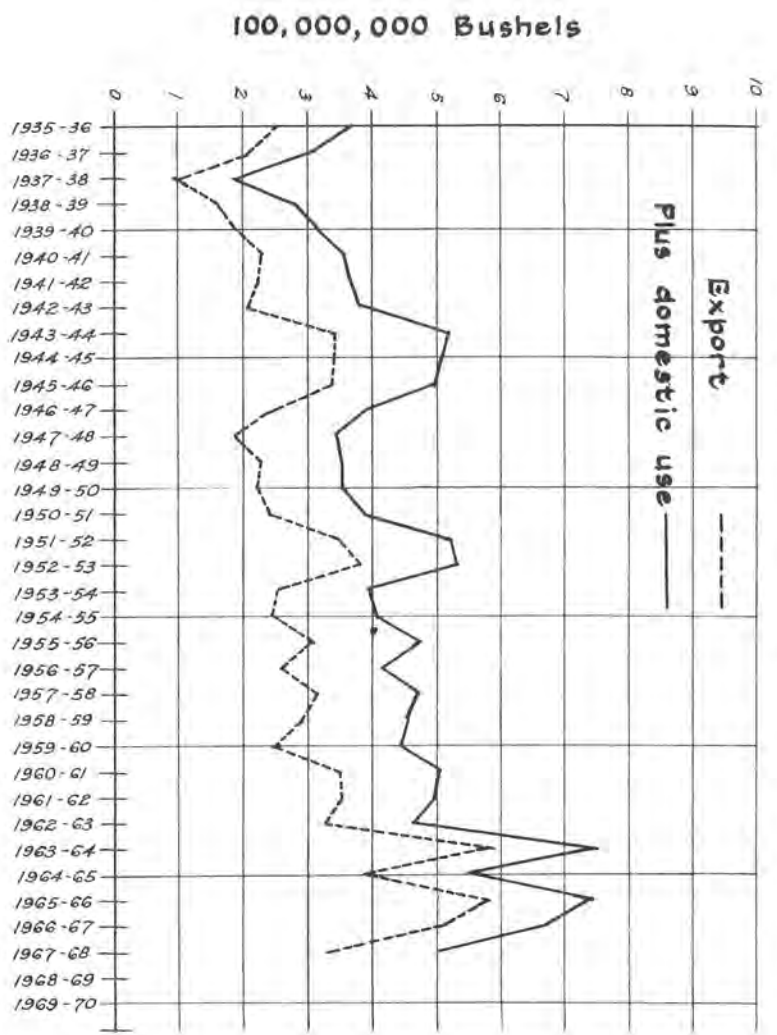
TABLE 82. INWARD CARRY-OVER OF WHEAT, OATS AND BARLEY
 IN THE PRAIRIE PROVINCES, 1935-36 to 1939-40
 AND IN ALL CANADA, 1940-41 to 1968-69
 RECORDED AS AT THE BEGINNING OF EACH
 CROP YEAR, AUGUST 1*

Crop Year August 1 to July 31	Wheat (000) Bus.	Oats (000) Bus.	Barley (000) Bus.	Totals (000) Bus.
1935-36	213,852	26,471	6,019	246,342
1936-37	127,363	40,380	10,234	177,977
1937-38	37,049	18,266	4,796	60,111
1938-39	24,536	19,499	6,631	50,666
1939-40	102,911	48,887	12,804	164,602
1940-41	300,473	46,931	12,654	360,058
1941-42	480,129	41,563	10,908	532,600
1942-43	423,752	28,607	10,821	463,180
1943-44	594,626	149,341	69,279	813,246
1944-45	356,531	108,479	45,949	510,959
1945-46	258,073	98,255	28,919	385,247
1946-47	73,600	77,492	29,937	181,029
1947-48	86,141	69,484	28,764	184,389
1948-49	77,710	47,891	31,449	157,050
1949-50	102,411	60,507	29,669	192,587
1950-51	112,200	44,905	20,355	177,460
1951-52	189,203	95,177	53,496	337,876
1952-53	217,178	108,358	79,504	405,040
1953-54	383,185	144,409	111,667	639,261
1954-55	618,675	125,769	145,910	890,354
1955-56	536,748	83,967	91,488	712,203
1956-57	579,574	119,106	110,948	809,628
1957-58	733,546	211,215	142,779	1,087,540
1958-59	648,454	156,916	118,165	923,535
1959-60	588,001	129,979	131,153	849,133
1960-61	599,588	100,827	128,470	828,885
1961-62	608,341	115,154	112,557	836,052
1962-63	391,058	79,066	57,824	527,948
1963-64	487,247	150,278	89,245	726,770
1964-65	459,440	179,408	118,270	757,118
1965-66	513,024	130,121	88,776	731,921
1966-67	420,122	127,163	97,753	645,038
1967-68	576,751	109,791	131,751	818,293
1968-69	667,546+	77,005+	130,605+	875,156+

* Canadian Wheat Board data.

FIGURE 14



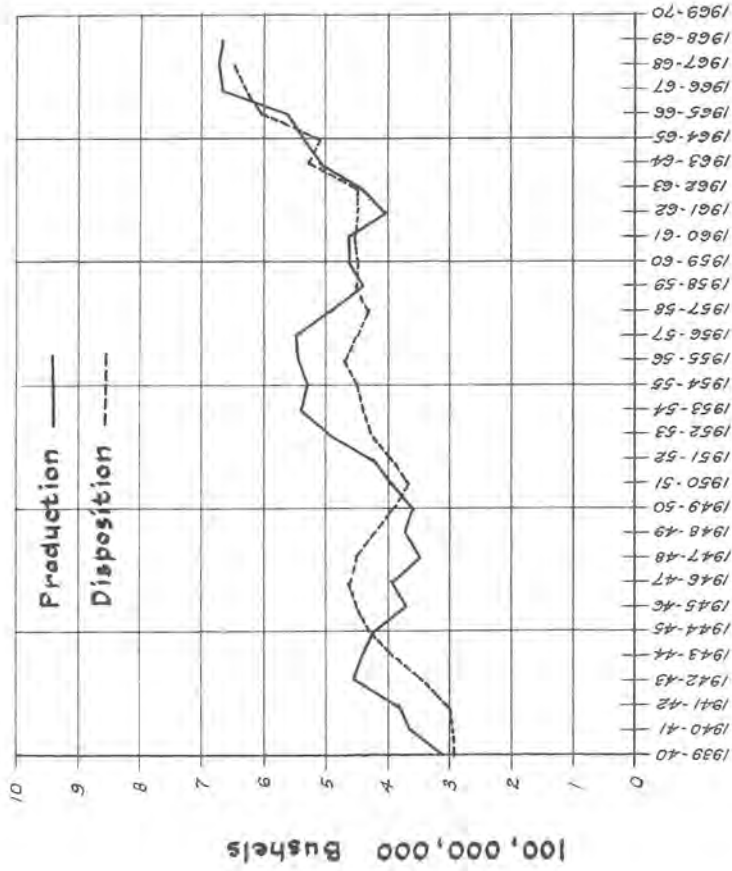


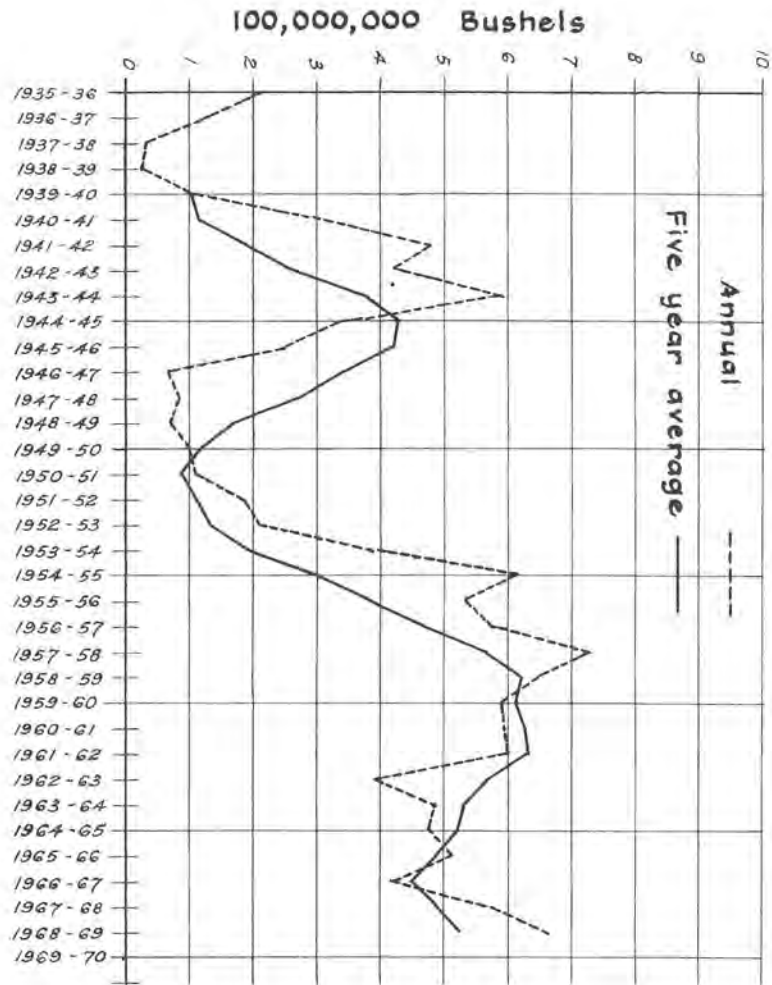
WESTERN CANADIAN WHEAT DISPOSITION
(Canadian Wheat Board data)

FIGURE 15

FIGURE 16

FIVE YEAR MOVING AVERAGE OF PRODUCTION AND DISPOSITION OF WESTERN CANADIAN WHEAT (Canadian Wheat Board data)





INTERNAL CARRYOVER OF WHEAT
(Canadian Wheat Board data)

FIGURE 17

shown in Table 83 - continued to decrease, the calculated numbers of each class of livestock divided by the total number of farms, as shown in Table 84, are only relative. The average numbers of livestock per farm thus calculated must be qualified in light of the following census data:

Census Year	1956	1961	1966
Total Number of Farms (Manitoba)	49,201	43,306	39,747
Percentage of Farms Reporting:			
Cattle (all ages)	79.3%	76.9%	71.4%
Milk Cows	70.9%	63.1%	48.2%
Horses	58.3%	46.7%	35.6%
Swine	52.6%	50.9%	40.4%
Sheep	4.7%	4.1%	2.7%
Chickens	67.2%	58.0%	43.2%
Turkeys	13.1%	11.9%	7.2%

With these qualifications in mind, the recorded livestock data, as given in the annual crop bulletins and departmental Yearbooks by years for the decade of the 1960's, support the following comments.

TABLE 83. TOTAL NUMBER AND KIND OF FARM LIVESTOCK AND NUMBER PER 100 ACRES OF CULTIVATED FARM LAND IN MANITOBA BY YEARS 1960 TO 1969

Year	Horses		Cattle		Sheep		Hogs	
	Total (000)	Per 100 @	Total (000)	Per 100 @	Total (000)	Per 100 @	Total (000)	Per 100 @
1960	56	.5	911	8.7	84	.8	380	3.6
1961	52	.5	966	9.2	90	.9	453	4.3
1962	46	.4	982	9.1	76	.7	331	3.1
1963	42	.4	1,065	9.7	73	.7	385	3.5
1964	39	.3	1,139	10.3	66	.6	450	4.0
1965	37	.3	1,150	10.2	57	.5	408	3.6
1966	34	.3	1,089	9.4	47	.4	480	4.1
1967	37	.3	1,112	9.8	46	.4	578	5.1
1968	38	.3	1,037	9.2	41	.4	526	4.6
1969	36	.3	1,019	8.9	41	.4	612	5.4

TABLE 84. AVERAGE NUMBER AND KIND OF LIVESTOCK PER
FARM IN MANITOBA - 1960 to 1969
(Total Numbers Divided by Total Number of Farms)

Year	Horses	Cattle	Sheep	Hogs
1960	1.1	18.6	1.7	7.8
1961	1.1	19.7	1.8	9.2
1962	1.1	22.7	1.8	7.6
1963	1.0	25.4	1.7	9.2
1964	0.9	27.4	1.6	10.8
1965	0.9	28.0	1.4	10.0
1966	0.9	27.4	1.2	12.1
1967	0.9	28.5	1.2	14.8
1968	1.0	27.1	1.1	13.8
1969	1.0	27.2	1.1	16.3

Cattle - The total number of cattle increased on Manitoba farms during the 1960-1969 period, partly due to an increase in the size of herds kept on a reduced number of farms (accompanied by a reduction in the number of small herds) and partly as the result of uncertainty and confusion arising from the limits imposed under the quota system of grain marketing at a time when prices were favorable for cattle production.

As far as the actual number of farms that kept cattle is concerned, the census data show a fall in numbers from 39,036 farms in 1956 to 33,314 farms in 1961, and to 28,389 farms in 1966. On the other hand, the total number of cattle in Manitoba divided by the number of farms reported in the census as keeping cattle, indicate an increase in average size of farm herds from (approximately) 18 head in 1956 to 29 head in 1961 and to 38 head in 1966. In this connection, however, further factors were involved which should be noted, i.e. the introduction of a limited number of large factory-type cattle-feeding establishments* in the agricultural areas, and the moderate number of fair-sized herds kept under ranch conditions in the less well developed transitional areas between the main agricultural region and the undeveloped forest and wildlife territory.

Dairy Cows - Although the total number of cattle in Manitoba increased from one to two hundred thousand head over the years 1960 to 1969, the number of dairy cows, or cows milked, showed a continuing decrease. Furthermore, the reduction in number of milk cows from 256,000 in 1960 to 163,000 in 1968, was accompanied by a reduction in total milk production from 1,127,000,000 pounds to 857,000,000 pounds. On the other hand, although these figures represent a reduction in provincial

* Page 530.

production of milk, they also indicate an increased average production from 4,402 pounds to 5,257 pounds of milk per cow during this period, and thus reflect increased specialization and higher efficiency on the part of the fewer number of dairy farmers involved. As far as the number of Manitoba farms recorded in census data as keeping milk cows is concerned, it may be noted that the number of such farms decreased from 34,891 in 1956 to 27,313 in 1961 and to 19,158 in 1966. Hence the total number of milk cows, divided by the number of farms recorded as keeping milk cows, indicates that while fewer and fewer farms were involved with dairy herds, farm dairy herds increased over the three census years from an overall average of 7.4 to 9.4 and to 10.8 head per farm respectively.

Some additional modification in the total number of dairy cows recorded may have been due to the classification of dual purpose cows as milk cows, in earlier records, and to the classification of such animals in with "other cattle", in later records, when less interest was taken in milking dual purpose cows on diversified farms, and more interest developed in the production of beef.

Records of dairy products manufactured in Manitoba during the 1960's are given in Table 85. These records show that the creameries and cream receiving stations also were reduced in number from 60 to 46 over the ten year period, and that the production of creamery butter (the quality of which was high) as well as dairy butter decreased sharply. On the other hand, the manufacture of cheddar cheese increased from approximately one-half to three million pounds per year. This sixfold increase, however, was still below the level of three to five million pounds of cheddar cheese produced per year for the ten years 1938 to 1947. The pounds of cottage cheese produced in dairy plants also increased but not in such a spectacular manner; and ice cream was produced in dairy plants each year in larger quantities than in any year prior to the 1960-1969 period.

Sheep - Sheep continued to decrease in numbers, and although the number of farms reported as keeping sheep in Manitoba was never large, the number of such farms continued to fall from 2,307 to 1,778 and 1,071 respectively in the census years 1956, 1961 and 1966. Thus the status of sheep on Manitoba farms in the 1960's can be ascertained by noting that whereas 4.7 percent of all farms kept sheep in 1956, only 4.1 percent of the farms kept a total of 90,000 sheep in the census year 1961 and 2.7 percent of the farms kept 47,000 sheep in the census year 1966, thus indicating that the overall average number of sheep per farm, on farms where sheep were kept, was in the neighborhood of 50 to 45 head per flock.

Swine - The number of swine on Manitoba farms during this period continued in the characteristic saw-toothed pattern of increase and decrease noted in former periods, rising in 1969 to 612,000 head, or to the highest level recorded since the war years of 1939-1945. In earlier periods the number of swine on Manitoba farms appears to have been influenced by war-time demands, by the price of hogs in United States markets, and by the relative price of grain and the price of pork; but towards the close of the 1960's it seems probable that the increased number of swine on farms in this

TABLE 85.

NUMBER OF CREAMERIES AND CHEESE FACTORIES IN MANITOBA
AND PRODUCTION OF DAIRY PRODUCTS BY YEARS
1960 to 1969

Year	No. of Creameries	Creamery Butter (000) lbs.	Average Pr./lb. (cents)	Dairy Butter (000) lbs.	Average Pr./ lb. (cents)	Total Butter Prod. (000) lbs.	No. of Cheese Factories	Cheese (000) lbs.	Average Pr. /lb. (cents)	Cottage Cheese Made in Dairy Plants (000) lbs.	Factory made Ice Cream (Gallons)
1960	60	24,778	63.5	1,270	62.0	26,048	5	487	39.0	1,979	2,126
1961	60	25,278	63.4	1,083	62.0	26,361	5	551	37.0	1,910	2,312
1962	60	25,605	53.6	829	58.0	26,434	5	631	39.0	1,970	2,424
1963	60	24,955	63.7*	527	52.0	25,482	5	823	40.0	2,035	2,778
1964	58	23,563	63.6	485	57.0	24,048	5	944	40.0	2,098	3,006
1965	56	21,806	63.9	390	58.0	22,196	5	1,145	43.0	2,245	3,010
1966	55	18,870	59.8	307	60.0	19,177	5	1,441	45.0	1,993	2,984
1967	55	17,071	61.7	285	62.0	17,356	5	2,149	47.0	2,076	3,228
1968	48	17,562	62.0	264	62.0	17,826	4	2,004	47.5	2,079	3,196
1969	46	17,119	—	—	—	—	5	3,236	—	2,100	3,277

* Subsequent to 1963, figures expressed as average price per lb. butterfat

Province also may reflect attempts to dispose of farm surplus grain through the farm feeding of hogs at a time when high prices for beef would strengthen consumer demand for pork.

Census records show that the number of farms reported as keeping swine in Manitoba decreased from 25,893 in 1956 to 22,045 in 1961, and to 16,048 farms in 1966, whereas the total number of swine increased in the same years from 343,000 to 453,000 and 480,000 respectively. Consequently, the total number of swine, divided by the number of farms reported as keeping this class of stock, would lead to the conclusion that the overall average of swine per farm, on such farms, increased from (approximately) 13 head in 1956 to 20 head in 1961 and to 30 head in 1966. However, these calculated averages can be misleading and are only relative. In attempting to interpret the recorded data it must be noted that the figures given do not take into account the undifferentiated numbers of animals involved in the large factory-type hog-feeding establishments that were introduced and operated during these years as "exo agronomos" commercial enterprises.*

Horses - The horse population - which through the use of mechanical power had been reduced, by the end of the 1925-1959 sub-period, to a ratio of approximately one head to 166 acres of cultivated farm land - continued to fall to a ratio of approximately one head to 333 acres of cultivated farm land in 1966. Tractors on Manitoba farms, on the other hand, increased from 61,463 on 43,306 farms in 1961 to 65,552 tractors on 39,747 farms in 1966.

It is of interest to note that the total number of farms reported as keeping horses in the census years 1956, 1961 and 1966, gives the remarkably similar numbers of 2.7; 2.5; and 2.3 head respectively. This might lead to the assumption that a little over one-third (35.6% in 1966) of the farms in Manitoba still retained a two-horse team for general farm work; but reference to Table 58 shows that as the number of horses decreased in the latter portion of the 1925-1959 sub-period, the number of registered stallions of light horse class exceeded those of draft horse class. Unfortunately, the Stallion Enrolment Act was rescinded in 1960, so there is no readily available basis for comparison of the type of horses that made up the total horse population in Manitoba during the 1960's. Therefore, until records are forthcoming in respect of the number of horses that were used in ranch operations and of the number of riding horses kept adjacent to towns, cities and recreational areas, the actual number of horses retained for power on Manitoba farms during this period cannot be stated with certainty; it can only be asserted that the number of farm work horses had become exceedingly small.

It is also of interest to note that subsequent to the census year 1966 the total number of horses in Manitoba increased to 37,000 in 1967 and to 38,000 in 1968. This unusual, though small, increase reflects the newly introduced production of P.M.U. on a commercial scale which, as recorded in the 1968 Yearbook of the Ministry, obviously involved 3,100 mares kept by 109 farmers under contract in that year with a drug firm interested in obtaining estrogen.

* Page 530.

Poultry - As outlined in a foregoing section* the economic status of poultry in Manitoba during the latter portion of the 1925-1959 sub-period changed progressively from that of farm flocks kept on most farms for subsistence, and on other farms as an ancillary form of livestock production, to that of highly specialized commercial enterprises concerned with the production and selling of eggs for hatching, the raising of broilers, the finishing of birds for meat, and the eviscerating and dressing of poultry. In these ventures, commercial hatcheries, feed mills, packers, and chain stores became more and more - and farmers less and less - involved. Because this situation continued on into and throughout the 1960's, it is only necessary at this point to give, in the accompanying Table 86, the number and kind of poultry in Manitoba, and thus to complete the data formerly presented in Table 68 and to complement the data given in Tables 53, 54 and 55. The only striking feature shown in Table 86 is the increased production of geese, which appears to have been associated with increasing development of this enterprise on Hutterite colony farms.

TABLE 86. NUMBER AND KIND OF POULTRY IN MANITOBA
1960 to 1969

Year	Hens and Chickens	Turkeys	Geese	Ducks
1960	6,400,000	915,000	40,000	36,000
1961	6,280,000	1,200,000	35,000	30,000
1962	5,465,000	970,000	70,000	25,000
1963	5,700,000	970,000	100,000	35,000
1964	6,270,000	885,000	100,000	40,000
1965	5,820,000	1,000,000	120,000	40,000
1966	5,940,000	980,000	135,000	40,000
1967	6,330,000	925,000	100,000	35,000
1968	6,380,000	870,000	100,000	35,000
1969	5,440,000	825,000	150,000	30,000

Beekeeping - Following the trend noted in the latter portion of the 1925-1959 sub-period, the number of beekeepers continued to decrease and the number of bee colonies to increase in numbers during the 1960's, as shown in Table 87. The figures thus presented further emphasize the fact that apiculture had developed more as a separate business venture carried on by a limited number of specialists, associated in some degree with agriculture but not necessarily as a farming enterprise carried on by farm families or farm operators. The close relationship between weather conditions, the activity of bees and the annual amount of honey produced is also reflected in figures presented in Table 87.

* Pages 436 to 439 and 513 to 517 .

TABLE 87. NUMBER OF BEEKEEPERS; NUMBER OF COLONIES;
AND ESTIMATED TOTAL PRODUCTION OF HONEY
AND BEESWAX IN MANITOBA, BY YEARS,
1960 to 1969

Year	Number of Beekeepers	Number of Colonies	Total Production (lbs)	
			Honey	Beeswax
1960	920	41,700	6,380,000	96,000
1961	720	40,560	6,490,000	97,000
1962	730	38,560	5,051,000	76,000
1963	700	43,000	7,525,000	112,875
1964	810	46,000	5,880,000	88,200
1965	840	47,000	6,251,000	92,760
1966	860	53,000	8,213,000	123,195
1967	860	55,000	9,435,250	140,825
1968	820	52,000	4,628,000	69,420
1969	800	50,000	8,950,000	139,500

5. WITH A GLANCE BACKWARD

In the respective sections of this treatise dealing with the various periods and sub-periods into which the history of the Ministry of Agriculture in Manitoba has been subdivided, statistical data (reflecting the annual and short time variations that occurred during each successive period) were included to indicate agricultural development in the Province concomitant with each of the respective periods or sub-periods of the Ministry of Agriculture under review. Therefore, it is necessary to glance backward to the fractionated or sectional information thus presented in order to obtain a co-ordinated summary of provincial agriculture and of the changes that took place in the utilization of farmlands in the Province during Manitoba's first century.

Apparently little attention was given to preserving historic records of cultivated farmland for the first decade of Manitoba's existence as a province. At the beginning of Manitoba's first century the river lot farming system of Assiniboia was still in vogue. It had continued through the transitional days of 1869 into the early days of the 1870's; and until 1884* the buffalo hunt was still a factor in the food supply of the settlements. In 1870 the first Lieutenant-Governor had to begin the task of organizing the newly created Province, and to this end caused a population census to be undertaken.** However, although agricultural and population census are on record for the District of Assiniboia, the census of 1870 was obviously more political than agricultural. Agricultural data were meagre; the Dominion Land Act had not as yet been approved by Parliament, and although

* Page 30.

** Pages 51 to 52 .

settlement had started on the Portage Plains, in addition to the settlement along the Red and Assiniboine rivers, it was not until July 2nd, 1872 that organization under the Homestead Act had progressed to the point that enabled John Sanderson to file on Homestead No. 1 (N.E. 35-12-7W). Consequently, the rapidly expanding settlement and inevitable changing statistics incident to the time were no doubt contributing factors to the scarcity of agricultural data in the 1870's. Nevertheless, for summary purposes it may suffice to recall that the cultivated farmland in 1856 is recorded (Table 1, Page 48) as 8,371 acres, and the Dominion census of 1881 records the total cultivated farmland in Manitoba to be (approximately) 250,000 acres. From grain trade records, Strange, H.G.L.* records the acreage of wheat, oats and barley sown on Manitoba farms in 1880 as 51,000, 33,000 and 13,000 respectively - which implies that cereals occupied less than 100,000 acres of farmland in the province in that year. The same source records the acreage of wheat, oats and barley sown in 1883 to be 421,000 acres. Subsequently, records of the Provincial Ministry of Agriculture year by year for the next 85 years show how the cultivated farmland increased to 11.5 million acres at the close of Manitoba's first century.

Although the historic periods and sub-periods herein outlined were not of the same duration, and agricultural data for the earliest years are missing, nevertheless, by subdividing the relatively long Post M.A.C. Period into Part I (1925 to 1940) and Part II (1941 to 1959), the mean values of agricultural data for the following groups of years can be used to provide a simplified but adequate basis for data comparison.

(i)	Early Pioneer Period	- 1883 to 1889 = 7 years	(partially incomplete)
(ii)	Pre M.A.C. Period	- 1890 to 1905 = 16 years	
(iii)	M.A.C. Period	- 1906 to 1924 = 19 years	
(iv)	Post M.A.C. Period, Part I	- 1925 to 1940 = 16 years	
(v)	Post M.A.C. Period, Part II	- 1941 to 1959 = 19 years	
(vi)	Remaining Period	- 1960 to 1969 = 10 years	
	Statistical data available for	87 years	
	Statistical data missing or incomplete - 1870 to 1882	13 years	
		100 Years	

The statistical data that may be selected to indicate the general overall development of agriculture and the utilization of cultivated land on Manitoba farms include: the average percentage of the various classes of field crops grown on cultivated farmland; the average percentage of total grain

* Strange, H.G.L. - "A Short History of Prairie Agriculture"; Searle Grain Co. Ltd., Winnipeg; 1954.

crops sown to wheat, oats, barley, flax, rye and mixed grains; the miscellaneous crops sown during the groups of years so involved; the average number and kind of livestock per 100 acres of cultivated farmland; and the percentage of farms reported as keeping the various kinds of farm livestock by census years for which such information is available.

The average percentage of the various classes of farm crops grown on Manitoba farms, during the various periods for which detailed data are available, is shown in Table 88.

TABLE 88. MEAN PERCENTAGE OF THE VARIOUS CLASSES OF FIELD CROPS IN MANITOBA ON LAND UNDER CULTIVATION BY PERIODS

Period	Grain and Miscellaneous Crops	Grasses and Grass-Legumes Mixtures	Inter-tilled Crops	Fallow	Total Fallow, Grain and Miscellaneous Crops	Ratio Fallow to Grain
(i) 1883-1889	84.3%	1.0%	2.1%	12.6%	96.9%	1 : 6.7
(ii) 1890-1905	81.8	1.6	1.2	15.4	97.2	1 : 5.3
(iii) 1906-1924	80.8	2.5	1.0	15.7	96.5	1 : 5.1
(iv) 1925-1940	72.1	5.7	1.1	21.1	93.2	1 : 3.4
(v) 1941-1959	67.3	6.2	1.2	25.3	92.6	1 : 2.6
(vi) 1960-1969	63.1	9.5	1.2	26.2	89.3	1 : 2.4

The data in Table 88 show that the fallow-grain system of land use (developed in the homestead farming days that followed the subsistence farming practised in the Red River Settlement) continued as the dominant type of land use throughout all succeeding periods. However, although the fallow-grain system continued to be the dominant overall type of land use on Manitoba farms, summerfallow (which ranged from 8.4 percent in 1884 to 29.8 percent in 1963) changed in average ratio of fallow to grain as time progressed due to various factors. For instance, the land under cultivation on pioneer homesteads usually began with a few acres broken from prairie sod, and in cases of settlers with limited resources, some lapse of time was required before the maximum amount of land could be broken from virgin sod on the respective holdings, hence as much as possible of the acreage under the plow was required by the homesteader to provide an income from marketable produce.

Furthermore, the land newly broken from prairie sod had the advantage of the relatively high fertility characteristic of virgin grasslands, and the practice of summerfallowing for moisture conservation in Western Canada had not as yet become an established practice. The increased frequency of fallow, period by period, may be attributed to increased weed infestation under a grain-growing system of land use; to the increasing necessity for combating drought in the plains region, especially in the 1930's; and later to the aggravated problem of weed infestation incident to the spread of weeds in farm fields through combine harvesting and threshing of grain.

The kind of grain crops grown over the years in Manitoba under fallow-grain systems also varied with time as shown in Table 89.

TABLE 89. AVERAGE PERCENTAGE OF TOTAL GRAIN CROPS SOWN IN MANITOBA TO WHEAT, OATS, BARLEY, FLAX, RYE, AND MIXED GRAINS, IN SUCCEEDING PERIODS

Periods	Wheat	Oats	Barley	Flax	Rye	Mixed Grains
(i) 1883-1889	61.1%	27.7%	9.4%	1.7%	0.1%	—
(ii) 1890-1905	66.4	24.3	8.0	1.2	0.1	—
(iii) 1906-1924	51.3	29.7	15.6	1.5	1.8	0.1%
(iv) 1925-1940	45.4	25.8	25.0	1.3	2.2	0.3
(v) 1941-1959	36.0	25.1	29.6	7.4	1.2	0.7
(vi) 1960-1969	45.9	24.6	12.2	13.2	1.8	2.3

It is evident from the data in Table 89 that from the earliest years wheat was the most important grain crop grown generally on Manitoba farms; however, the lower mean percentage figures for wheat in the later periods reflect not so much a reduction in total wheat acreage (which had reached as high a level in 1921 and 1940 as in the 1960's) as an increase in grain crops other than wheat, and an increase in the total acreage of cultivated farmland. Nevertheless, the fractionated data for the respective historic periods also show that annual and short time variations in the wheat acreage occurred aperiodically from such causes as: frost injury to the late maturing varieties grown in some districts prior to the introduction of Marquis; the epidemics of wheat rust from 1916 until the introduction of more rust-resisting varieties around 1935; the war-time and post-war conditions of World War I; the decade of drought in the 1930's; the war-time conditions of World War II; increasing surplus of wheat production over disposition in the 1940's and 1950's; the wheat delivery quota restrictions under the Canadian Wheat Board regimen; and the wave of optimism in the 1960's following a few large contract sales made by the Wheat Board to U.S.S.R. and China.*

A further significant observation is that the acreage of oats continued within a mean percentage range of 24 to 29 percent of all grain acreage, despite the replacement of horses by tractors in later periods. It is also of interest to note the increase in percentage of barley which began in the M.A.C. period with attempts to substitute barley as an alternative crop to rust-susceptible wheat, and with the efforts put forth to develop barley production for malting purposes in the M.A.C. and Post M.A.C. periods (Pages 237; 241; 371-374). The increase in the acreage of flax grown as an oilseed crop during the 1950's and 1960's is also significant.

* Page 595.

The various crops, generally referred to in later years as "Special Crops" by Manitoba agronomists, that were grown on farm fields in addition to cereals, involve both the close planted annual crops classed as miscellaneous crops included with the cereal crops, and certain row crops included with the intertilled crops.

Many of the special crops were known and grown to a limited extent in Manitoba in the early days of settlement. This is indicated in the first printed report of the Provincial Ministry of Agriculture, 1880-81,* and in the prize lists of the Provincial and Industrial Exhibition of September 1880.** These references indicate that in addition to the cereals, corn, potatoes and garden produce commonly grown, other crops such as hemp, hops, turnips, kohlrabi, mangels, sugar beets, squash, pumpkins, sugar cane, tobacco and seeds of Swede turnips, mangels and hops were produced. Moreover, it is inevitable that incoming settlers from agricultural districts in Eastern Canada, Great Britain and Europe should bring in seed as "settlers' effects" and attempt to grow, for domestic use, some of the crops with which they were familiar. Furthermore, the exhibits of agricultural produce prepared by the immigration section of the Ministry of Agriculture and displayed in Eastern Canada, Chicago, and elsewhere, to attract emigrants in the early 1900's, were outstanding collections, not only of the crops commonly grown in the Province, but also of a wide variety of other crops produced in crop adaptation experiments or grown by farmers under arrangement with a representative of the Ministry. Consequently, a number of crops which were not grown commercially until later years were not unknown to an earlier generation. Failure to develop these crops can be attributed to lack of processing plants and readily available markets, and to the fact that grain-growing soon became a way of life and a satisfying means of existence without additional classes of crops.

In respect of special crops it may be noted that small acreages of field peas were recorded as grown in 1883 and onward - chiefly as a grain crop for hog feed and believed by Ontario farmers to produce "sweeter pork" - but in the 1920's peas began to be grown for canning, for shipping eastward to make pea soup, and also, in the 1940's and 1950's, for factory processing. Buckwheat was grown on a very small scale by a few individuals in the early years, but until the 1950's this crop did not involve more than 10,000 acres. Sunflowers were first grown as a silage crop around 1920 but were soon discontinued for that purpose due to the high cost and labour of harvesting. Rapeseed and sunflowers were introduced in the 1940's as oilseed crops coincident with the establishment of the Co-operative Vegetable Oils Company plant at Altona. Corn was grown to limited degree both as a fodder and silage crop in the Pre M.A.C. Period and was developed as a grain or seed crop in the M.A.C. Period; later it was grown more extensively in local areas as a canning crop in the 1950's and 1960's. A few thousand acres of roots (turnips and mangels) were grown in the early days of settlement

* Pages 79 to 82 .

** Pages 82 to 84 .

and in increasing amounts up to around 18,000 acres in 1916, after which root crops were reduced in acreage until, subsequent to 1946, they were dropped from provincial statistical records. Mustard as a crop was practically unknown in Manitoba until the 1960's when it increased from 450 acres in 1960 to 65,000 acres in 1968. Nevertheless, as shown in Table 79 (a), the special crops of peas, buckwheat, sunflowers, rapeseed, corn and mustard did not increase to more than 300,000 acres, except in 1966 and 1969, at which time they collectively constituted only 2.7 and 3.4 percent respectively of the cultivated farm acreage.

Two intertilled crops also should be noted in this connection. Potatoes were grown as a subsistence crop on practically all farms in the early days of settlement, and as a domestic or farm commodity in succeeding years. As Winnipeg and other towns grew in size, potatoes were grown as a market garden crop, but despite the fact that potato processing plants increased in importance in the 1950's and 1960's, the acreage of potatoes in 1960-1969 did not exceed a yearly average of 24,320 acres. Sugar beets, on the other hand, were not grown commercially as an intertilled special crop until the Manitoba Sugar Company's plant was built in Fort Garry in 1940.* During the 1960's the area planted to sugar beets averaged 26,359 acres per year.

It is apparent therefore, that although special crops were assuming an importance from a commercial and industrial standpoint towards the close of Manitoba's first century, nevertheless, from a land use standpoint the close planted special crops introduced at various times, together with the "intertilled" crops of potatoes, sugar beets and sunflowers, had not as yet developed to four percent of Manitoba farmlands under cultivation.

The most striking observation in respect of the various classes of crops grown on Manitoba farms is the increasing percentage, with the passage of time, of cultivated farmland sown to soil improvement crops, i.e. grasses, legumes and grass-legume mixtures. This class of crops increased from an average of one percent of the cultivated acreage in the 1883-1889 period (Table 88) to 10 percent in the mid-1960's (Table 74). From the earliest days of settlement, hay and pasture were required for the horses and forage-consuming livestock kept by early settlers and homesteaders, but because large acreages of native pasture were readily available on unbroken upland prairie and bush land, and depressional or lowland areas, unsuited for breaking, provided many tons of "slough" hay, the sowing of grasses on cultivated farmland was not an immediate necessity. As the better drained lands on the respective holdings were brought under the plow, settlers with livestock (especially those from eastern Canada) in many cases seeded a few acres to timothy or brome or to timothy and red clover to provide night pastures, paddocks, etc., close to their respective farmsteads. However, neither timothy or red clover proved to be as satisfactory for pasture, under the drier conditions in the prairies, as in the more humid forested lands of eastern Canada where seeding down was common farm practice, and sheaf

* Page 331.

oats provided a more satisfactory fodder for horses and cattle than timothy hay. Consequently, for some time, and until more suitable forage crops were introduced, seeding down to grass on prairie farms lost favor with the older generation, and the younger generation, raised on fertile prairie soils (and not experienced in the growing of grasses and legumes for soil improvement) continued to rely on the native vegetation for hay and pasture as long as such could be obtained.

The activities of the Ministry in encouraging the growing of grass and grass legume mixtures for soil improvement and for forage and fodder should not be overlooked; they are reflected in the steady increase in the percentage of the cultivated land sown to these crops in the M.A.C. and subsequent periods. It also may be of interest to record that in the last decade of Manitoba's first century, individual interest in forage crops was accompanied by increasing interest in the leasing of Crown grasslands for hay and pasture.

An attempt was made, in the compilation of Table 90, to relate the overall development of farm livestock with that of cultivated farmland, and in addition, Table 91 was prepared to show the percentage of farms reported as keeping the different kinds of livestock. Unfortunately, the number of farms reported as keeping livestock does not appear to be available prior to 1921.

TABLE 90. MEAN AVERAGE NUMBER OF FARM LIVESTOCK IN MANITOBA PER 100 ACRES OF CULTIVATED FARM LAND BY PERIODS - 1883 to 1969

Period	Horses	Milk Cows	Total Cattle	Sheep	Swine
1883-1889	3.5	No Record	11.9	1.6	6.5
1890-1905	4.1	No Record	8.7	1.2	2.8
1906-1924	4.1	3.0*	7.8	1.0	3.2
1925-1940	4.1	4.4	9.3	2.4	3.7
1941-1959	1.8	3.5	8.2	1.6	4.5
1960-1969	0.4	1.9	9.5	0.6	4.1

* Milk cow records available for seven years only.

TABLE 91. PERCENTAGE OF FARMS IN MANITOBA REPORTING THE VARIOUS KIND OF FARM LIVESTOCK IN SUCCESSIVE CENSUS YEARS

Census Year	Total Number of Farms	Percent of Farms Reporting				
		Horses	Milk Cows	Cattle	Sheep	Swine
1921	53,252	87.2	—	87.0	13.1	64.0
1926	53,251	85.4	—	—	6.5	60.2
1931	54,199	83.0	—	80.5	9.0	65.3
1936	57,774	—	—	—	—	—
1941	58,024	82.1	83.0	85.2	10.4	71.5
1946	54,448	81.3	81.4	85.2	9.5	62.3
1951	52,383	74.5	75.7	81.2	4.4	63.0
1956	49,201	58.3	71.0	79.3	4.7	52.6
1961	43,306	46.7	63.1	76.5	4.1	50.9
1966	39,747	35.6	48.2	71.4	2.7	40.4

Because the yearly and short term variations in the numbers of livestock and the yearly variation in acreage of cultivated farmland did not follow the same pattern, the attempt to portray, in tabular form, the mean average number of livestock in terms of 100 acres of cultivated land in Table 90 is not as satisfactory or as informative as the information in respect of field crops given in Tables 88 and 89. Consequently, in order to obtain a clearer concept of the development of farm livestock on Manitoba farms, comparative studies would have to be made of the yearly data for livestock submitted by historic periods in Tables 11(b); 15; 24; 63; and 83; and of the corresponding yearly data for cultivated farm acreage submitted in Tables 11; 14; 21; 60; and 74.

Such comparison shows that prior to 1890 larger numbers of livestock were kept in Manitoba in proportion to the acres under cultivation, but although the total number of the different kind of farm livestock continued to increase by years for the next half century, the acreage under cultivation increased so much more rapidly than the relative numbers of livestock that comparisons subsequent to 1890 reflect an increasing dominance of crop production.

Later in Manitoba's first century, horses and sheep commenced and continued to decrease in numbers from the 1940's, and milk cows to decrease and continue to decrease from the mid-1940's; but on the other hand, the total number of cattle continued to increase up to the 1960's and the number of swine continued in a saw-tooth pattern throughout the years, apparently reflecting the quick response of this class of livestock to fluctuating domestic and export (continental) markets and the relative price of barley.

The numbers of farms in Manitoba reported in the agricultural census as keeping different kinds of livestock, however, are even more significant. The number of farms reported as keeping horses, sheep and milk cows decreased from the mid-1940's onward and those reported as keeping cattle and swine decreased from the 1950's.

In continuing to glance backward, it becomes apparent that while the evolution, development and activities of the Provincial Ministry of Agriculture can be, and were, reviewed by historic periods within definite dates, the historic development of agriculture in rural Manitoba cannot be encompassed within such exact periods of time. Nevertheless, the development of agriculture on Manitoba farms during Manitoba's first century can be considered as falling into three main eras, each of which did not begin or end abruptly but each in turn overlapped or co-existed with the preceding and the succeeding era.

(1) THE PIONEER ERA

The first era of agriculture in Manitoba may be designated as the Pioneer or early homestead era, which began in the Initial Period of the Ministry of Agriculture (1871-1882) by overlapping the established river lot system of subsistence farming. At that time the acreage of land under cultivation was quite limited and the numbers of livestock, which were needed for subsistence, were relatively in high proportion to the acreage of

plowed land. This condition was particularly true in the preceding district of Assiniboia where by the census year of 1856, with only 8,371 acres under cultivation, there were in the Red River Settlement in that year 2,799 horses, 9,253 cattle, 2,429 sheep and 4,674 swine (Table 1).

Prior to the creation of Manitoba as a Province, export markets were unavailable and domestic markets were more or less limited to the sale of produce to the Hudson's Bay Company and the private fur traders, but with the creation of Manitoba as a Province and the influx of tradesmen, land seekers and survey parties, Winnipeg came into being as the seat of government and of commerce. In the 1870's, commerce and industry (such as flour and saw mills, sash and door factories, a brewery and a distillery), dealers in furs and hides; grocery, dry goods, furniture, hardware, drug, book stores and butcher shops; tobacconists and wine merchants, tailors and outfitters; fuel dealers, lumber yards, builders and contractors; agricultural implement and seed dealers, blacksmiths, harness shops and livery stables; hotels, banks, land offices and real estate dealers; insurance agents, barristers and attorneys, physicians and surgeons, dentists, news press and printing establishments;* sprang up to serve the growing community and to enlarge the domestic market for farm produce. Thus, for the first decade, pioneer farming (in which livestock played an important subsistence role) had to adjust to the peculiar and rapidly changing conditions of the times.

Therefore, agriculture in Manitoba began with, and was limited to, subsistence farming (because of isolation and inaccessibility to export markets until linked to the outside world by railways) and to limited domestic markets (which only developed as and when urban centres came into being to supply the goods and services required by newcomers, immigrants and pioneer settlers). In respect of the growth of domestic markets, it is significant to note that from a population of 25,000 (approximately) in 1871, it was not until the end of Manitoba's first century that the population of the Province approached the one million mark, whereas the cultivated acreage expanded from a few thousand acres to 11.5 million acres in the same period of time.

The limited agricultural development in the 1870's is also indicated by the well-known fact that when Steele Bros. of Toronto attempted to purchase 5,000 bushels of Manitoba grown wheat for seed in 1876, through Higgins and Young of Winnipeg, a total of only 857 1/6 bushels could be secured from 12 farmers in the Kildonan, Springfield and Rockwood districts. This was shipped on October 21st, via Red River steamboat and U.S. railway, and arrived at Toronto November 28th of that year.**

Subsequent to 1890 pioneer farming continued on in varying stages of development in certain districts but more especially in a pioneer belt lying between, as well as interspersed with, the agriculturally developed grassland region and the agriculturally undeveloped forest region. In the initial stages, the pioneer era was characterized by the rush of land-hungry settlers and

* Beggs and Nursey - "Ten Years in Winnipeg, 1870-1879".

** E.S. Russenholt notes that four sacks of wheat were shipped for seed from Red River Settlement, in 1860, to Prairie du Chien, U.S.A. - "Manitoba Pageant"; Page 16; April, 1957.

immigrants eager to acquire land in the prairie region on which to establish homes for their respective families. With the acquisition of a parcel of virgin land as a farm site, the immediate task that faced these pioneer settlers was to ensure shelter and subsistence for their families, and in due time to produce a surplus of products over family requirements for disposition as marketable commodities in the growing domestic markets resulting from the influx of newcomers and, later, in the export markets that were opened up with the coming of the railways.

However, the duration of the pioneer era in any district, and the rapidity with which settlements were established, were influenced by the initial productive capacity, the natural fertility, and the ease of workability of the various soils in the specific landscape areas under settlement. Where prairie soils were favorable for the production of products that could be marketed, many early pioneers - not all of whom at first were skilled in field and livestock husbandry, but were endowed with a will to work and to learn - soon climbed to personal independence and financial success. In such cases prosperous agricultural districts were established fairly rapidly, and in such districts the pioneer era under which the first settlers lived was comparatively of short duration. Under these conditions many holdings soon became well established farms which, by the end of Manitoba's first century, were occupied by a third or subsequent generation of land operators with little or no first-hand experience of pioneer conditions but, on the other hand, were favored with an affluence acquired by inheritance from previous generations of thrifty and praiseworthy forebears.

In other districts the local soil and natural features did not permit rapid land use development until corrective measures, such as drainage, were installed. In still other districts the natural limitations of soil and other natural features inhibited, retarded, or favored only partial conversion of virgin soil areas to productive lands. In these districts pioneer conditions persisted for longer periods of time, so that successive operators with restricted opportunities and limited resources - and with less or little to be obtained by way of inheritance - were unable to acquire the affluence of those who, through no virtue of their own, were born into districts where a surplus over a livelihood from the "good earth" had been easier to obtain.

Although pioneer areas continued to exist at the close of Manitoba's first century and some districts appeared to be slow in moving out of the pioneer stage, nevertheless, instead of offering criticism, Manitobans should pay high tribute to the not inconsiderable number of industrious and patient land operators in pioneer areas who slowly but surely demonstrated, with the co-operation of the district agricultural representatives, that with the application of the principles of good husbandry, various areas which others had condemned could be, and were, transformed into more productive districts as the natural problems were resolved and harmonious adjustments effected between people and land resources.

(2) ERA OF TRADITIONAL FARMING

The second era of agriculture in Manitoba may be designated as one during which agriculture was expanded and developed as the traditional type of farming in the prairie and aspen grove (or park) regions of the Province. This era began with the coming of the railways (the Pembina Branch in 1878 and the C.P.R. in 1882-1885) which provided access to markets and made rapid development and expansion of agriculture possible.

With access thus provided for what at the time appeared to be unlimited export markets for grain, and with restricted domestic markets for other forms of farm produce due to a limited urban population, a type of farming characteristic of Manitoba prairie farms developed and replaced the earlier pioneer types of subsistence farming. The prevailing type of farming that developed from the coming of the railways to 1940 consisted of grain-growing commonly combined with subsistence farming with beef cattle, milk cows and swine production integrated in modified systems of diversification in which grain production was invariably dominant. In the early part of this second era, a number of bonanza or company farms were operated as large holdings which folded up in times of adversity or were broken up and sold as farm real estate, and a number of bachelor homesteaders operated smaller holdings which were soon modified by marriage. In both cases these large and smaller holdings were operated more or less without livestock (except horses or mules), but most farmers with families kept livestock which ranged from small numbers (or just enough for domestic use and for "trade" with local stores, or for cash to purchase necessities from mail order houses and the country store) to larger but varying numbers of livestock kept by the more highly diversified farmers, livestock breeders and stockmen; except, as in portions of the Central Lacustrine Basin (Map I), where limited water supply restricted the keeping of livestock.

The rapidity with which prairie grasslands could be converted into grain fields, with comparatively little capital, and the ability (for over two-thirds of a century) to dispose of all wheat in excess of domestic requirements that could be grown, stored, shipped in bulk, and marketed through export channels were the chief factors responsible for the rapid transition from pioneer to traditional farming on the better soils in the early years of the second era. Nevertheless, traditional regional farming in Manitoba, from the turn of the century until after World War II, consisted of grain-growing married to subsistence farming combined in systems of diversification fostered by the Manitoba Agricultural College and agricultural extension workers during the M.A.C. and the first portion of the Post M.A.C. periods.

Three factors were primarily responsible for the regionally traditional type of farming which developed in this second era.

The first of these factors (as already noted) was the unlimited export market for wheat at a time when arable farmland had expanded far in excess of that required to provide the domestic and provincial requirements.

The second factor was the imperative need for family subsistence common to all those who lived on the land in the early days of settlement before stores were of easy access or funds available for the purchase of

supplies. Thus, where there were children, milk cows were essential to provide milk, as well as cream for the home manufacture of butter; and, when and where a surplus of cream over family requirements was produced, such surplus in the earlier years was used to produce homemade butter for barter at country stores or, in later years, to be shipped as cream to creameries - a practice on which many farm women depended for cash income. In this connection it may be of interest to recall that a milk cow was a commonly bestowed and much appreciated wedding present on the occasion of a young couple setting up housekeeping on a new farm holding.

Meat for the farm home on traditional farms was commonly provided by slaughter of hogs for fresh and cured pork, and by home slaughter of a beef for winter use. Somewhat later this practice was modified by feeding a steer for delivery to the local "beef-ring" operated by a group of neighbors during the summer months.

A potato patch was invariably planted on a plot in one of the farm fields, and the vegetables needed in the home were invariably produced in the farm garden; and, on most farms, poultry for the production of eggs and meat were kept by the farm wife, with the assistance of the farm children, and fed on the screenings from the fanning mill and from the country elevator to supplement the subsistence the birds picked up around the farmstead.

Where a flour mill was within a reasonable distance, a few bags of wheat, hauled as a grist to the mill, would provide a year's supply of flour; and settlers who possessed feed grinders or crushers sometimes processed their own grain to be used as porridge or grits.

These methods of providing the farm family with subsistence were an essential part not only of pioneer farming but also of the earlier years of traditional farming, and although certain aspects were modified with time, subsistence farming practices continued on as a component part of traditional farming in Manitoba. Moreover, as domestic markets enlarged, many operators, through expansion and development of one or more of the endeavors involved, were gradually enabled to diversify and enlarge their operations and to benefit from various sources of income. Furthermore, throughout its history, farming in Manitoba has had to face recurring times of crisis from various causes, during which the traditional farm operators relearned what pioneer farmers had learned and what generations of farmers before them in other lands had experienced through long familiarity with recurrent depressions, i.e. that security of subsistence for the farm family was a first essential in carrying on through times of adversity until conditions were again favorable.

The third factor was the presence, in the conglomeration of land-hungry immigrants, of many old world families of skilled husbandmen and stockmen who, in the formative years of prairie agriculture, emigrated directly from farms in their homeland or in Eastern Canada. The forebears of such families had been schooled by experience over many generations in the principles of agricultural permanence and had acquired fundamental concepts which were passed on to succeeding generations of their children. Farmers with this type of background brought with them a love for the land,

and a pride in their vocation of keeping the soil in good heart and of maintaining or improving the quality of farm livestock. Moreover, it was farm men and women with this type of background in the early years of the Ministry of Agriculture (when the Provincial Government appeared to be engrossed primarily in attracting immigration from abroad and enlarging settlement at home) who after initiating such organizations as the first Provincial Agricultural Association; the Horse Breeders, the Pure-Bred Cattle Breeders, the Sheep and Swine Breeders associations; the Women's Institutes; plowing matches and fairs, etc.; approached and interested the Ministry in helping to finance and support such efforts. In looking backward, it is also apparent that it was men of this type, with a zeal for education, who were involved with the Ministry in the establishment of the Manitoba Agricultural College and in contributing to the ideals by which it was characterized during the years of its existence. Furthermore, the sons of these inspired countrymen, and of their neighbors who attended the College, were taught farming as a way of life, a vocation and a profession.

Thus it was the combination of the three factors that grain-growing with varying degrees of diversification, i.e. crops and livestock, became the generally adopted regional type of traditional farming in the prairie and aspen grove regions, and was the type still practised on a considerable number of farms in the last decade of Manitoba's first century. It is therefore important to note that the wisdom of continuing this system is reflected by the fact that where this type of farming persisted, Manitoba farm operators remained in favorable circumstances, whereas on the expanded holdings which had reverted to monoculture (exclusive grain-growing) the operators found themselves, at the close of the 1960's, in the unenviable position of being faced with the dilemma of how to support their families and how to continue their so-called "business of farming" in Manitoba's second century.

(3) ERA OF URBANIZATION AND FRACTIONATION OF AGRICULTURE

The third era of agriculture in Manitoba may be designated as one in which urbanization and fractionation of agriculture emerged in the wake of the comparative affluence of the 1940's and 1950's to challenge the continuance of traditional farming in the early and middle years of the decade of the 1960's. This third era began in the 1940's with the expansion of mechanization in the production of field crops. The increase in mechanization in the production of cereals as the major product of farm fields - operated by a younger generation unfamiliar with diversified and livestock farming as practised in the countries from which their forebears derived their love of livestock and concepts of balanced agriculture - led gradually to reduction in the number of horses, milk cows and sheep; to an increase in size with reduction in number of farms; to a reduction in dairying; and to a reduction in the number of farms keeping livestock.

Unfortunately, the mechanization of field culture (though desirable in itself) in so many cases led to the complete abandonment of livestock on many prairie farms and favored the fractionation of agriculture through the introduction of factory-type cattle-feeding operations and commercial hog-feeding establishments (based on urban commercial concepts) with their

accompanying contribution to pollution of soil and water* through their waste products, to throwing farming out of balance and providing income for financial and commercial concerns that could have been earned by farm operators.

By the beginning of the 1950's, and with the increased mechanized monoculture of grain; poultry and beekeeping, being ancillary products and in a different category to forage-consuming farm animals, had already developed into commercialized businesses rather than as farming enterprises. Poultry and egg production soon became highly specialized commercially controlled business projects** much in excess of provincial markets, so that large quantities of high grade products were exported to other provinces. In this connection little change took place in the 1960's, except for a marked revival in the production of geese on a few specialized farm holdings. Beekeeping and honey production, which from the beginning was regarded more or less as a limited specialty, continued to be carried on by fewer and fewer beekeeping devotees operating larger numbers of colonies, the products of which varied year by year with variations in weather or seasonal conditions.

During the latter portion of the Post M.A.C. Period and throughout the following decade, two important factors came into play which had far-reaching effects on traditional agriculture.

The first factor was the increasing influence exerted by various commercial interests, urban-oriented personnel and self-appointed advisors who failed to recognize the difference in the agricultural potential of Manitoba blackearths and the brown steppe soils of Western Canada, which together with the mechanization of field culture and a comparatively long period of favorable climatic conditions, led numerous farm operators to abandon all forms of diversification, to eliminate provision for family subsistence in times of adversity, and to limit their endeavors exclusively to grain production. Under this policy their productive labour became restricted to a limited number of months in the year and permitted those so inclined (for as long as exclusive grain-growing favored it) to spend much of their time during the winter months in curling rinks and in other pursuits. This procedure was by no means a modern technological invention and was not only in direct opposition to the annunciations in farm management textbooks written by a wiser generation of agricultural advisors, who emphasized the importance of not putting "all the eggs into one basket", and of "planning farm operations so that labour may be used profitably for productive purposes throughout the year"; but it is also reminiscent of the writings of Varro*** (116 to 27 B.C.) in ancient Rome who complained "that, in his time the same attention to agriculture was not given as in former times; that the great men resided too much within the walls of the city, and employed themselves more in the theatre and circus than in the cornfields and vineyards."

* Pages 528 to 530.

** Page 439.

*** Loudon's Encyclopedia of Agriculture, 1831; Page 12.

The second factor was the gradual assumption of control over the marketing of wheat grown in Western Canada by the Federal Government through the Canadian Wheat Board* under the jurisdiction of the Department of Trade and Commerce, and of what appeared to be an unfortunate lack of enlightening communication and sympathetic understanding between those responsible for the operations of the Board and the growers of western wheat. In view of the fact that the Canadian west developed on an increasing acreage and volume of wheat production, western grain growers, by and large, found it hard to believe that it was possible to produce too much wheat, or that the market demand for wheat could be seriously restricted. Some well-established grain-growers in the dark brown and brown soil regions of Western Canada - who were not unfamiliar with low yields in dry seasons - even looked at first on their own accumulating stocks of undelivered grain as an insurance against years of crop failure. Consequently, the Wheat Board was blamed for lack of initiative in the disposition of wheat, despite the fact that domestic sales steadily increased as the years progressed and the total volume of domestic and export sales were reasonably well maintained - as shown by five year moving averages from 1944-45 to 1962-63 in Figure 16 - followed by a significant increase in export wheat sales in 1963-64 and in subsequent years (Table 81).

Furthermore, publicity given to the dire predictions of academic economists that the world's billions would be faced with starvation in 30 years time, and the revived optimism engendered by relatively large sales of wheat made by the Wheat Board to U.S.S.R., Czechoslovakia and China in 1960-61 (which was exploited by some federal politicians as a justification of Government's wheat policy) led too many western grain-growers to increase their holdings and their acreage of wheat. During the census years, 1961 to 1966, the wheat acreage in Manitoba increased from 2.7 million acres in 1961 to 3.2 million acres in 1966; between the same two census years the wheat acreage in Saskatchewan increased from 16.0 million acres to 19.4 million acres - an increase of more than the total wheat acreage of Manitoba** -; and during the same two census years the wheat acreage of Alberta increased from 5.6 million acres to 6.5 million acres after falling from a peak point of 7.9 million acres in 1931.

The end result of replacing traditional farming by exclusive monoculture on a considerable number of farms in the blackearth soil zone of Manitoba, and of the revived expansion of wheat acreage in Western Canada, during a decade of years favorable to better than average production (with the exception of 1961), was that Manitoba's first century ended with an increasing volume of internal carry-over of wheat in Canada, thereby presenting the Canadian Wheat Board with a problem in wheat disposition it appeared unable to resolve; while at the same time, urbanization, fractionation and industrialization of agriculture contributed to a measure of depopulation of the countryside - which, if continued, would result in the

* Pages 587 to 596.

** In 1967 and 1968 the acreage of wheat in Manitoba increased to 3.5 and 3.4 million acres respectively, but was reduced by Manitoba farm operators on their own initiative to 2.5 million acres in 1969 (Table 76).

erosion of Manitoba's most important agricultural resource, i.e. farm-raised boys and girls - and by putting farming out of balance created problems in agricultural continuity that Manitoba farmers and the Provincial Ministry of Agriculture have to face and resolve as the Province enters its second century.

It is also of fundamental importance to note that already - by virtue of changes in ratio of urban to rural population and of concentration of urban population in Greater Winnipeg during the latter portion of Manitoba's first century - legislative administration has passed from rural to urban dominance to the extent that it should cause all who are concerned and involved with the continuity of agriculture, the conservation of soils and natural resources, and the well-being of the countryside, seriously to think.

At the beginning of Manitoba's first century, its population may be classed as "truly rural" with urban population, as such, practically non-existent. Nevertheless, as the years progressed, and prior to 1931, the total population of Manitoba (which was recorded in 1871 as 25,288 and which increased to 62,260 in 1881, to 152,506 in 1891, to 255,211 in 1901, to 461,394 in 1911, and to 610,118 in 1921) was classed as either rural or urban; and in these census years the rural population, which was recorded as 88.0 percent of the total population in 1881, became reduced progressively to 57.1 percent in 1921, and to 54.9 percent in 1931 due to progressive increase in urban population.

Subsequent census data show that whereas the total population of Manitoba increased from 700,139 in 1931 to 963,066 in 1966, the so-called urban population increased during the same period from 340,252 to 646,048, and the non-farm rural population from 103,582 to 155,356. During the same 35 year period, however, farm population only increased in number from 256,305 in 1931 to 261,167 in 1936, but thereafter decreased in each succeeding census year to a total of 161,662 in 1966.

During the 35 year period (1931 to 1966), therefore, the ratio of urban or city population to farm and non-farm rural residents changed to a remarkable degree. In 1931 the ratio of urban or city population to farm residents was as 1.3 is to 1; but in 1966 it was as 4 is to 1. In 1931 the ratio of non-farm rural population to farm residents was as 0.4 is to 1, but in 1966 it was as 0.96 is to 1 or, for practical purposes, as one is to one.

These changes in class of population over the years resulted in profound changes in the relative importance of "farm", "non-farm rural", and "urban" population in respect of voting strength and representation in provincial and municipal administrations.

In its early stages Manitoba was not only "truly rural" but was administered by Legislatures that were rurally oriented; but at the end of its first 100 years - after successive readjustments in number, in size, and in boundaries of electoral divisions - Manitoba was governed by a Legislative Assembly comprised of 57 members, of whom 27 represented the constituencies of Greater Winnipeg, five represented the immense but sparsely inhabited unorganized territory north and east of the organized rural areas, and 25 represented constituencies in the municipally organized areas containing the agriculturally developed portion of the Province in which nearly half of the population were non-farm residents.

In view of the growing pressures exerted on agriculture at the close of Manitoba's first century by commercial and urban-oriented interests, and by federal government controls and directives in respect of the production and delivery of grain; together with the increasing voting strength of urban and non-farm rural population concomitant with decreasing voting strength of farm population; Manitobans may well pause and reflect on the effect these trends and circumstances have had, and in the next century may have, on farming in Manitoba.

To what extent, for instance, will Manitoba farmers in the future be able to control their own lives and individually or collectively make their own decisions; and to what extent will decisions involving farming in Manitoba be determined in board rooms of mercantile empires? Also, to what extent will well-informed husbandmen be able to farm their respective lands under the guiding principles of good husbandry derived from sound education and first hand experience with local needs and problems; and to what extent will farm operators be under federal government directives and be compelled to operate - not under guiding principles but - under pontifical guidelines formulated by non-farm personnel more acquainted with computerized bookkeeping than with agricultural permanence or with the conservation and management of Manitoba soils?

In the latter connection it cannot be too strongly emphasized that (as one of the three prime factors - i.e. "land, labor and capital" - responsible for the widely acclaimed success achieved in 100 years of provincial development) the care and conservation of Manitoba soils are too often disregarded, especially by people whose concept of farming is limited to comparisons of annual expenditures and receipts in terms of monetary digits.

The husbandry of soils is far more than a question of dollars and cents. Soils mean much more to the nation than material support - or gross national product - for not only is man dependent upon soil for subsistence but, from the dawn of human history, the development of civilization has been linked inevitably with the culture of the soil.*

The agricultural soils initially developed under forest conditions in the United Kingdom and Northwestern Europe (many of which, in the middle ages, were of low productivity) were raised to a state of high productivity through the efforts of succeeding generations of husbandmen who found that to get from the soil, they must first give; whereas the virgin grassland soils of Manitoba were by contrast of high organic content and of high fertility. The high productive potential of these soils resulted from the interaction of climate, native vegetation and soil organisms on the various geological surface deposits, over thousands of years, under regional types of soil development and conservation controlled by nature; and it was this free gift of natural soil fertility (which Manitobans inherited but did not create) together with the vision and energy of the pioneers that made the rapid development of Manitoba possible.

* Ellis, J.H. - "The Land for Thine Inheritance"; Department of Agriculture; 1947.

The effect of the fallow-grain system of land use on cultivated farm fields during the decades of Manitoba's first century can be noted in cases where newly broken strips of headland or field border have been plowed up to enlarge a field or to combine adjoining fields. In such cases the crop sown across the newly broken strips invariably will show striking differences in vigor and productivity to the same crop grown on the adjacent field that has been under arable culture for several decades. (Page 423)

Moreover, although Manitobans can be grateful and should give due recognition to the Ministry of Agriculture and to the research workers for the production and distribution of various disease resisting crop varieties; for the introduction and use of commercial fertilizers to supply limiting elements of plant nutrition; and for the introduction of various weed control practices, which together have maintained the levels of production as high as they now are in favorable seasons; nevertheless, the fact remains that marked deterioration in organic content and energy material for micro-organisms, and in the physical condition of both coarse and fine textured soils has taken place. The accelerated predisposition to soil drift and the lowered water retention capacity of sandy textured soils, and the increased resistance to tillage and the lowered porosity of clay textured soils with corresponding increase in predisposition to poor internal drainage and surface flooding, are factors that demand attention if Manitoba farms are to be kept permanently productive.

To those who have to face the problem of agricultural continuity at the beginning of Manitoba's second century, it is important to remember that during its first century the Province had ample demonstrations (among others) of both high and low roads in respect of agriculture.

On the one hand, there were the unrecorded numbers of country men and women - often with limited financial resources in their earlier years but with high ideals and invaluable human resources within themselves - who approached farming, firstly, as "a way of life" by means of which they climbed the ladder of success and achieved the dream of establishing, for their respective families, comfortable homes of moral rectitude in rural surroundings; secondly, as "a vocation" having for its objective their personal contribution towards supplying the answer to "the prayer of many millions for daily bread"; and thirdly, (with a love of the land and with the wisdom of countryfolk in harmony with nature, practising the fundamental principles of husbandry in close ties with their neighbors), as "custodians of the soil" which they held in trust for future generations. These are they of whom Manitoba can be justly proud.

On the other hand, there were (among others) those who approached farming from the standpoint of exploitation; where love of the land was displaced by love of profit; where land, instead of being treasured and venerated as Mother Earth - the supporter of life - was regarded as a commodity of merchandise; where money instead of human lives was taken as the standard of value; where the annual balance sheet took precedence over the long time weal and the motives of the countinghouse supplanted the principles of husbandry. More particularly in later years, there were examples of agriculture being made to serve the interests of financial and

commercial concerns, aided and abetted by professional planners and advisors in what Virgil (36 to 29 B.C.) would refer to as "over-sumptuous cities"* who apparently failed to understand that farm folk also have intelligence as well as "the wisdom of the peasant" in their own right; that "it was the production from the soil of what was needed for the maintenance and enrichment of human life that evoked the earliest exercise of man's intellectual powers, and it is still the most important of all his enterprises";** and that the dislocation of rural people from the land (if carried to its ultimate conclusion) would be a costly economic blunder and a cruel social tragedy symptomatic of the decline and fall of western civilization.

* Virgil's *Georgics* III.

** Reverend J.F. Lys, Vice Chancellor of the University; Address of Welcome, Soil Science Congress, Oxford, 1935.

APPENDIX

- I. Graphic Presentation of Supply Voted by
Component Sessions of Each Legislature
- II. The M.A. C. Staff, 1906 to 1924
- III. Crop Reporting Districts
- IV. Agricultural Societies
- V. Horticultural Societies
- VI. Women's Institutes

APPENDIX I - (1)

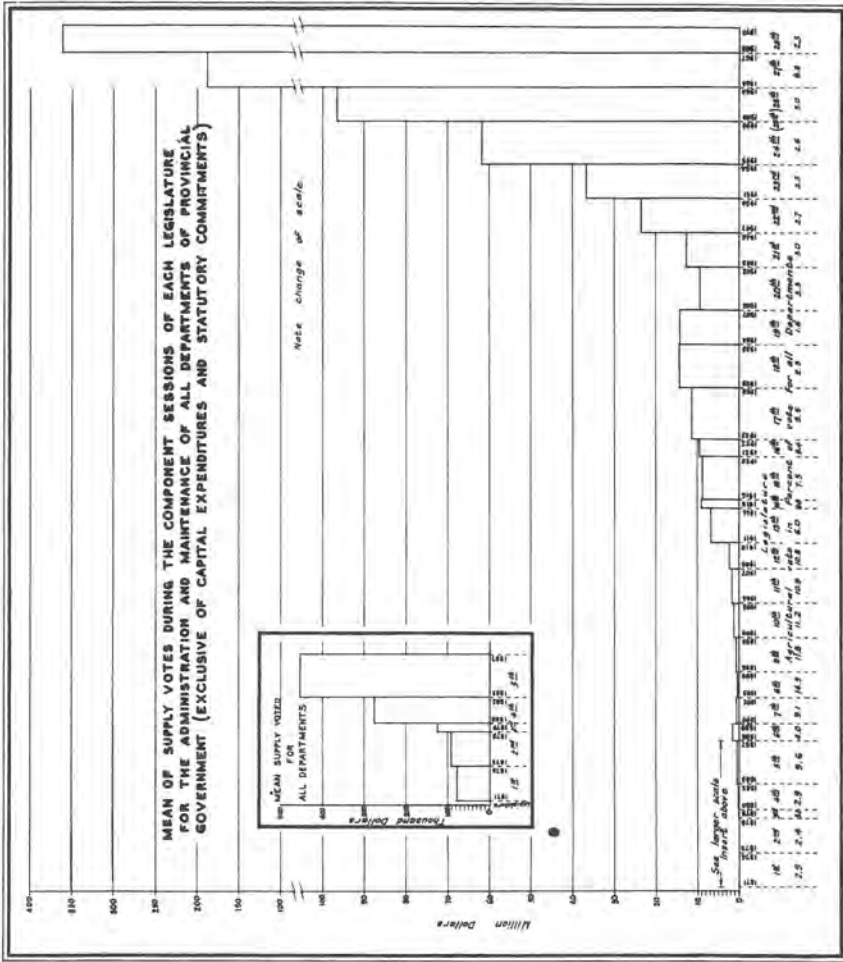
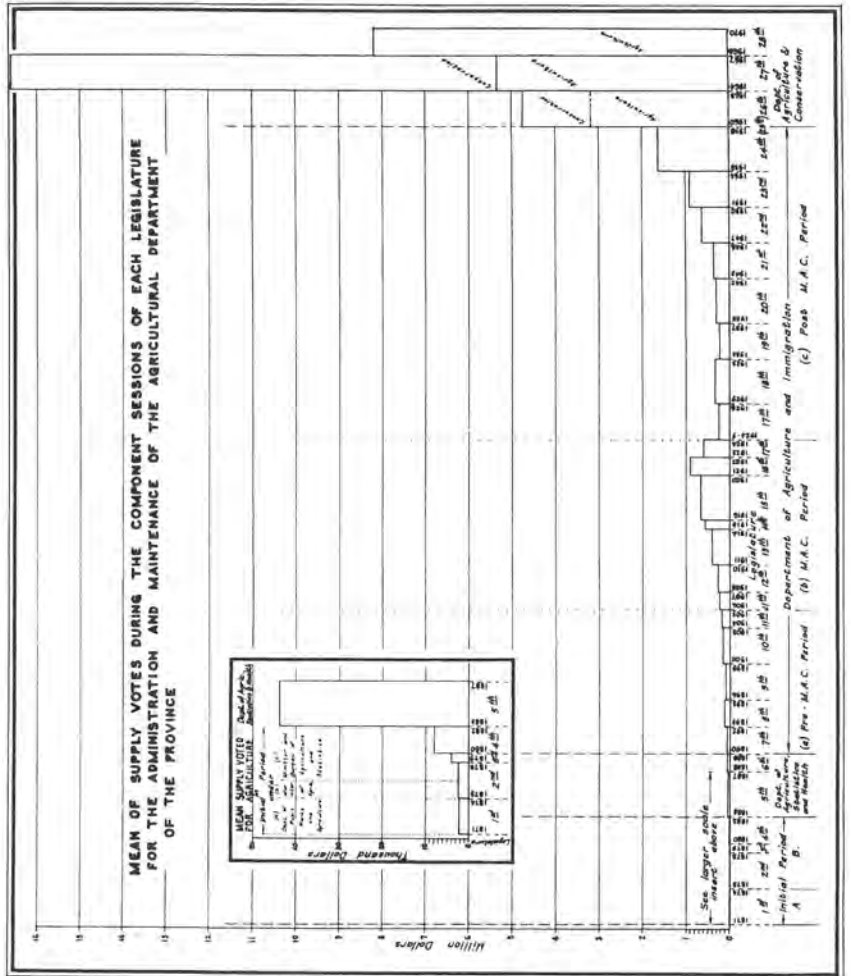


FIGURE 19

APPENDIX I - (2)



APPENDIX II

MEMBERS OF THE M.A.C. STAFF, 1906 TO 1924

Members of the staff of the M.A.C. and the departments in which they served during the years 1906 to 1924, compiled from various annual reports, college calendars* and other sources, and arranged, in so far as available information permitted, in chronological order of appointment.

(+ indicates on staff at time of transfer of the College from)
(Department of Agriculture to University of Manitoba, 1924)

Tuxedo Site - 1906-07 to 1912-13

W.J. Black	Principal and President	1905 - 1915
	Professor of Animal Husbandry	1905 - 1907
W.J. Carson	Dairy Department	1905 - 1909
W.J. Rutherford	Field Husbandry	1906 - 1907
	Lecturer in Chemistry	1906 - 1907
	Animal Husbandry	1907 - 1908
F. Torrence	Veterinary Science	1906 - 1913
F.W. Brodrick	Horticulture and Forestry	1906 +
	Entomology	1906 - 1918
A.G. Greig	Agricultural Engineering and Mathematics	1906 - 1909
G.A. Sproule	English	1906 +
	Mathematics	1906 - 1911
D. Cormack	Woodwork Instructor	1906 - 1912
G.G. White	Chemistry and Physics	1907 - 1909
J.A. Hand	Field Husbandry	1907 - 1908
A.W. Bell	Poultry	1907 - 1911
L.A. Gibson	Dairy Department	1907 - 1914
S. Larkin	Bursar	1907 - 1916
Mrs. L. Borradaile	Matron	1907 - 1908
S.A. Bedford	Field Husbandry	1908 - 1912
F.G. Churchill	Soil Physics and Mathematics	1908 - 1913
	Soil Physics and Meteorology	1913 - 1916
Mrs. Ross	Matron	1908 - 1909
C.H. Lee	Botany	1909 - 1913
	Bacteriology	1909 +
	Acting President	1922 - 1924
L.J. Smith	Agricultural Engineering	1909 - 1921
W.H. Peters	Animal Husbandry	1909 - 1914
G.W. Morden	Chemistry	1909 - 1916
J.W. Mitchell	Dairy Department	1909 - 1916
I. Villeneuve	Dairy Department**	1909 - 1917
I.D. Charlton	Mechanics and Engineering	1909 - 1910
Miss Townend	Matron	1909 - 1910

* Provided by courtesy of Miss Janet Usher.

** See "Evolution of Dairy Branch" (Pages 159 to 160) re Provincial assistants in dairying at M.A.C.

J.C. Hooper	Biology and Mathematics	1910 - 1911
Miss A.B. Juniper	Home Economics	1910 - 1911
Miss M. Kennedy	Home Economics	1910 - 1918
Miss M. S. McDonald	Home Economics	1910 - 1911
Miss A. Spackman	Matron	1910 +
M.C. Herner	Poultry	1911 +
M.F. Coglan	Chemistry	1911 - 1912
E.W. Jones	Animal Husbandry	1911 - 1913
	Head of Department	1914 - 1915
T.J. Harrison	Field Husbandry	1911 - 1913
	Head of Department	1915 +
Dr. Mills	English and Mathematics	1911 -
R. Watt	Blacksmith Instructor	1911 +
W.J. Gilmour	Agricultural Engineering	1911 - 1915
Miss B.A. Duncan	Home Economics	1911 - 1915
Mrs. E. C. Salisbury	Home Economics	1911 - 1915
C.R. Hopper	English	1912 +
	Agricultural Economics	1912 - 1915
R. Milne	Agricultural Engineering	1912 - 1917
F.W. Crawford	Animal Husbandry	1912 - 1914
R.A. Cunningham	Chemistry	1912 - 1916
L.A. Moorhouse	Field Husbandry	1912 - 1914

Fort Garry Site - 1913-14 to 1923-24

College Physician	Varied - yearly appointment	
V.W. Jackson	Biology and Botany	1913 +
S.C. Lee	Physics and Mathematics	1913 +
	Soil Physics	1915 +
R. Mitchell	Woodwork and Building Construction	1913 +
C.D. McGilvray	Veterinary Science	1913 - 1919
J.H. Bridge	Field Husbandry	1913 - 1917
J.A. McGregor	Extension - Field Husbandman	1913 - 1916
G.W. Wood	Animal Husbandry	1913 - 1914
	Animal Husbandry	1916 - 1918
	Head of Department	1918 +
A.L. Blackstock	Extension - Animal Husbandry	1913 - 1915
F.A. Thompson	Chemistry	1913 - 1914
Miss Lilian Brown	English	1913 - 1914
Miss M.C. Green	Home Economics	1913 - 1916
Miss M.R. McKee	Home Economics	1913 - 1916
	Dietitian	1914 - 1916
Miss Rutherford	Dietitian	1913 - 1914
Miss Turpin	Superintendent, Women's Residence	1913 - 1916
J.E. Bergey	Poultry	1914 - 1918
Mrs. Doggett	Extension - Home Economics	1914 - 1915
W.C. Shearer	English	1914 - 1915
J.H. Ellis	Student Assistant, Field Husbandry	1914 - 1917
	Soil and Crop Management	1918 +

Miss Isobell Lloyd	Home Economics	1914 - 1916
Miss Begbey	Nurse	1914 - 1916
J.B. Reynolds	President	1915 - 1920
Miss E.M. Eadie	Home Economics	1915 - 1918
Miss M. Patrick	Home Economics	1915 - 1916
	Superintendent, Girls' Residence	1916 -
F.S. Jacobs	Animal Husbandry	1915 - 1917
J.A. Neilson	Horticulture	1915 - 1917
A.W. Muldrew	Physics and Mathematics	1915 -
A.J. Galbraith	Chemistry	1915 - 1918
	Head of Department	1916 - 1918
W. Southworth	Agrostologist, Field Husbandry	1915 +
G.G. Whyte	Farm Management	1915 - 1917
S.T. Newton	Director, Extension Service	1915 - 1917
J.M. Brown	Animal Husbandry	1915 +
Miss Clara Groff	Home Economics	1915 +
Miss Hattie Gowsell	Extension - Home Economics	1915 - 1917
R.W. Murchie	English and Sociology	1916 - 1921
	Economics and Sociology	1918 +
J.W. Shipley	Chemistry	1916 - 1918
	Head of Department	1918 - 1919
F. Newcombe	Animal Husbandry	1916 - 1917
Miss E.G. McFadden	Home Economics	1916 +
Miss O.R. Cruickshanks	Home Economics and Dietitian	1916 - 1920
Mr. Schafheitlin	Physics and Mathematics	1916 - 1917
J. Galbraith	Bursar	1916 -
A.R. Judson	Field Husbandry	1916 - 1917
R. Muckle	Apiculture	1916 - 1918
G.L. Shanks	Agricultural Engineering	1917 - 1921
	Head of Department	1921 +
C.A. Weir	Animal Husbandry	1917 - 1919
J.F. Francis	Poultry	1917 - 1918
A.R. Lloyd	Poultry	1917 - 1920
R.W. Brown	Dairy Department	1917 +
W.T.G. Wiener	Cerealists, Field Husbandry	1917 +
W.A. Thompson	Physics (Sessional)	1917 +
E.A. Thompson	Chemistry	1917 - 1918
Miss N. Rowe	Home Economics	1917 - 1918
	Household Science	1918 -
A.H. Benton	Farm Management and Rural Economics	1918 - 1924
H.R. Robson	Gas Engines - Agricultural Engineering	1918 +
R.S. Stephenson	Animal Husbandry	1918 - 1919
S.A. Bjarnason	Chemistry (Sessional)	1918 - 1919
N. James	Dairy Department	1918 +
A.V. Mitchener	Horticulture	1918 - 1920
	Entomology	1920 +
N.W. Reynolds	Mathematics (Sessional)	1918 - 1919
Miss M. Kelso	Director, Household Science	1918 - 1922
Miss Bernice Wright	Household Science	1918 - 1919
Miss Ethel James	Music	1918 - 1919
Miss Esther Thompson	Extension Service - Community Worker	1917
	Director, Home Economics Extension	1923+

A.A. McMillan	Animal Husbandry	1919 - 1920
A.K. Stratton	Poultry (Sessional)	1919 - 1920
W.F. Geddes	Chemistry	1919 +
W.E. Martin	Veterinary Science	1919 - 1921
Mrs. Jean South	Household Arts	1919 +
Miss Mary Moxon	Home Economics	1919 +
Miss Eleanor Groff	Home Economics	1919 +
John Bracken	President	1920 - 1922
H. Grant	Poultry	1920 - 1921
G.R. Bisby	Plant Pathology	1920 +
C.B. Clevenger	Chemistry	1920 - 1925
Miss Mary Hiltz	Household Science	1920 +
Mrs. Lottie Duncan	Household Science	1920 -
	Director, Home Economics	1922 +
Miss Lenora Panton	Institutional Management and Dietitian	1920 +
J. Dolman	Agricultural Engineering	1920 - 1922
Wray Youmans	Physical Instructor	1921 +
F.B. Hutt	Poultry	1921 - 1923
Miss Jean Panton	Chemistry	1921 - 1922
W.A. Shoultz	Veterinary Science	1921 - 1922
A. Savage	Veterinary Science	1921 +
L. Hutchinson	Agricultural Engineering	1922 - 1924
H. Sommerfeld	Animal Husbandry	1922 +
D.B. Shutt	Bacteriology	1922 - 1924
A.E. Johnson	English	1922 - 1924
Miss Ina Roberts	Home Economics	1922 +
W.J. Rae	Poultry	1923 +

APPENDIX III

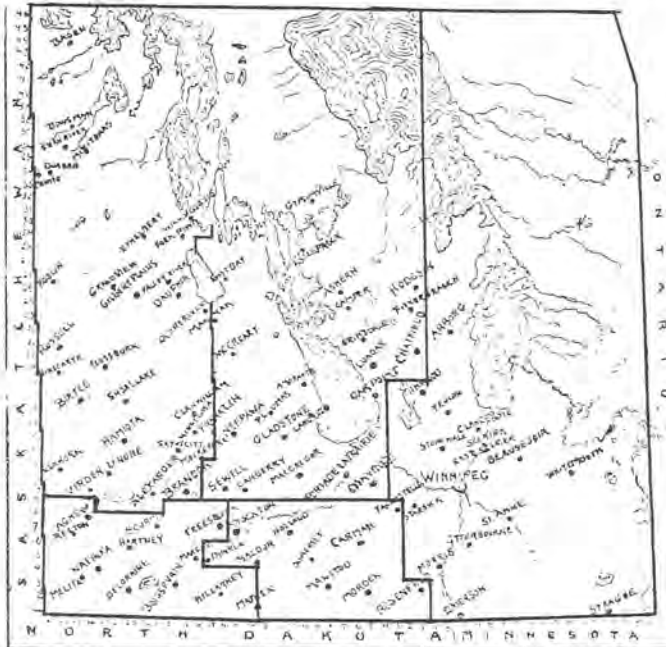
CROP REPORTING DISTRICTS

Map IX	—	1884
Map X	—	1892 to 1917
Map XI	—	1918 to 1920
Map XII	—	1921 to 1933
Map XIII	—	1934 to 1961
Map XIV	—	1962 +

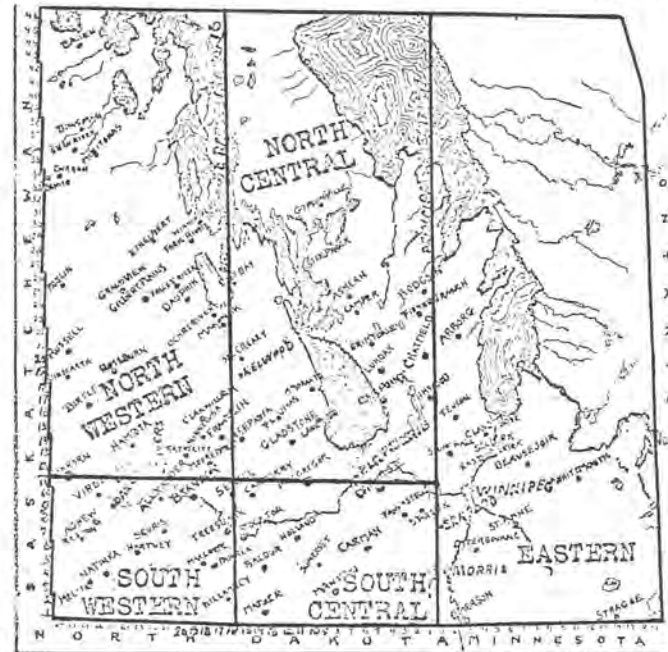
MAP X

MANITOBA CROP REPORTING DISTRICT

MAP XI



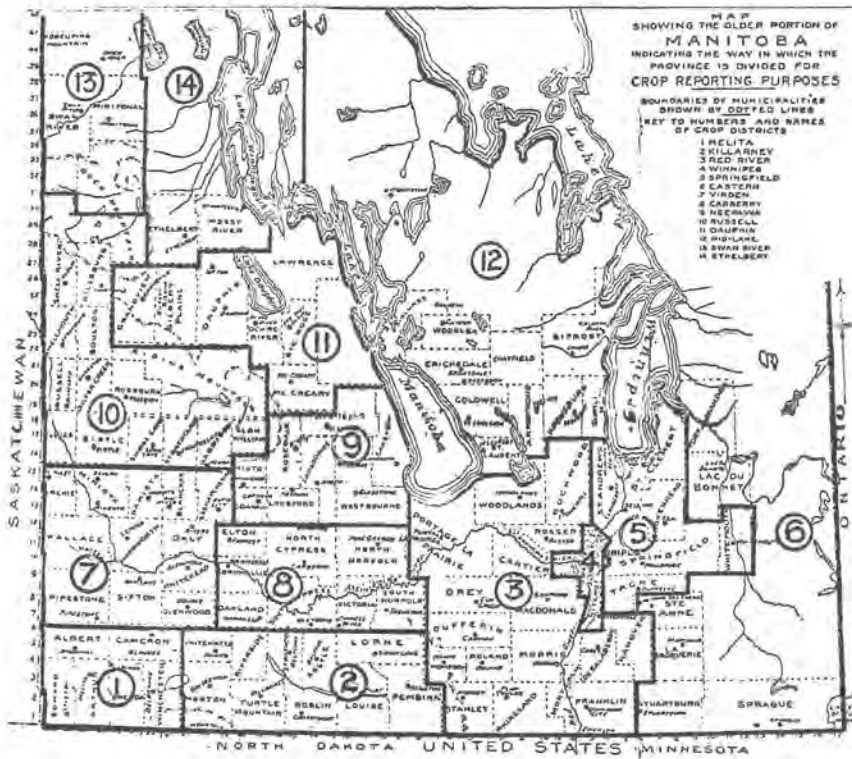
Map of the settled portion of Manitoba, indicating the way in which the Province is divided for crop reporting purposes. The names of the districts correspond to their relative locations.



Map of the settled portion of Manitoba, indicating the way in which the Province is divided for crop reporting purposes.

MAP XII

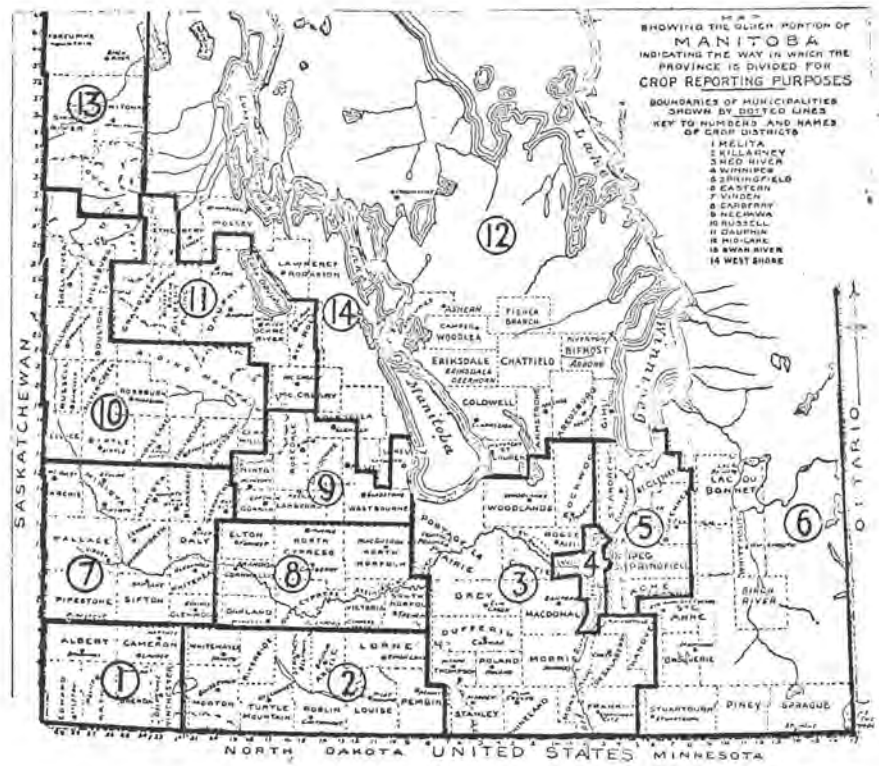
MANITOBA CROP REPORTING DISTRICTS



1921 to 1933

MAP XIII

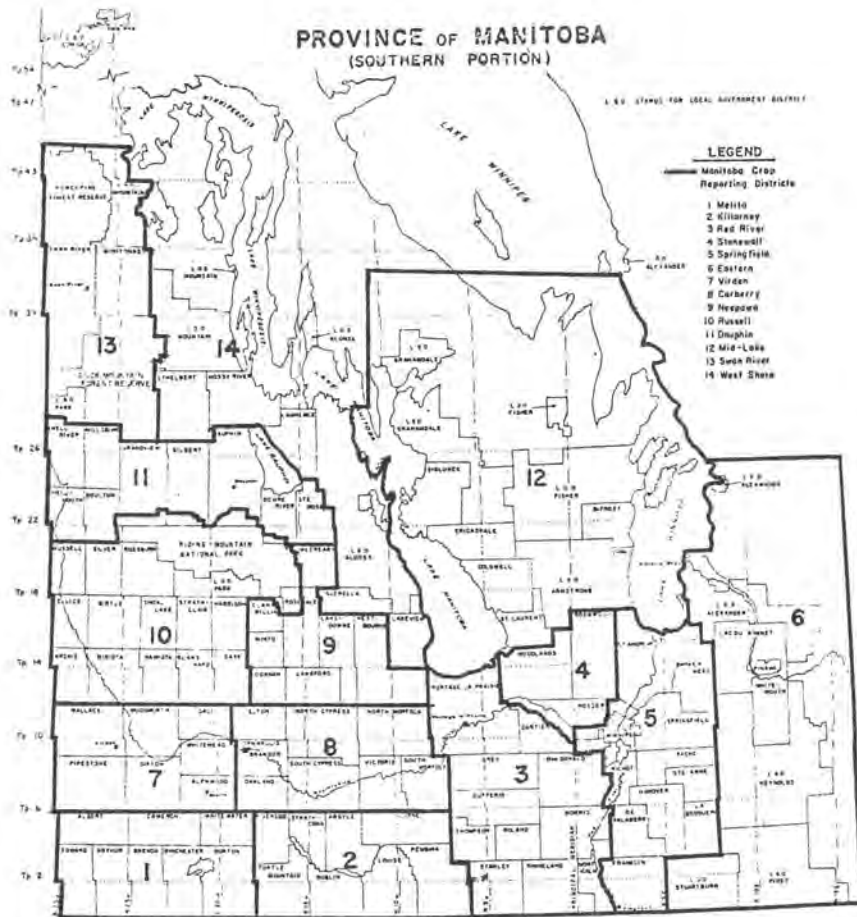
MANITOBA CROP REPORTING DISTRICTS



1934 to 1961

MAP XIV

MANITOBA CROP REPORTING DISTRICTS



1962 +

APPENDIX IV
 AGRICULTURAL SOCIETIES OF MANITOBA
 (As Recorded in Extension Service Records)

Charter No.	Date	Name of Society	Charter No.	Date	Name of Society
1	1875	Winnipeg	50	1904	Harding
2	1878	St. Andrews	51	1904	Plomas
3	1879	Emerson	52	1907	Miami
4	1880	Dufferin (Carman)	53	1907	Kelwood
5	1880	Cartwright	54	1907	Rapid City
6	1880	Morden	55	1907	Pipestone-Albert
7	1880	Crystal City	56	1907	Macdonald
8	1881	Pilot Mound (Mountain)	57	1908	Miniola
9	1881	Rockwood	58	1908	Roland
10	1882	Minnedosa	59	1908	Rosburn
11	1882	Turtle Mountain	60	1908	Ste. Rose du Lac
12	1882	Beautiful Plains (Neepawa)	61	1909	St. Vital
13	1882	Killarney	62	1910	Rivers
14	1883	Springfield	63	1911	Elgin
15	1883	Manitou	64	1911	McCreary
16	1883	Russell	65	1911	Waskada
17	1884	Souris and Glenwood	66	1912	Shellmouth
18	1884	Virden	67	1913	Glenella
19	1885	North Norfolk (MacGregor)	68	1915	Archie-McAuley
20	1885	St. Jean	69	1916	Langruth
21	1885	Shoal Lake	70	1917	Weston
22	1886	Lorne-Swan Lake	71	1918	Fork River
23	1886	Strathclair	72	1918	Isabella
24	1886	Glenboro	73	1918	Kinosota
25	1886	Arthur E.D.	74	1919	St. Agathe
26	1886	Oak Lake	75	1921	Steep Rock
27	1889	Gladstone	76	1921	Chatfield
28	1889	Deloraine	77	1922	The Pas
29	1891	Birtle	78	1924	Teulon
30	1891	Dauphin	79	1924	Greenway
31	1892	Hartney	80	1924	Arborg
32	1893	Hamiota	81	1925	Eriksdale
33	1894	Elkhorn	82	1926	Ethelbert
34	1894	Binscarth	83	1926	Dominion City
35	1895	Woodlands	84	1927	Lundar
36	1895	Cypress River	85	1927	St. Claude
37	1895	Warren	86	1928	Cartier-St. Francois
38	1895	Kildonan	87	1928	Brokenhead
39	1895	Morris*	88	1931	Rhineland-Altona
40	1896	St. Pierre	89	1937	Settlers (East Braintree)
41	1896	Roblin	90	1938	La Verendrye
42	1896	Gilbert Plains	91	1946	Hanover
43	1898	Carberry	92	1947	Stanley
44	1898	South Brandon (Wawanesa)	93	1947	Pilot Mound
45	1900	Treherne	94	1948	Notre Dame de Lourdes
46	1900	Headingley	95	1951	Reynolds
47	1900	Holland	96	1954	Pelican Lake
48	1901	Oak River	97	1955	Foxwarren
49	1901	Swan River			

* New charter issued in 1964 changing name to "Valley Agricultural Society".

APPENDIX V

HORTICULTURAL SOCIETIES OF MANITOBA
(As Recorded in Provincial Register of Charters Issued)

Charter No.	Date	Name of Society	Charter No.	Date	Name of Society
1	1893	Brandon Horticultural and Forestry Association	31	1946	Poplar Point
2	1929	Brandon (Reorganized)	32	1947	Pine Falls
3	1914	Beautiful Plains	33	1947	Dauphin (Reorganized)
4	1916	Morden	34	1950	Steinbach
5	1919	Charleswood	35	1951	West Kildonan (Reorganized)
6	1921	Dauphin	36	1952	The Pas
7	1913	Souris and Glenwood	37	1953	Carman (Reorganized)
8	1914	St. James	38	1953	St. Pierre
9	1917	Morse Place	39	1955	Bowsman
10	1922	West Kildonan	40	1956	Oakville and District
11	1922	St. Boniface and Norwood	41	1956	Grunthal
12	1922	Fort Garry	42	1957	Killarney and District
13	1922	Selkirk and District	43	1957	Pilot Mound (Reorganized)
14	1923	Hamiota	44	1958	Dominion City and District
15	1924	Gladstone	45	1958	Dominion City (Re-issued)
16	1926	Russell	46	1959	Red River, Morris
17	1927	Newdale	47	1959	Roblin
18	1927	Birtle	48	1960	Central Manitoba (Holland, Swan Lake and Treherne)
19	1928	Arden	49	1960	Interlake (Stonewall)
20	1928	Melita	50	1962	Benito and District
21	1928	Lenore	51	1964	Cartwright-Mather
22	1928	Miniota	52	1965	Virden
23	1929	Carman	53	1967	Reston and District
24	1930	Minnedosa	54	1967	Transcona
25	1930	Portage and District	55	1967	East Kildonan
26	1930	Transcona	56	1968	Carberry and District
27	1931	Winnipeg	57	1969	Beautiful Plains
28	1935	Manitou	58	1969	La Salle
29	1936	Flin Flon	59	1969	Agassiz
30	1937	Hartney			

Charters recorded in the Provincial Register of Horticultural Societies were not issued until, and subsequent to, 1914. Consequently, the organization dates of societies formed prior to 1914 are not the same as the respective charter date of issue.

APPENDIX VI

WOMEN'S INSTITUTES OF MANITOBA
DESIGNATION, YEAR OF ORGANIZATION AND
YEAR CHARTER WAS ISSUED TO LOCAL ORGANIZATIONS

Name of Institute	Charter No.	Date Organized	Date Charter Issued	Name of Institute	Charter No.	Date Organized	Date Charter Issued
Morris	1	1910	1922	Swan Lake	45	1915	1922
Neepawa	2	1910	1922	Grandview	46	1915	1922
Pilot Mound	3	1910	1922	Graysville	47	1918	1922
Oak Lake	4	1910	1922	Gypsumville	48	1921	1922
Ashern	5	1910	1922	Transcona	49	1915	1922
Swan River	6	1910	1922	Hamiota Girl's	50	1921	1922
Emerson	7	1910	1922	Treherne	51	1915	1922
Minnedosa	8	1910	1922	Beulah	52	1916	1922
Wilson River	9	1910	1922	Bield	53	1916	1922
Virden	10	1910	1922	Birds Hill	54	1916	1922
Birtle	11	1910	1922	Killarney	55	1915	1922
Deloraine	12	1910	1922	Langruth	56	1917	1922
Manitou	13	1910	1922	La Riviere	57	1915	1922
Hamiota	14	1910	1922	Lenore	58	1915	1922
Benito	15	1912	1922	Lidstone	59	1918	1922
Gilbert Plains	16	1914	1922	Livingstone	60	1921	1922
Minitonas	17	1914	1922	Lundar	61	1916	1922
Souris	18	1914	1922	Lyleton	62	1918	1922
Stony Mountain	19	1914	1922	MacGregor	63	1918	1922
Winnipeg	20	1914	1922	Makinaak	64	1921	1922
Gladstone	21	1915	1922	Arizona	65	1916	1922
Durban	22	1915	1922	Mayfeld	66	1916	1922
Belmont	23	1915	1922	McAuley	67	1919	1922
Dominion City	24	1915	1922	Medora	68	1919	1922
Arnaud	25	1915	1922	Melita	69	1915	1922
Austin	26	1915	1922	-	70	-	-
Boissevain	27	1915	1922	Brandon	71	1917	1922
Crandall	28	1915	1922	Miniota	72	1915	1922
Solsgirth	29	1915	1922	Balmoral	73	1917	1922
Dugald	30	1915	1922	Moine	74	1916	1922
Hartney	31	1915	1922	Moore Park	75	1918	1922
Edrans	32	1918	1922	Basswood	76	1918	1922
Edwin	33	1915	1922	Myrtle	77	1920	1922
Elm Creek	34	1920	1922	Napinka	78	1921	1922
Elkhorn	35	1915	1922	Whitewater	79	1915	1922
Elienville	36	1919	1922	Melton	79	1916	1922
Elphinstone	37	1921	1922	Oakburn	80	1915	1922
Eiva	38	1918	1922	Charleswood	81	1916	1922
Portage la Prairie	39	1915	1922	Ochre River	82	1919	1922
Flee Island	40	1917	1922	Oak River	83	1921	1922
Fork River	41	1916	1922	Pierson	84	1921	1922
Foxwarren	42	1916	1922	Inwood	85	1919	1922
Sperling	43	1915	1922	Pipestone	86	1920	1922
Gimli	44	1917	1922	Plum Coulee	87	1919	1922

(Continued)

Name of Institute	Charter No.	Date Organized	Date Charter Issued	Name of Institute	Charter No.	Date Organized	Date Charter Issued
Clearwater	88	1918	1922	Sanford	139	1930	1931
Reston	89	1919	1922	Brunkild	140	1931	1931
Rivers	90	1917	1922	Steinhach	141	1931	1931
Roblin	91	1915	1922	Mountain Valley	142	1930	1931
Roland	92	1915	1922	Amaranth	143	-	1932
Rosser	93	1915	1922	Beausejour	144	1932	1932
Rosburn	94	1921	1922	Cartwright	145	-	1932
Russell	95	1915	1922	Cromarty	146	-	1932
Shellmouth	96	-	1922	Ewart	147	-	1932
Shoal Lake	97	1915	1922	Gunton	148	-	1932
Sifton	98	1916	1922	Inglis	149	-	1932
-	99	-	-	Strathclair	150	-	1932
Isabella	100	1920	1922	Egremont	151	1932	1932
Kenton	101	1917	1922	Wilson River	152	1910	1932
Somerset	101	1921	1922	-	153	-	-
Sprague	102	1920	1922	Taras	154	1932	1932
Coulter	103	1918	1922	Vita	155	1933	1933
Stockton	104	-	1922	Birch River	156	1933	1934
Cypress River	105	1916	1922	Carroll	157	1933	1933
Cold Springs	106	1921	1922	-	158	-	-
Crystal City	107	1920	1922	Norwood	159	1923	1929
Shortdale	108	1919	1922	Birchwood	160	1934	1935
Tilston	109	1921	1922	The Pas	161	1934	1935
Darlingford	110	1922	1922	Chatfield	162	1934	1935
Decker	111	1920	1922	Sinclair	163	1935	1935
Tummel	112	1921	1922	Green Ridge	164	1935	1935
Bowsman	113	1921	1922	Steele	165	1935	1935
Lake Francis	114	1922	1922	Magnet	166	1935	1935
Waskada	115	1920	1922	Square Plains	167	1935	1936
Winnipegosis	116	1916	1922	Flin Flon	168	1935	1935
Avonlea	117	1922	1922	Lenswood	169	1935	1936
Ethelbert	118	1916	1922	Oak Ridge	170	1936	1936
Arrow River	119	1922	1922	-	171	-	-
Warren	120	1922	1922	Altona	172	1936	1936
Pembroke	121	1922	1922	Kaleida	173	1936	1937
Marquette	122	1922	1922	Sylvetha	174	1936	1937
Makaroff	123	1922	1922	Pelican Lake	175	1937	1937
Berton	124	1922	1922	Harlington	176	1936	1937
Culross	125	1922	1922	Binscarth	177	1928	1939
Carman	126	1922	1922	Baldur	178	1937	1940
Roseisle	127	1922	1922	Camper	179	1939	1940
McCreary	128	1922	1922	Marchand	180	1938	1940
Winkler	129	1922	1922	Shell River	181	1940	1942
Pilot Mound	130	1910	1922	Ruby Durban	182	1938	1944
-	131	-	-	Davidson	183	1939	1944
Birdtail	132	1923	1924	Pretty Valley	184	1939	1944
-	133	-	-	Swan Valley	185	1939	1944
Norwood	134	1923	1929	Piney	186	1939	1945
Sidney	135	1926	1931	Arden	187	1939	1947
Binscarth	136	1928	1931	Dumfries	188	1939	1947
St. Vital	137	1929	1931	McAuley	189	1919	1949
Keyes	138	1930	1931	Erickson	190	1937	1950

(Continued)

Name of Institute	Charter No.	Date Organized	Date Charter Issued	Name of Institute	Charter No.	Date Organized	Date Charter Issued
Lauder	191	1938	1950	Woodmore	237	1945	1950
Two Creeks	192	1938	1950	Duck Mountain	238	1947	1950
Ridgeville	193	1939	1950	Bardal	239	1940	1956
Rathwell	194	1939	1950	Broomhill	240	1951	1956
Beulah	195	1916	1950	Cardale	241	1949	1956
Big Woody	196	1945	1950	Crestview	242	1952	1956
Clanwilliam	197	1946	1950	Dand	243	1949	1956
Crocus	198	1946	1950	Elgin	244	1952	1956
Deepdale	199	1945	1950	Eden	245	1950	1956
Domain	200	1947	1950	Fairford	246	1947	1956
Narcisse	201	1923	1925	Fannystelle	247	1949	1956
Rochedale	202	1925	1928	Glenora	248	1955	1956
Ebor	203	1927	1928	Grand Narrows	249	1953	1956
Oak Point	204	1927	1928	Harmony-Fork River	250	1946	1956
Linwood	205	1928	1928	Justice	251	1951	1956
Iroquois	206	1928	1928	Kirkham's Bridge	252	1950	1956
Northcote	207	1928	1928	Mt. Vallent	253	1948	1956
Hullett, Glendenning, Tisdale	208	1928	1928	Niverville	254	1949	1956
Rorketon	209	1929	1931	Oak Bluff	255	1954	1956
Douglas	210	1948	1950	Raven's Glen (Newdale)	256	1955	1956
Dry River	211	1946	1950	Regent	257	1951	1956
Egilson	212	1946	1950	Springvale	258	1949	1956
Fairdale	213	1947	1950	St. Norbert	259	1951	1956
Fisher Branch	214	1948	1950	Teulon	260	1949	1956
Fisherton	215	1948	1950	Vista	261	1955	1956
Gretna	216	1947	1950	Woodville	262	1952	1956
Grosse Isle	217	1946	1950	Shoal Lake	263	1915	1956
Kelwood	218	1947	1950	Lids:one	264	1918	1956
Lavinia	219	1946	1950	Sanford	265	1930	1956
Lowe Farm	220	1947	1950	Miniota	266	1915	1956
Manson	221	1945	1950	Two Creeks	267	1938	1956
Mountain Gap	222	1946	1950	Swan Valley	268	1939	1956
McConnell	223	1946	1950	Rosburn	269	1921	1956
Mt. Lildon	224	1946	1950	Foxwarren	270	1916	1956
Myrtle	225	1920	1950	Shell River	271	1940	1956
North Durban	226	1944	1950	Iroquois	272	1928	1956
Onanole	227	1946	1950	Rivers	273	1917	1956
Osprey-Stoney Creek	228	1947	1950	Jaques	274	1956	1956
Pleasant Valley	229	1947	1950	Lyleton	275	1918	1957
Riverton	230	1948	1950	Arizona	276	1916	1957
Rothesay	231	1947	1950	McCreary	277	1922	1957
Silverton	232	1948	1950	MacGregor	278	1918	1957
St. Andrews	233	1946	1950	Portage la Prairie	279	1916	1957
Union	234	1946	1950	Russell	280	1915	1957
Waskada	235	1920	1950	Crandall	281	1915	1957
Willen	236	1948	1950	Bowsman	282	1921	1957
				Lenore	283	1915	1957

(Continued)

Name of Institute	Charter No.	Date Organized	Date Charter Issued	Name of Institute	Charter No.	Date Organized	Date Charter Issued
Hadashville	284	1958	1959	Rosser	298	1915	1961
Great Falls	285	1958	1959	Emerson	299	1910	1962
Dufresne	286	1958	1959	Newdale-Raven's Glen	300	1955	1962
Inwood	287	1919	1959	Cordova	301	1961	1963
Gimli	288	1917	1959	Dugald	302	1915	1965
Beausejour	289	1932	1959	Tolstoi	303	1961	1965
Swan River	290	1910	1959	Arnaud	304	1915	1965
Chaffield	291	1934	1959	Arborg	305	1961	1965
Lavender Lady Hubble	292	1956	1959	Myrtle	306	1920	1965
Grunthal	293	1960	1960	Brandon	307	1917	1965
Kemnay	294	1960	1960	Killarney	308	1915	1967
Elva	295	1918	1960	Narcisse	309	1923	1969
Niverville	296	1949	1961	Harding	-	1965	-
Pierson	297	1921	1961	Valley River	-	1965	-

INDEX (Subject Matter)

A

Agricultural:
Commission, 148, 185
education, 125, 128, 130, 131, 133, 146, 150, 189, 369, 527, 548
engineering, 185, 365, 441, 550
Extension Centre, Brandon, 369, 548
Extension Council, 210
Instruction Act, 217, 218, 223, 225, 252, 253, 289
program for South-Western Manitoba, 307
prosperity attracts commercial exploitation, 543
representatives, 224, 300, 342, 344, 527, 547
research, 232, 293, 492, 539, 557, 558
societies, 66, 112, 117, 147, 210, 343, 548, Appendix IV
survey, 243, 244, 301

Agricultural and Arts Associations:
Northwestern, 122
Southern Manitoba, 122
Western, 121

Agriculture:
acts relating to, 65, 68, 69, 88, 126, 335, 531, 532
Board of, 71, 86, 87, 88, 93
Bureau of, 54, 67, 69
designation of ministry of, 25, 54, 55, 67, 86, 87, 89, 111, 531
development of, 47, 79, 93, 141, 266, 493, 583
fractionation of, 529
fur trade and, 11, 19, 23
golden age of, 274, 500, 543
introduction of, 1, 5, 14, 23, 25, 30, 34, 108, 616, 619
Ministers of, 54-59; ancillary duties, 55
Mound Builders and, 1
Native tribes and, 5
Agronomic activities, 233-241, 371, 382, 555
Agronomist, Provincial, 227
Agronomists Conference, 246, 556
Agronomy, 227, 233, 371, 382, 555
Animal Husbandry, 23, 185 (see Livestock)
Animal Industry Branch: 559
Dairy Division, 561
Farm Livestock Division, 560
Poultry Division, 563
Animal Nutrition Research Laboratory, 493
Apiculture, 123, 227, 364, 428, 517, 549, 608
Arbor Day, 88
Arboricultural Societies, 66

A.R.D.A., 540
Assiniboia, 21, 24, 25, 28, 32
Council of, 29, 36
Council regulations, 37, 38, 39, 40
Governors of, 27
Assiniboines, 7

B

Bacon agreement, 460
Bacteriologist, Provincial, 126, 130, 140
Barley:
as a cash crop, 372
competitions, 372, 373, 374
improvement, 237
malting laboratory, 241
National Barley Contest, 352, 373, 374
variety tests, 373 (see Crops)
Bearberry, 9
Beef rings, 620
Beekeepers Association, (see Apiculture)
Birtle Demonstration Farm, 254
Board:
of Agriculture, 71, 86, 88
Dairy, 338, 456, 562
Debt Adjustment, 491
Feed, 300, 338
Fertilizer, 300, 338
of Grain Supervisors, 590
of Public Works, 29, 39, 40, 53
Seed, 339, 408
Boundaries of Manitoba, 31, 33, 50, 84
Boys' Farm Camp, 223
Boys' and Girls' Clubs, 221, 223, 358, 377, 549
Branches, departmental, 340, 533, 534, 538
British North America Act, 32
Brucellosis, 565
Buffalo hunt, 30
Bureau of agriculture, 54, 67, 69, 86
Butter and Cheese Brand Act, 130
Grades, 161

C

Canada:
Food Board, 255
Grain Act, 258
Wheat Board, 590
Canadian Wheat Board, 587, 623
Canning industry, development of, 425, 613
Cattle, 16, 23, 82, 98, 143, 270, 271, 503, 509, 596, 615

Cattle brands, 70, 138, 168, 464, 560
 Cereal improvement, 236, 375
 Charity Aid Act, (see Health)
 Chautauquas, Agricultural, 200
 Cheese, Paris Exposition, 130
 Cheesemaking competition, 452
 Climatic data, 242, 304
 Clubs:
 Boys' and girls', 221, 358; 4-H Clubs, 549
 Crop improvement, 379
 Junior seed, 377
 programs, 549
 Senior crop improvement, 379
 Coat of Arms, Provincial, 151
 Colonists trains, 93, 116
 Colonization Committee, Winnipeg, 92
 C.O.M.E.F., 541
 Commercial fruit growing, 427, 557
 Commercial pressures, 543
 Commissioner:
 Dairy, 160
 Emigration, 92, 112
 Game, 175
 Livestock, 165, 168
 Manitoba Provincial Police, 175
 Weeds, 171
 Commissioners:
 Lands, 61, 89
 Power, 63
 Railway, 62
 Committee of Economy, 29, 40, 53
 Community pastures, 319, 320
 Consumer Information Service, 479
 Cooperative:
 associations, 179, 488, 573
 Cheese Producers Association, 452
 Services Branch, 488, 573
 Cottage industries, 84
 Cream graders, 451
 Council of Assiniboia, 29, 36
 Counties, Manitoba, 94, Appendix III - Map IX
 Cow testing associations, 160
 Credit:
 Act, Rural, 264
 agricultural, 518, 578
 Corporation, Manitoba, 539, 576
 unions, 489, 490, 574
 Crop:
 improvement associations, 379
 insurance, 518, 539
 Insurance Corporation, 579
 management, 237
 Crops, 80, 81, 94, 98, 99, 137, 141, 266, 269,
 277, 493, 583, 611
 Crops at York Factory, 15
 Crops Division, 555
 Cutworm control, 136

D

Dairy Act, Manitoba, 88, 127, 128
 Dairy Association, 88, 121, 122, 128, 158, 161
 Dairy Board, 456, 562
 Dairy Branch: 128, 129, 161
 combined with Animal Industry Branch, 559
 educational programs, 147
 evolution of, 159
 laboratory, 161
 personnel and duties, 449
 Dairy cattle (see Livestock, Domestic)
 Dairy competitions, 452
 Dairy district supervisors, 450
 Dairy Division, 561
 Dairy farm cost accounting, 453
 Dairy products, 130, 144, 272, 512, 564, 605
 Dairy School, 129, 147, 159, 185, 186
 Dairy Superintendent, 126, 127, 128
 Debt adjustment, 328, 491
 Deed of Surrender, 32
 Demonstration farms:
 Birtle, 254
 Killarney, 252, 254
 Demonstration plots:
 Bedford, 233
 field crop varieties, 382, 383
 Departmental reports, (see Preface)
 Deputy Ministers, 56, 89, 186, 256, 335
 Diseases (see Livestock)
 Dogs, 65, 82, 87
 Drainage, 89
 Drought:
 combating, 303, 307
 decade of, 274, 275
 feed relief, 265, 459
 lessons learned from, 308

E

Economic Relief, 262
 Economics and Publications Branch, 567
 Economists:
 activities, 443
 Extension, 368
 Farm Account Clubs, 445
 Farm Management Consulting Service, 571
 transferred to Publications Branch, 570
 Economy, Committee of, 29, 40, 53
 Educational concepts, 528
 Electrification, rural, 443
 Emergency Measures, 552
 Employment Services:
 Coordinating Act, 157
 Employment Service of Canada, 483
 Farm Help, 485

- Immigration and Employment Bureau, 157
 - Manpower Service, 551
 - Unemployment and relief, 485
 - Entomologists, 135, 365, 549 (see Grasshoppers)
 - Era:
 - pioneer, 616
 - traditional farming, 619
 - of urbanization and fractionation, 621
 - Exhibit, Manitoba, 92, 93, 116, 117
 - Exhibition:
 - Agricultural and Industrial, 82
 - Brandon, 164, 200, 223
 - Chicago International, 138, 156
 - Frog Plain, 38
 - North-Western, 122
 - Portage la Prairie, 122
 - Provincial, 66, 122
 - Soil Products, 212, 351
 - Winnipeg Industrial, 121, 128
 - Exhibits, 71, 87, 130, 138, 406, 409, 429, 450, 461
 - Experimental Farms, 41, 42, 44, 233, 234, 240, 250, 252, 297, 298, 318, 402
 - Experimental Sub-stations, District, 318
 - Extension:
 - Advisory Council, 547
 - Agricultural and Home-making School, 369
 - agricultural engineers, 365, 441, 550
 - agronomists, 359, 371
 - economists, 368, 443, 567, 570
 - home economists, 366, 368, 446
 - horticulturists, 364, 403, 556
 - livestock specialists, 365, 439
 - Extension Service Branch: 158, 196, 200, 225, 289, 291, 339, 370, 547
 - Council, 210
 - Directors, 201, 210, 342
 - evolution of, 291, 292
 - initiation of, 201
- F**
- Fairs, 66, 82, 93, 118, 125, 164, 200, 349, 556, 564
 - Farm:
 - Boys' Camp, 223
 - business groups, 570
 - Help Service, Provincial, 485
 - Implements Act, 179, 180
 - lands, 47, 141
 - Loans, Manitoba, 263
 - machinery, 503, 506-508
 - management consulting service, 571
 - services, individual, 555
 - tractors, 503
 - Farm, Experimental:
 - Brandon, 250, 297, 298, 318
 - Hayfield, 41
 - H.B.C. No. 1, 42
 - H.B.C. No. 2, 44
 - M.A.C., 234, 298
 - Morden, 252, 298
 - Wabowden, 402
 - Farmers, Lincolnshire, 45
 - Farmers excursions, 93
 - Farmers Institutes, 118, 120, 124, 146
 - Farmers' Week, 216
 - Farming, invasion by financial interests, 530
 - Farms:
 - bonanza, 494, 619
 - commercial influence on, 622
 - mechanization of, 621
 - number and size of, 141, 266, 494
 - subsistence, 18, 20, 34, 616, 619
 - traditional, 619
 - Feed analysis service, 563
 - Fertilizer, drilling-in, 301
 - Fertilizer Board, Manitoba, 299, 300
 - Fertilizer projects, 238, 297, 299, 391, 407, 553
 - Fertilizer sales, 586
 - Fibre crops, 44, 45, 237, 386 (see Hemp)
 - Fibre flax committee, 387
 - Field husbandry, 23 (see Agronomy)
 - Field shelterbelts, 319, 393, 554
 - Fireaway (stallion), 43, 44
 - Fire guardians, 89
 - Fires, 37, 38, 39
 - First Principal (stallion), 168
 - Fishing weirs, 40
 - Fodder relief, 265
 - Forage:
 - demonstration plots, 383
 - improvement, 236
 - management, 238
 - mineral content of, 383
 - multiplication policy, 385
 - seed distribution, 383
 - seed stocks, 383
 - for soil conservation, 384
 - (see crops)
 - Forage crop cars, (see Trains)
 - Fort Alexander, 20
 - Fort Alexandria, 19
 - Fort Bas de la Riviere, 20
 - Fort Bourbon, 17
 - Fort Dauphin, 17
 - Fort la Reine, 17
 - Fort Maurepas, 16, 20
 - Fort Paskoyac, 17
 - Fort Pelly, 47
 - Fort St. Charles, 16
 - Fort St. Louis (a la Corne), 17
 - Fractionation of Agriculture, 529
 - F.R.E.D., 542, 552
 - French Colonization Aid Society, 78
 - Fur farms: 176, 294
 - licensed, 176, 294

royalties, 177
species of, 295
Fur trade and agriculture, 11

G

Game, 70, 87, 126, 133
Game Branch, 134, 175, 294
Game Guardian Act, 133
Game Protection Act, 68, 70, 133, 134, 175, 176
Garden competitions, 354
Garden seeds, 15, 18, 407
Geese, 608
Glanders, 127
Goats, 15
Good farming cars, (see Trains)
Good farming competitions, 212
Government:
 Executive Council, 53, 60
 under fur trade regime, 34
 Legislative Assembly, 33, 51
 Legislative Council, 33, 52
 of Selkirk colony, 26
Government elevators, 260
Governors of Assiniboia, 27, 28
Grain:
 Act, Manitoba, 258
 Dealers Licensing Act, 258
 delivery quotas, 500, 593, 623
 disposition, problem of, 587-596
 Elevator Act, Manitoba, 261
 marketing, 256, 590
Grain Growers Association, 259
Grain Growers Grain Company, 259, 261
Granary, Public, 41
Grantown (St. Francois Xavier), 47
Grassed waterways assistance, 554
Grasshoppers: 19, 131, 135, 147, 480
 control committee, 482
 outbreaks of, 480
Grist Mills, 89
Gully stabilization, 399

H

Hail insurance, municipal, 89, 139
Half-Breed Scrip, 33
Harvesters excursions, 116, 157
Hay, 39, 40, 383, 552, 614
Hayfield Farm, 41
Hayland pasture program, 555
Health:
 Board of, 55
 Provincial Superintendent, 55, 87
 Public, 87, 108, 130, 139, 177, 290
Hemp, 44, 45, 239

Historic development, periodicity of, 64, 610
Hog Marketing Commission, 576
Hog production campaign, 256, 459
Hog Production Conference, 167
Hogs, (see Swine)
Home Economics, 185, 190, 216
Home Economics Division, 548
Home Economics Society and Women's
 Institutes, 216, 357, 446, 548
Home economists, 217, 358, 366, 368, 446, 548
Honey:
 grading, 429
 Marketing Plan, 429, 491
 production, 517, 609
Hopewell Indians, 2
Horse Breeders Association, 123
Horses: 7, 21, 23, 37, 38, 39, 40, 43, 47, 82, 96,
 98, 99, 127, 131, 143, 168, 270, 271,
 503, 603, 615
 Stallion Enrolment, 169, 465, 560
Horticultural Association, 405
Horticultural Division, 556
Horticultural Societies, 66, 118, 213, 355, 405,
 556, Appendix V
Horticultural Society, Western, 214
Horticultural specialists, 216, 227, 364, 403,
 405, 406
Horticulture, 230, 403, 556
Hospitals, 72, 90, 109, 111, 140, 178
Hudson's Bay Company: 25, 26, 27, 28, 30, 32,
 34, 36, 42, 44, 47
 attitude to agriculture, 20, 22
Human element, The, 188, 193, 195, 443, 446,
 527, 582, 620, 623

I

Icelandic emigrants, 78, 113
Immigration, 33, 73, 78, 92, 112, 156
Immigration and Employment Bureau, 157, 484
Indian:
 culture, 10
 and Metis co-operatives, 574
 reserves, 33
 treaties, 33
Indians (Native tribes and agriculture): 5, 9
 Assiniboine, 7
 Blackfoot, 8
 Chippewa, 5, 6
 Chippewyan, 5, 7
 Coutes Orelles, 6
 Cree, 5, 7
 Hopewell, 2
 Huron, 5
 Iroquois, 5
 Kristineaux (Cree), 7
 Mandan, 6, 11, 16

- Ojibwa-Chippewa, 5, 6
- Ottawa group, 6
- Piegan, 8
- Saulteaux (Ojibwa), 6, 19
- Sioux, 5, 7
- Indians, in Red River Settlement, 51
- Individual farm service, 555
- Information services, 571
- Interlake area, 542, 544, 555
- Invasion of farming by financial interests, 530
- I.W.A., 592

J

- Junior clubs (see Clubs)
- Junior Co-operator Fertilizer Trials, 799

K

- Killarney demonstration farm, 252, 254
- Kinnickinnick, 9

L

- Labor, road (statute), 38, 69
- La Jonquiere Post, 16
- Land:
 - clearing associations, 555
 - disposition, 33
 - Rehabilitation Act, 325, 326
 - use capability mapping, 303, 553
 - utilization, 319
 - Utilization Board, 263
- Lands:
 - Manitoba, 72, 89
 - Swamp, 34
- Legislative:
 - Assembly, 51, 52
 - Council, 52
 - support of ministry, 71, 90, 112, 151, 280, 535
- Library, agricultural, 570
- Lieutenant-Governors, 50, 56
- Livestock:
 - Animal Purchase Act, 165
 - associations, 122, 124, 125, 148, 162, 461
 - auction sales, 125
 - Board, 165
 - breeds, 99, 108
 - commissioners, 164, 458
 - diseases, 70, 87, 127, 131, 167, 336, 461, 565, 566
 - domestic, 16, 23, 36, 43, 65, 70, 82, 98, 99, 143, 165, 261, 270, 277, 439, 503, 596, 615

- exhibits, 461
- farms reporting, 615
- Fat Stock Show, Provincial, 350
- marketing, 261, 576
- Protection Society, 461
- Purchase and Sale Act, 166
- Union, Western Canada, 165, 254
- Livestock Branch:
 - evolution of, 164
 - personnel and activities, 457, 458, 559 (see Animal Industry Branch)
- Livestock extension specialists, 365, 439
- Livestock improvement train. (see Trains)

M

- Malting laboratory, 241
- Mandans, (see Indians), 6, 11, 16
- Manitoba:
 - Act, 32, 33, 50, 52, 53, 72
 - agronomists organization, 246
 - boundaries, 31, 33, 50, 84
 - coat of arms, 151
 - Credit Corporation, 576
 - floral emblem, 151
 - Grain Act, 258
 - Grain Elevator Act, 261
 - Grain Growers Associations, 258
 - Marketing Board, 491, 575
 - Seed Growers Co-operative Limited, 380
 - Sugar Beet Co., 332
 - Wheat Pool, 299
- Manitoba Agricultural College:
 - Commission, 148, 149, 185, 232, 291
 - courses, 189, 190, 191, 192
 - dairy school at, 160
 - degrees, 189, 291
 - as a departmental activity, 181
 - directors, 182, 184
 - extension activities, 196, 199-201
 - Faculty of, 186, Appendix II
 - farm, 186, 231, 234
 - grants, 293
 - herbarium and museum, 244
 - initiation of research, 232, 235, 248
 - purchase of site, 147, 149, 187
 - purpose of, 188
 - resident life, 192
 - services, 228
 - staff, Appendix II
 - student self-government, 193
 - students enrolled, 197
 - transferred to U. of M., 291
- Manitoba Farm Loans, 263
- Manpower Service, 551
- Maple syrup, 6, 9, 23
- Margarine Act, The, 457
- Market cow testing plan, 566

Marketing Board, 491, 575
 Marriage licences, 141, 177
 Mastitis control, 566
 Melbourne (Stallion), 47
 Mennonite immigrants, 78
 Metis: 10, 14, 51, 53, 78
 buffalo hunt, 30
 Half-Breed Scrip, 33
 Milk Control Act, 455
 Milk Control Board, 454, 562
 Milk and Cream Act, 130
 Milk tank trucks, 457
 Milling and baking investigations, 240
 Mindum wheat (see Wheat)
 Mineral content of hays, 383
 Mines and Natural Resources, Dept. of, 294
 Ministers of Agriculture, 56, 69
 Ministry of Public Works, 68, 69
 Mound Builders and agriculture, 1
 Mounds:
 artifacts in, 3, 4
 location of, 2

N

Native tribes and agriculture, 5
 Natural resources, 33, 294
 Neepawa, first winter fair, 125
 Northern Department, 37, 45
 North-West Company, 18, 22, 26
 North-Western Territory, 32
 Norway House, cultivation at, 21
 Noxious weeds, (see Weeds)
 Nursery plant inspection, 407

O

Oats:
 as cash grain crop, 374
 Solsgrith Oat Growers, 374
 variety trials, 374
 (see Crops)
 Oil seed crops, 613

P

Pasquia Land Settlement Project, 400
 Pastures:
 community, 319-320
 improvement of, 385, 453
 Pathology, animal and poultry, 565
 Peat experiments, 240, 400
 Pembina, agriculture at, 19
 Pemmican, 13, 39, 427, 609
 P.F.R.A.: 302, 308

 advisory committee, 308
 cultural activities, 318
 land utilization, 319
 water development, 321
 Pigeon Lake (White Horse Post), 47
 Pigs: 37, 38, 40
 (see Swine)
 Plant Pathology research, 248
 Plant Pests and Diseases Act, 407, 557
 Plowing matches, 213, 352
 P.M.U., 564, 607
 Population, 47, 51, 81, 141, 266, 437, 624
 Portage la Prairie:
 Council of, 31
 exhibition, 122
 settlement, 30
 Potato specialists, 364
 Potatoes, 6, 10, 19, 20, 21, 36, 83, 409, 426,
 576, 614
 Poultry: 19, 23, 82, 121, 122, 124, 355, 513, 608
 activities, 430
 associations, 123, 124, 355, 430
 Division, 563, 608
 hatcheries, 433
 shows, 351
 specialists, 365, 430, 563
 Prairie fire relief, 137
 Predator control, 296, 336, 581
 Premiers, 56
 Produce Dealers Act, 179, 180
 Provincial Agricultural Association, 66
 Provincial Agricultural and Industrial Society, 66,
 71, 86
 Provincial lands, 89
 Publications, 88, 94, 128, 148, 173, 175, 215, 290
 Publications Branch: 172, 229, 477, 567
 activities, 478, 479
 directors, 478
 Public Livestock Markets Board, 262
 Public Utility Board, 454
 Public Works, Board of, 29, 39, 40, 53
 Public Works, Ministry of, 54, 64, 68
 Public Works and Agriculture, 25, 29, 54, 65, 110
 Pure-bred Cattle Breeders Association, 121

Q

Quality Research Laboratory, 493
 Quotas, grain delivery, 500, 593

R

Radio and Information Service, 480
 Railways: 34, 92, 93, 113, 116, 156, 167, 298,
 317, 619
 (see Trains)
 Red River Agricultural Association, 41

Red River Co-operative Relief Committee, 41
 Red River Settlement, 26, 28, 32, 47, 51
 Relief:
 direct, 304
 economic, 262
 farm, 326
 Report, Minister of Agriculture (first), 79
 Reports, Agricultural, (see Preface)
 Representatives, agricultural, 224, 300, 342, 344, 527, 547
 Research, agricultural, 232, 248, 293, 492, 539, 557, 558
 Roads and bridges, 29, 38, 39, 40, 53
 Royalties on furs, 177
 Rupertsland, 25, 26, 28, 32, 34
 Rural Credits Act, 264
 Rural electrification, 443
 Rural rehabilitation, 326
 Rust epidemics and research, 237, 247, 248, 374
 Rust research laboratory organized, 250, 251

S

St. Boniface:
 land under cultivation, 20
 (see Hospitals); (see Stockyards)
 Save the Soil campaign, 391
 Seed cleaning plants, 355, 381, 556
 Seed drill surveys, 380
 Seed fairs, 212, 351
 Seed Grain: 40, 41, 67, 69
 Act, 264
 assistance, 264
 clubs, 377
 exchange, 137
 loans (Municipal), 139
 Seed Growers Co-operative Ltd., 380
 Seed production, vegetable, 407
 Selkirk, Lord, 25, 36, 41
 Senior Crop Improvement Clubs, 379
 Settlers Animal Purchase Act, 165
 Sheep, 44, 45, 65, 98, 108, 127, 144, 164, 270, 271, 513, 603, 604, 605
 Sheep and Swine Breeders Association, 123, 163, 164
 Smallpox, 109, 110
 Soil:
 conservation, 384, 390, 393, 399, 553, 554
 conservation clubs, 393
 and crop management, 237
 drifting control, 318
 and Drought Act, 325
 moisture survey, 307
 Products Exhibition, 351
 survey, 242, 243, 307
 survey and investigations, 307, 553, 580
 testing service, 553

Soils and Crops Branch: 364, 392, 552
 crop activities, 393, 555
 horticultural activities, 556
 personnel, 364, 392
 soil activities, 392, 552
 weed activities, (see Weeds)
 Soils Division, M.A.C., 237, 241, 244, 298-301, 302
 Soils extension, 389, 392
 Southern Manitoba Poultry Association, 121
 Special crops, 386, 588, 613
 Squirearchy:
 under H.B.C., 36
 under Selkirk, 36
 Stable Keepers Act, 139
 Stallion enrolment, 99, 169, 465, 560
 Stallions:
 Fireaway, 44
 First Principal, 168
 Melbourne, 47
 running at large, 37, 38, 39, 40
 Standing grain competitions, 212, 353
 Statistics:
 Agricultural, 48, 49, 80, 81, 93, 95, 98, 112, 141, 174, 266, 275, 430, 478, 494-517, 569, 583-609, 611-615
 Vital, 48, 49, 55, 76, 86, 87, 88, 91, 110, 114, 140, 152, 174, 177
 Statute labor, (see Labor)
 Stock judging, innovation of, 124
 Stock Yards, St. Boniface, 262
 Storch test, 161
 Student bursary policy, 551
 Sugar beets, 83, 137, 239, 331, 614
 Supply voted, 76, 90, 114, 152, 280, 536, Appendix I
 Survey:
 Agricultural, 243, 244, 301
 Manitoba economic, 329
 soils, (see Soil)
 unused lands of Manitoba, 301
 Swine: 15, 37, 38, 40, 82, 98, 108, 143, 164, 167, 256, 270, 272, 440, 513, 603, 604, 605
 advanced registry, 459
 bacon agreement, 460
 diseases, 127, 461

T

T.B.-free herds, 167, 336
 T.E.D., 545
 Thatcher wheat, 374
 Threshing and horse-power machines, 70
 Tile drains, 242
 Tobacco, 2, 5, 8, 17, 23, 239, 388
 Tractors, (see Farm Machinery)
 Trains:
 Better farming, 198, 241

Dairy special, 162, 196
Forage crop cars, 199, 376
Good seed demonstration coach, 376
Horticultural cars, 376, 406
Poultry cars, 376
Weeds special, 172, 198
Treaties, (see Indian, treaties)
Tree planting, 67, 71, 88, 393, 554
Turkeys, 434, 513

U

Urban-oriented influences, 528
Unemployment and farm relief, 326

V

Vegetable:
Marketing Commission, 557, 576
processing and tanning, 425
production, 409, 425
Sales Act, 426
seed production, 407, 409
specialists, 364
Vegetable Growers Association, 424, 557
Veterinarians, Provincial, 87, 91, 126, 465
Veterinary:
Association, 70, 126
Associations Act, 126
Veterinary Diagnostic Laboratory, 331, 433,
469, 564
Veterinary Districts, 566
Veterinary Science Scholarship Fund Act, 469
Veterinary Service Branch: 564
programs, 565
Vital Statistics, (see Statistics)

W

Wabowden Experimental Sub-Station, 402
War-time committee, 333
Water Control and Conservation Branch, 531,
532, 539
Water development programs, 320
Water erosion problems, 392
Watershed control districts, 398
Watershed and Soil Conservation Authorities
Act, 398
Weed inspectors, 172
Weeds: 65, 70, 87, 88, 131, 171, 470
chemical control, 473-477
commission, 171, 172, 470, 475
control units, 475, 559
Division, 557
research, 472, 558

special train, 172
Western Canada Livestock Union, 165, 254
Westlake livestock improvement, 567
Wheat: (see Cereals)
early shipments of, 617
early varieties, 82, 99, 269, 374
effect of drought, 275
effect of rust, 247, 248
Marquis, 247, 269
Mindum, 237, 269, 371
Red Fife, 116, 247
rust, studies of, 248
rust-resisting varieties, 374
supplies and disposition, 597, 619, 623
Thatcher, 374
Winter, 15, 80
Wheat Board:
Canada, 590
Canadian, 587-602, 623
Wildlife regulations, 87, 133
Wild rice, 9, 16, 19, 23
Winnipeg Grain and Produce Exchange, 260
Winnipeg Industrial Exhibition, 121, 128
Winter Fair:
Brandon, 163, 164, 352
Neepawa, 125
Toronto, 352, 461, 556, 564
Wolf Bounty Act, 296, 336
Wolves, 40, 133
Women's Institutes, 216, 219, 357, 446,
548, Appendix VI
Wool sales, 164

INDEX (Personnel)

PERSONS ASSOCIATED WITH VARIOUS HISTORIC EVENTS*

- | | |
|--|--|
| Aikins, Sir James A.M., 125, 149, 183 | Cote, J.R., 130, 159 |
| Aikins, J.C., Lt-Gov., 146 | Craig, A.R., 162 |
| Almey, J.R., 216, 226, 228, 341, 364, 376,
406, 407, 410 | Craig, H.A., 318, 471, 478, 482, 492, 568 |
| Archibald, Adams G., Lt-Gov., 51, 66 | Craigie, J.H., 250 |
| Archibald, E.S., 239, 302, 317 | Crawford, J., 184 |
| Auld, W., 20 | Criddle, Norman, 136, 147, 481 |
| Avison, R.J., 184 | Crowe, W.J., 160, 161 |
| Axe, T.H., 47 | |
| | Dickinson, F., 374 |
| Bailey, D.L., 250, 251 | Dousman, Michael, 36 |
| Baird, A.K., 159 | Duthie, J., 183 |
| Barber, C., 134, 175 | Dutton, (Mrs.) J.R., 183 |
| Batho, Geo., 171, 173, 215, 307, 470, 478 | Dyer, Major H.M., 183, 190 |
| Beaudry, Rev. Fr., 92, 117 | |
| Bedford, S.A., 117, 121, 125, 171, 233, 252, 470 | Elliott, Hon. W., 125 |
| Bell, (Dr.) A.W., 162, 163, 430 | Ellis, J.H., 199, 234, 237, 244, 246, 300, 307,
390, 393, 625 |
| Bell, Gordon, 131, 135 | Evans, J.H., 210, 253, 254, 335 |
| Bell, J.R., 164, 224, 335, 531 | |
| Black, (Principal) W.J., 162, 183, 186, 187, 195,
201, 210, 213, 216, 218, 219, 221, 225, 233 | Farrell, E.H., 160 |
| Borthwick, H.J., 93, 112, 117 | Fletcher, James, 132, 135, 147 |
| Bowman, J.A., 157, 484 | Floyd, L.T., 226, 341, 365 |
| Boyd, Hon. A., 51, 53, 54 | Ford, P.H., 359, 364, 392, 471, 531 |
| Bracken, Hon. John, 188, 210, 243, 244, 246, 334 | Franchere, Gabriel, 20 |
| Braithwaite, C., 132, 133, 171 | Fraser, (Dr.) W.P., 250 |
| Breland, F., 67 | Fraser, W.W., 164 |
| Brown, R.W., 160 | |
| Bryce, Rev. Geo., 3 | Galbraith, A.J., 242, 243, 301 |
| Burman, Rev. W.A., 132, 147 | Garrioch, Rev. A.C., 30 |
| Burnell, Colin H., 299 | Garry, Nicholas, 6, 20, 42 |
| | Geddes, W.F., 240, 243 |
| Cameron, Hon. Neil, 184 | Gibson, L.A., 160, 161, 162, 449 |
| Campbell, Hon. D.L., 334, 443 | Girard, Hon. M.A., 51, 53, 54, 67 |
| Campbell, R., 43 | Golden, J.J., 112, 113, 117, 162 |
| Carey, G.M., 45 | Goulden, C.H., 252 |
| Caron, C.G., 182, 183 | Goulet, Hon. Maxime, 79, 93 |
| Carson, W.J., 160, 162, 163, 186 | Gowler, Oliver, 45, 409 |
| Christopherson, S., 113 | Greaney, F.J., 250, 381 |
| Church, A.J., 532, 560 | Greenway, Hon. Thomas, 113, 149 |
| Churchill, F.G., 241, 242 | Greig, G.H., 124, 162, 164, 183 |
| Clark, G.H., 125 | Grisdale, J.H., 125, 249 |
| Clarke, Hon. H.J., 53 | |
| Cockran, Rev. W., 30, 31 | Halkett, John, 21 |
| Colvile, A.W., 20, 21 | Hargrave, J.J., 47 |
| Coop, (Mrs.) P.G., 335 | Harmon, D.W., 6, 18 |

* Departmental personnel up to 1959 are included in the respective branch outlines. For the years 1960 and onward, branch personnel are recorded in the printed annual reports of the Department of Agriculture.

Harrison, T.J., 171, 199, 232, 233, 235, 237, 239-241, 247, 251, 254, 255, 372, 387, 470, 474
 Hartney, J., 113, 117
 Hay, Hon. Edward H.G.G., 54
 Hearne, Samuel, 13, 18
 Henry, Alexander, 6, 17, 19
 Hind, E. Cora, 124
 Hind, H.Y., 46, 47, 409
 Hopkins, A.G., 125
 Hopper, C.R., 194, 199
 Hosmer, E.A.C., 183
 Howard, Hon. Thomas, 53, 54

 Inkster, Hon. Colin, 54
 Irwin, H., 149

 Jackson, V.W., 244
 James, W., 183
 Jefferys, C.H., 113, 117
 Jenness, D., 4, 5
 Jeremie, Nicholas, 15
 Jones, E. Ward, 201, 221
 Jory, A.A., 159

 Keller, H., 183
 Kelsey, Henry, 13
 Kerr, C.A., 449
 Ketchem, A.P., 125
 Killick, C.H.P., 449
 Kiteley, J.H., 200, 227
 Knight, James, 15
 Kon, Louis, 157
 Kuneman, N., 159, 162

 Laidlaw, W., 41
 La Riviere, Hon. A.A.C., 93
 La Verendrye, Pierre de, 13, 16, 17
 Lawrence, Hon. Geo., 183, 218, 252
 Lee, C.H., 188, 195
 Leechman, D., 8
 Leslie, (Mrs.) S.E., 184
 Luger, Otto, 135
 Lutley, F., 130, 159, 160
 Lynch, W., 182, 183
 Lys, Rev. J.F., 627

 Macdonald, C.C., 128, 129, 130
 MacDonald, J.A., 160
 MacDonell, Alex., 42
 Macdonell, Miles, 20, 28, 36
 MacEwan, G., 15, 16, 17, 19, 44, 45, 47
 MacKay, A.J., 183
 MacKay, N.C., 210, 217, 223, 225, 226, 292, 327, 341, 342, 390
 MacKenzie, Alexander, 21
 MacKenzie, D.E., 160, 449, 450
 Malcolm, Hon. G.H., 184, 245

 Matheson, R.M., 184
 McBean, Kenneth, 31
 McConnell, A.D., 184
 McGregor, J.A., 226, 227, 341, 359, 376, 471
 McGregor, K., 184
 McKay, Hon. James, 53, 66
 McKellar, H., 112, 117
 McKenzie, Kenneth, 31
 McKillican, W., 188
 McLean, John, 31
 McManus, J.A., 161
 McMillan, A.J., 92, 112, 113, 117
 McMillan, A.J. (Deputy Minister), 171
 McMillan, Chief Factor, 42, 43
 McNiven, Emma, 130, 159
 Miller, John S., 149
 Milne, R., 184
 Mitchell, J.W., 160, 161
 Mitchener, A.V., 480, 481
 Moorhouse, H.J., 173
 Moorhouse, L.A., 234
 Moran, J.D., 130, 159
 Morrison, A., 182
 Morrow, J.K., 331, 433
 Morton, A.S., 15, 17, 20, 21
 Morton, W.L., 15, 16, 20, 51
 Muckle, R.M., 200, 227
 Murray, C.A., 130, 159

 Nesbitt, J.R., 130, 159, 161
 Newcombe, C.K., 183
 Newman, L.H., 250, 251
 Newton, Margaret, 249
 Newton, S.T., 210, 217, 221, 223, 225
 Nichol, W., 183, 184
 Norquay, Hon. John, 53, 54, 79, 93

 Oliver, E.H., 47
 Olson, B.B., 159
 O'Malley, R.G., 132, 133, 171

 Pa-Kwah-Ki-Kun, 31
 Parent, J., 183
 Parker, J.M., 331, 359, 390, 392, 393, 531, 552, 577
 Parker, W.J., 243
 Parkinson, J.L., 183
 Patrick, Rev. W. (Principal), 149, 183
 Peguis, Chief, 7
 Pierce, W., 255
 Pond, Peter, 11
 Prodan, C.S., 161, 388, 427

 Quimby, G.I., 2

 Ratray, J.G., 175
 Reynolds, (President) J.B., 187, 190, 195, 200, 210, 225

Richards, S.E., 175
 Richardson, H.R., 486
 Roblin, Hon. R.P., 183
 Roi, Jean Baptiste, 20
 Ross, Alexander, 10, 41, 44, 46
 Royal, Hon. Joseph, 54
 Rutherford, (Dr.) J.G., 163
 Rutherford, W.J., 162, 163, 232

Savage, A., 331, 443, 469
 Scott, W.D., 92, 112, 113, 117
 Seebach, O., 92
 Selkirk, Thomas Douglas, 5th Earl of, 21, 23,
 25, 26, 27, 36, 42
 Sergeant, Henry, 15
 Shafer, W.H., 199, 302, 307
 Shanks, G.L., 481
 Sharp, Mayor, 125
 Shetrone, H.C., 1
 Simpson, Sir George, 28, 42, 44, 66
 Simpson, H.C., 149
 Sims, S.G., 166
 Smith, D., 183
 Smith, H.D., 126
 Smith, Peleg, 183
 Southworth, W., 236
 Spark, W.S., 125
 Speechley, (Mrs.) H.M., 219
 Sproule, G.A., 183, 194
 Stewart, D.F., 184
 Sweeney, J.R., 161
 Sweet, J., 183, 184

Tallman, S.L., 365, 381
 Tennant, J.F., 113, 117
 Thomas, (Mrs.) A.V., 183
 Thompson, David, 11
 Thompson, Esther, 217, 218, 226, 341, 357, 368
 Thompson, S.J., 126
 Thordason, (Miss) T., 217
 Tinline, M.J., 318, 376
 Toussaint, Lesieur, 20

Vickers, C., 4
 Villeneuve, I., 160, 450

Waugh, J.C., 175
 Weir, W.G., 184
 Wheatland, C., 130, 159
 Whiteman, R., 341, 359, 376, 471
 Wiener, W.T.G., 224, 236, 372, 387
 Williams, W., 19
 Williams, Hon. J., 184
 Winkler, Hon. V., 183, 184
 Wood, H.E., 223, 226, 341, 343, 365, 471,
 478, 480, 482