

THE
PRAIRIE
GARDEN

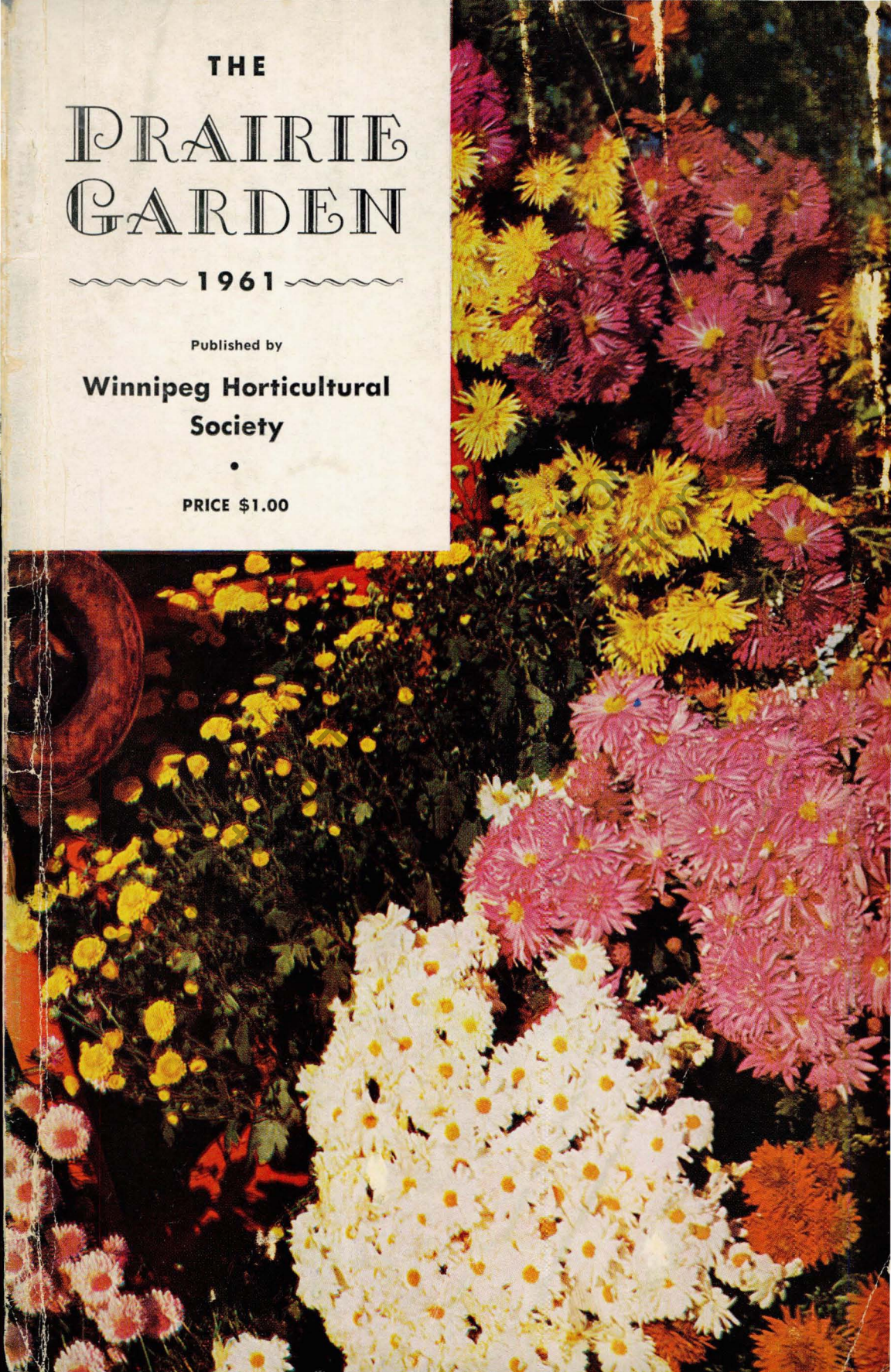
~~~~~ 1961 ~~~~~

Published by

**Winnipeg Horticultural  
Society**

•

PRICE \$1.00







## Beautiful Gardens

start from finer seeds and bulbs

from

# EATON'S

And what a variety to choose from! At EATON'S, you'll find a complete stock of flower and vegetable seeds! Bulbs are available in a gala assortment of types and colours . . . there are begonias,

gloxinias, new hybrid lilies, the gorgeous golden auratum and rubrum lily . . . giant hyppastrums with eight inch blooms . . . gladiolas and many, many more.

And something new and different for 1961 —the new "Monte Cristo" double gloxinia bulbs, now available!

Yes, beautiful gardens start from finer seeds and bulbs . . . from EATON'S!

EATON'S OF CANADA

## Foreword

We are happy to bring to our many thousands of horticultural friends the Eighteenth Annual Edition of The Prairie Garden.

We strive, each year, to bring to you up-to-date factual information, to assist you in your gardening pursuits. Many books are published on horticultural subjects. Few, if any, have direct practical application under the climatical conditions in our Great Northern Plains Area. Our efforts are directed towards filling this need.

Each year, the demand for The Prairie Garden, not only increases, but expands. We know no national borders. Our distribution ranges from Texas to Alaska, while we have requests for books from libraries as far away as India, England and several countries in continental Europe.

May we stress that The Prairie Garden is strictly a non-profit publication, dedicated specifically to the advancement of Northern Great Plains horticulture. We pay no salaries, commissions, or fees of any kind. Any profits that may accrue are ploughed back into our publication.

We, further, offer The Prairie Garden to horticultural groups at special prices. Many thousands are so distributed. We are, however, still puzzled that only about 60% of these organizations respond to our offer. Nowhere, in our Great Northern Plains, can anyone get so much interesting, factual, and regional horticultural information for so little.

This year we particularly wish to honor Dr. A. R. "Art" Brown, the C.B.C.'s Prairie Gardener; Dr. C. F. Patterson, head of the Horticultural Department of the University of Saskatchewan for close to forty years; Mr. and Mrs. M. A. Johnson, a grand old couple residing at Minnedosa, Man.; and the late Theodore E. Howard of Winnipeg, Man., who, each in their own way, and in their different spheres, have done so much for the advancement of prairie horticulture, and the enrichment of the lives of all the people who have come in contact with them.

### "THE PRAIRIE GARDEN" COMMITTEE

**Chairman** . . . . . Mr. G. S. Reycraft, 92 Queenston St., Winnipeg 9, Man.  
Mr. Hector Macdonald, Assiniboine Park, S.O. 25, St. James, Man.  
Mr. D. R. Robinson, University of Saskatchewan, Saskatoon, Sask.  
Mr. P. D. McCalla, University of Alberta, Edmonton, Alta.

**Advertising** . . . . . Mr. J. P. de Wet, 207 Whytewold Rd., Winnipeg 12, Man.  
Mr. F. C. W. Rice, 185 Ash St., Winnipeg 9, Man.

We also wish to express our thanks to the many outstanding professional and amateur horticulturists who, through their valued assistance and contributions to our publication, have made it possible to bring to you another edition of The Prairie Garden.

Front Cover: 'Mums were originally classified as an autumn flower; often blooming too late for our Western climate. But now plant breeders have developed plants that bloom from late June to heavy frost. Although not reliably hardy, they still have a place in your garden, even when replacements may be necessary.

Price — \$1.00 per copy.

Special prices to Horticultural Societies and Garden Clubs.



## HORTICULTURAL SOCIETIES IN WESTERN CANADA

## MANITOBA

|                                         |                                                         |
|-----------------------------------------|---------------------------------------------------------|
| Bowsman.....                            | Mrs. Robina Metcalfe, Box 58, Bowsman                   |
| Brandon.....                            | Mrs. M. Stuckey, 658 - 11th St., Brandon                |
| Carman.....                             | Mrs. E. Tibbatts, Carman                                |
| Charleswood.....                        | Mrs. I. Musser, Wexford Street, Charleswood             |
| Dauphin.....                            | Mrs. Blanche Brown, Dauphin                             |
| Dominion City.....                      | Mrs. A. Eleanor S. Palmer, New Bridge Road, Green Ridge |
| Fort Garry.....                         | Mrs. W. J. Bowsfield, 810 North Drive, Fort Garry       |
| Flin Flon.....                          | Dr. B. A. Biggs, 14 Hapnot Street, Flin Flon            |
| Grunthal.....                           | Mrs. Elsie Janzen, Box 11, Grunthal                     |
| Holland.....                            | Mrs. B. Duncan, Holland                                 |
| Hartney.....                            | Miss N. Hall, Elgin                                     |
| Interlake.....                          | Mr. R. H. Ross, Stonewall                               |
| Killarney.....                          | Mrs. H. J. Lovett, Killarney                            |
| Manitou.....                            | Mrs. Doreen Strange, Manitou                            |
| Minnedosa.....                          | Mrs. Dorothy Burton, Minnedosa                          |
| Morden & District.....                  | Robert Milne, Morden                                    |
| Morris.....                             | Mrs. J. Stevenson, Morris                               |
| Newdale.....                            | Mrs. Hazel Westaway, Newdale                            |
| Oakville & District.....                | Mrs. J. W. Boddy, Oakville                              |
| Pilot Mound.....                        | Mrs. Gladys Bedford, Pilot Mound                        |
| Pine Falls.....                         | A. A. Krueger, Pine Falls                               |
| Poplar Point.....                       | Mrs. H. J. England, Marquette                           |
| Portage la Prairie.....                 | Eric Smith, 74 Main Street South, Portage la Prairie    |
| Roblin.....                             | Mrs. George Laird, Box 176, Roblin                      |
| Russell.....                            | Mrs. H. W. Smith, Russell                               |
| Souris & Glenwood.....                  | Mrs. E. Kowalchuk, Souris                               |
| St. James.....                          | Mrs. A. Knight, 416 Conway Street, St. James            |
| St. Pierre.....                         | Miss Alida Dupuis, St. Pierre                           |
| Steinbach.....                          | Miss Martha Barkman, Steinbach                          |
| The Pas & District.....                 | Sidney Wilton, The Pas                                  |
| West Kildonan.....                      | Mrs. J. Slipetz, 417 Scotia Street, Winnipeg 17         |
| Winnipeg.....                           | W. J. Tanner, 518 Henderson Highway, Winnipeg 15        |
| Manitoba Horticultural Association..... | F. J. Weir, 717 Norquay Building, Winnipeg 1            |

## SASKATCHEWAN

|                    |                                                        |
|--------------------|--------------------------------------------------------|
| Assiniboia.....    | R. J. Christenson, Assiniboia                          |
| Balcarres.....     | Mrs. A. Pich, Balcarres                                |
| Battlefords.....   | Mrs. Gladys MacLean, 1451 Henry St., North Battlefords |
| Canora.....        | Mrs. May Gibney, Canora                                |
| Carrot River.....  | Mrs. R. W. Fomeroy, Box 489, Carrot River              |
| Eatonia.....       | Mrs. M. C. Bews, Eatonia                               |
| Echo Lake.....     | Mrs. Norma Fox, Fort Qu'Appelle                        |
| Elfron.....        | L. Arnason, Elfron                                     |
| Estevan.....       | Kay Anderson, Box 221, Estevan                         |
| Eston.....         | Mrs. Joyce Wynan, Eston                                |
| Humboldt.....      | Mrs. J. Platzer, Humboldt                              |
| Hyas.....          | Mrs. Stella Gromlinsky, Hyas                           |
| Indian Head.....   | Mrs. N. Swinton, Indian Head                           |
| Kamsack.....       | Fred Tetoff, Kamsack                                   |
| Kinderley.....     | Mrs. Cory Veldhoen, Kinderley                          |
| Lloydminster.....  | Mrs. Margaret P. Stanley, Lloydminster                 |
| Melfort.....       | Mrs. L. Weid, Melfort                                  |
| Melville.....      | C. G. Casswell, Melville                               |
| Moose Jaw.....     | W. J. Sloan, 24 Fairford W., Moose Jaw                 |
| Pelly.....         | Mrs. M. Campbell, Pelly                                |
| Prince Albert..... | A. E. Dare, 576 - 22nd St. E., Prince Albert           |
| Quill Lake.....    | Miss Violet Palmer, Quill Lake                         |
| Regina.....        | Mrs. L. M. Robinson, 2265 Wascana St., Regina, Sask.   |
| Rosetown.....      | Mrs. A. H. Burton, Rosetown                            |
| Saskatoon.....     | E. A. Morgan, 101 - 115th St., Saskatoon, Sask.        |
| Spiritwood.....    | Mrs. V. M. Oswald, Spiritwood                          |
| Sturgis.....       | Mrs. J. Kalenchuk, Sturgis                             |
| Swift Current..... | Mrs. Joyce Berg, 300 - 5th St. E., Swift Current       |
| Uranium City.....  | W. D. Ross, Uranium City                               |
| Weyburn.....       | Mrs. E. G. Goodrich, Box 989, Weyburn                  |
| W. Willoughby..... | Mrs. W. H. Collins, Parkside, Sask.                    |
| Windthorst.....    | Mrs. P. E. Dayman, Windthorst                          |
| Wood River.....    | Mrs. Hilda Curry, LaPêche                              |
| Yorkton.....       | Mrs. C. R. Eddy, 9 Logan Cres., Yorkton                |
| Tri-City.....      | Mrs. Harvey Love, White Fox, Sask.                     |
| Wynyard.....       | Mrs. Elsie Linder, Box 103, Wynyard                    |

## ALBERTA

|                                          |                                                       |
|------------------------------------------|-------------------------------------------------------|
| Edmonton Horticultural Society.....      | A. J. Stockman, City Market Building, Edmonton, Alta. |
| Calgary Horticultural Society.....       | Mr. Geo. Sweeting, 603 - 19th Ave. N.W.               |
| Calgary Garden Club.....                 | Mr. Hugh A. White, 1730 - 5a Street, S.W.             |
| Lacombe Garden Club.....                 | Mr. T. H. Newman, Lacombe                             |
| Lethbridge Horticultural Society.....    | Mr. W. Domier, 820 - 12th St. S.                      |
| Lethbridge Gladiolus Society.....        | Mr. J. G. Archibald, 1055 - 13th St. S.               |
| Settler Garden Club.....                 | Mrs. J. T. Costigan, Box 27                           |
| Lloydminster Horticultural Society.....  | Mrs. B. Ambler                                        |
| Vermilion Horticultural Society.....     | C/o District Agriculturist                            |
| Red Deer River Garden Club.....          | Mrs. E. Matheson, Runsey, Alta.                       |
| Alix Garden Club.....                    | Mrs. C. Mansbridge                                    |
| Medicine Hat Horticultural Society.....  | Mrs. A. McMullen, 837a - 3rd Street                   |
| Myram Horticultural Society.....         | C/o District Agriculturist                            |
| Wainwright Horticultural Society.....    | C/o District Agriculturist                            |
| Berwyn Horticultural Society.....        | C/o District Agriculturist                            |
| Three Hills Horticultural Society.....   | Mrs. A. Webb, Box 463                                 |
| Fort Macleod Horticultural Society.....  | Mr. J. P. Canning, Box 135                            |
| Red Deer Horticultural Society.....      | Mr. Pat Smith, 5350 - 42a Ave.                        |
| Shavely Garden Club.....                 | Mrs. M. E. Cochran, Box 187                           |
| Acme Garden Club.....                    | C/o S. M. Pettam, D.                                  |
| Dinton Garden Club.....                  | Mrs. W. Willocks, Blackie                             |
| Fairview Horticultural Society.....      | Geo. Thomson                                          |
| Peace River Dist. of B.C. Hort. Soc..... | Mrs. M. Mellor, 1428 - 104th Ave., Dawson Creek, B.C. |
| Minalk Horticultural Society.....        | Alma Park                                             |

## THE PRAIRIE GARDEN

Western Canada's Foremost Horticultural Annual

Published by  
Winnipeg Horticultural Society  
(Established 1931)

A non-profit publication. The work of compilation, solicitation of advertising and the material submitted are all contributed to the advancement of Western Horticulture.

18th Annual Edition

Winnipeg, Manitoba

February 1961

## Contents

|                                                                                                             | Page    |
|-------------------------------------------------------------------------------------------------------------|---------|
| Foreword.....                                                                                               | 1       |
| Horticultural Societies in Western Canada.....                                                              | 2       |
| Contents.....                                                                                               | 3       |
| Commercial Nurseries Catering to the Prairie Trade.....                                                     | 4       |
| Dr. A. R. "Art" Brown, The Prairie Gardener.....                                                            | 5       |
| Lilium Henryi.....                                                                                          | 7       |
| Dr. C. F. Patterson, Head, Horticultural Dept., U. of Sask.....                                             | 9       |
| Plume Penny — Celosia Pyramidalis.....                                                                      | 10      |
| The Certificate of Merit, 1960, Mrs. W. R. Garbutt, Belbeck, Sask.,<br>Mr. George Gatenby, Eston, Sask..... | 11      |
| Tuberous Begonias — Well Worth Growing — Hilda Crook, Mirror, Alta.....                                     | 13      |
| Notes on Home Grounds Plan, Hector Macdonald, Winnipeg, Man.....                                            | 14      |
| Suggested Home Grounds Plan, Hector Macdonald, Winnipeg, Man.....                                           | 15      |
| The Magic of the Cups — Margaret Miles Hanlon, Westlock, Alta.....                                          | 17      |
| Dutch Elm Disease — R. H. Patmore, Brandon, Man.....                                                        | 21      |
| Onions for the Home Garden — H. T. Allen, Lacombe, Alta.....                                                | 25      |
| My Garden Companions Are My Timing Guides — Mary McLaughlin,<br>Milestone, Sask.....                        | 27      |
| Winter Injury in Raspberries — A. J. Porter, Parkside, Sask.....                                            | 31      |
| The Hardiness of Lilies — Jan De Graff, Harold Comber,<br>Earl Hornback, Gresham, Oregon.....               | 33      |
| The Modern Home Landscape — Elsie A. Torgeson, Estevan, Sask.....                                           | 41      |
| Border of Bedding Out Plants — Hector Macdonald, Winnipeg, Man.....                                         | 46      |
| Mixed Flower Border — Hector Macdonald, Winnipeg, Man.....                                                  | 47      |
| Soil Management and Improvement in the Home Garden —<br>R. A. Hedlin, Winnipeg, Man.....                    | 49      |
| Planning with Perennials — R. H. Knowles, Edmonton, Alta.....                                               | 55      |
| The Amateur and African Violets — Ken Barnes, Winnipeg, Man.....                                            | 61      |
| From Potato to Chip — G. E. Stone, Winnipeg, Man.....                                                       | 63      |
| Saskatchewan Societies — D. R. Robinson, Saskatoon, Sask.....                                               | 65      |
| Shrubbery of Deep Coloring — Dr. W. R. Leslie, Winnipeg, Man.....                                           | 67      |
| Nursery Stock in Containers — Walter Sheldermine, Charleswood, Man.....                                     | 71      |
| Hardy Bulbs for Prairie Gardens — W. B. McNeil, Drompore, Man.....                                          | 75      |
| Hints for Flower Arrangers — Betsy Shortt, Winnipeg, Man.....                                               | 79      |
| Modern Day Lilies — Black and White Pictures.....                                                           | 81      |
| Iris, Dahlias, Begonias, Lilies — Color Pictures.....                                                       | 82-83   |
| Good Border Plants — Black and White Pictures.....                                                          | 84      |
| Water Wonderland — R. A. Smith, Winnipeg, Man.....                                                          | 85      |
| Recommended List of Annual Flowers — M.H.A.....                                                             | 87      |
| Ornamental Crabapples — W. A. Cumming, Morden, Man.....                                                     | 89      |
| How to Grow Achimenes — Mrs. Jeanne Thompson, Millet, Alta.....                                             | 93      |
| Scotch Kale — Hector Macdonald, Winnipeg, Man.....                                                          | 95      |
| Growing Spanish Onions — Roy L. Chukry, Weyburn, Sask.....                                                  | 98      |
| Polyethylene is a Gardening Aid — J. P. De Wet, Winnipeg, Man.....                                          | 99      |
| Honey Bees and Horticulture — D. M. McCutcheon, Regina, Sask.....                                           | 101     |
| Our Eight-Year-Old Becomes an Exhibitor — Ellen Michie, Souris, Man.....                                    | 103     |
| Growing Irises — T. Johnson, Winnipeg, Man.....                                                             | 107     |
| Bulbs for Outdoor Culture — John Walker, Winnipeg, Man.....                                                 | 113     |
| Lily Pools and Lily Culture — W. W. Riome, Moose Jaw, Sask.....                                             | 117     |
| Preparing Gladiolus for Exhibition — Wm. Sinclair, Winnipeg, Man.....                                       | 121     |
| How to Make a Bird Bath — H. C. Winch, Vancouver, B.C.....                                                  | 123     |
| The Green In Nature — P. J. Peters, Winnipeg, Man.....                                                      | 125     |
| Shasta Daisy.....                                                                                           | 126     |
| The Year 1960 in the Dept. of Horticulture, U. of Sask., Saskatoon, Sask.....                               | 127     |
| House Plants for Modern Living — S. J. Westaway, Winnipeg, Man.....                                         | 133     |
| Dahlia Types — Pictures and Descriptions.....                                                               | 136-137 |
| Insect Control in Prairie Gardens — M. E. Taylor, Saskatoon, Sask.....                                      | 139     |
| Chromosomes Tell a Story — Dr. B. Charles Jenkins, Winnipeg, Man.....                                       | 143     |
| The Prairie Garden Free Seeds, Begonias or Rose Bush Offer.....                                             | 148     |
| A Few Valuable Ornamental Shrubs — John S. Kosha, Melville, Sask.....                                       | 149     |
| Let's Talk About Evergreens — C. Stuart Frances, Torch River, Sask.....                                     | 151     |
| Roses — Mrs. W. M. Macdonald, Winnipeg, Man.....                                                            | 153     |
| The Value of Windbreaks — Dr. F. J. Greaney, Winnipeg, Man.....                                             | 155     |
| Iris, Tall Bearded — E. A. Morgan, Saskatoon, Sask.....                                                     | 157     |
| Contemporary Perennials — Book Review.....                                                                  | 158     |
| Native Fruit Research — D. W. Smith, Edmonton, Alta.....                                                    | 159     |
| Geranium Cuttings — Dave Campbell, Winnipeg, Man.....                                                       | 160     |
| Mr. and Mrs. M. A. Johnson — F. Stan Geegin, Minnedosa, Man.....                                            | 161     |
| Theodore E. Howard, Obituary — Winnipeg, Man.....                                                           | 163     |
| Index of Advertisers.....                                                                                   | 164     |



## COMMERCIAL NURSERIES CATERING TO THE PRAIRIE TRADE

## ALBERTA AND B.C. PEACE RIVER BLOCK

|                                                                     |         |
|---------------------------------------------------------------------|---------|
| Alaska Highway Nurseries (H. Giles) Dawson Creek, B.C.              | GENERAL |
| *Alberta Nurseries (Berggren Bros.) Bowden                          | GENERAL |
| *Banff Trail Nursery (E. J. Lord) 311 - 19th St. N.W., Calgary      | GENERAL |
| Beaverlodge Nursery (John Wallace) Beaverlodge                      | GENERAL |
| Boughen Nurseries (W. J. Boughen) Dawson Creek, B.C.                | GENERAL |
| Edmonton Nursery (E. McCrimmon, J. Chedzoy) R.R. No. 6, N. Edmonton | GENERAL |
| *Haddock and Sons, Calgary                                          | GENERAL |
| Haysboro Nursery (K. Roaz) 9235 Elbow Drive, Calgary                | GENERAL |
| *The Lacombe Nurseries Ltd. (J. McDonald) Lacombe                   | GENERAL |
| *Mayhew Nursery (C. Larson) Box 14, Midnapore                       | GENERAL |
| Mountain View Nursery (J. Ross) 1007 - 2nd Avenue N.W., Calgary     | GENERAL |
| *Parkdale Nurseries (M. MacAdam) 506 Dieppe Blvd., Lethbridge       | GENERAL |
| Pollock Nursery (A. E. Pollock) 9754 - 69th Ave., Edmonton          | GENERAL |
| Seed Centre Ltd. (H. Wigelsworth) 127th St. & 143rd Ave., Edmonton  | GENERAL |
| Western Nursery (J. MacKintosh) Box 360, Calgary                    | GENERAL |

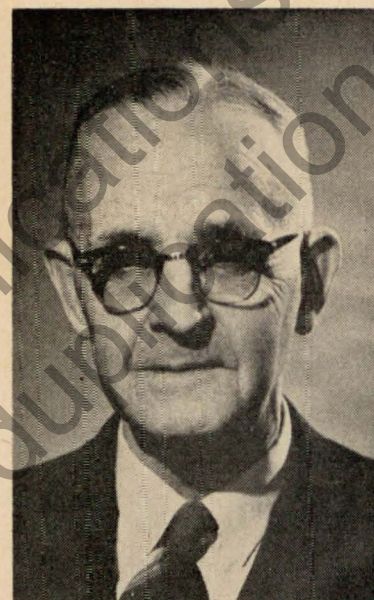
## SASKATCHEWAN

|                                                             |                                                   |
|-------------------------------------------------------------|---------------------------------------------------|
| *Dalmeny Nursery (A. Littleton) Dalmeny                     | GENERAL                                           |
| *Estevan Greenhouses (W. Fichtemann)                        |                                                   |
| Estevan                                                     | ANNUALS, PERENNIALS, SHRUBS, ORNAMENTALS, ROCKERY |
| *Green Thumb Nursery (F. Markham) 2342 Rae St., Regina      | GENERAL                                           |
| *Honeywood Nursery (A. J. Porter) Parkside                  | LILIES, SMALL FRUITS                              |
| *Lake Shore Nurseries (Geo. Krahn) Sub. P.O. 11, Saskatoon  | GENERAL                                           |
| Milner's Nursery (Miss N. Milner) Sturgis                   | GENERAL                                           |
| *Mountain's Nursery (Norman Mountain) Box 552, Lloydminster | GENERAL                                           |
| *Prairie Nurseries Ltd. (T. A. Torgeson) Estevan            | GENERAL                                           |
| *Sandall Nurseries (E. E. Sandall) Meadow Lake              | GENERAL                                           |
| *The Dutch Growers (A. Van Duyvendyk) Saskatoon             | NURSERY, LANDSCAPING                              |
| *Prairie Rose Nursery (Jacob Ediger) Rosetown               | GENERAL                                           |

## MANITOBA

|                                                                           |                           |
|---------------------------------------------------------------------------|---------------------------|
| *Aubin Nurseries (L. Aubin) Box 289, Carman                               | GENERAL                   |
| *Boughen Nurseries (R. M. Boughen) Valley River                           | GENERAL                   |
| *Evergreen Nursery (Charles S. & F. B. Stevenson) Morris                  | EVERGREENS                |
| Gaybird Nursery (Ed. Robinson) Wawanesa                                   | GENERAL                   |
| *Glenorchie Nursery (H. M. Orchard) Box 23, Group 2, R.R. 1, Winnipeg     | GENERAL                   |
| Hood's Nursery (A. Hood) Selkirk                                          | GENERAL                   |
| Hunt's Nursery (J. A. Hunt) Box 171, Carman                               | SMALL FRUITS, ORNAMENTALS |
| J. Koop Nursery, Kleeefeld                                                | GENERAL                   |
| *Maison St. Joseph (Brother T. Laflamme) Otterburne                       | GENERAL                   |
| Morden Nurseries (Njord Spanelo) Morden                                   | GENERAL                   |
| Mountain Nursery (J. H. Enns) Morden                                      | GENERAL                   |
| *Patmore Nurseries Ltd. (R. H. Patmore) Brandon                           | GENERAL                   |
| *Poole's Nursery (R. Poole) 1304 - 31st St., Brandon                      | FRUIT TREES, PERENNIALS   |
| *Portage Plains Nursery (A. Young) Portage la Prairie                     | GENERAL                   |
| Rosewood Nursery (A. M. McMechan) 3469 Henderson Hwy., Wpg.               | GENERAL                   |
| *Sadok Nursery (O. Juskow) Box 63, Group 3, R.R. 1, Winnipeg              | GENERAL                   |
| Sayer, R. L., Lot 73, St. Norbert                                         | STRAWBERRIES, RASPBERRIES |
| *Shelmerdine Nursery (W. Shelmerdine)                                     |                           |
| 3612 Roblin Blvd., Charleswood, Wpg. 20                                   | GENERAL                   |
| *Skinner's Nursery Limited (F. L. Skinner) Dropmore                       | GENERAL                   |
| *The Wallace Nurseries Ltd. (S. Bodnaruk) Island Park, Portage la Prairie | GENERAL                   |
| *Van Dungen's Nurseries, Lot 137, St. Mary's Rd., Tod P.O.                | GENERAL                   |
| *Wenham's Nursery (Mrs. J. Wenham) Lot 58, St. Mary's Rd., St. Vital      | GENERAL                   |

\*Member Prairie Association of Nurserymen.

Dr. A. R. "Art" Brown,  
The Prairie Gardener

Dr. A. R. Brown has contributed a very great deal to finer living on the Canadian Prairie scene. His boyhood was spent in rural southern Ontario, somewhat west of London. It is a kindly land which is noted for its fruits, vegetables and flowers. Being of artistic temperament and a keen observer, the advantages of his setting were important to the growing lad. When he heeded the call of Westward Ho, and settled in Saskatchewan, he put his early experiences to direct effect.

After graduating from the University of Saskatchewan with a degree in agricultural science, he taught school, became a school inspector, and, as long as the position existed, was Director of Rural Education. He kept busily engaged in garden pursuits wherever he chanced to be.

The broad expanses of the prairies with their distant horizons thrilled him. He understood that he truly belonged to this big country with its grandeur of sunrise and sunset, its clearly marked seasons, its zesty weather and fertile soils. He has sought from the first to bring still more charm to the great plains area through improved garden plants and methods of tending them. He is keen on team-play and knows the reward that follows gardeners helping one another. So, it occasions no surprise to learn that Inspector Brown has inspired formation of horticultural societies, and that he has assisted greatly in the remarkable growth of the Saskatchewan Provincial Fruit Show.

His wisdom is apparent, as well as his usual good fortune, in his acquiring his wife in Saskatchewan. Mrs. Brown has been a wonderful partner in "The Prairie Gardener's" career,



**Plan Now to Exhibit and Attend**  
**Winnipeg's Sixth**  
**INTERNATIONAL**  
**FLOWER SHOW**

**AUGUST 15th and 16th, 1961**

IN THE BEAUTIFUL

**CIVIC AUDITORIUM**

SPONSORED BY

**The Winnipeg Horticultural Society**

and

**The Winnipeg Gladiolus Society**

FLOWERS, FRUIT, VEGETABLES  
 GLADIOLUS, AFRICAN VIOLETS  
 EDUCATIONAL EXHIBITS  
 COMMERCIAL EXHIBITS  
 FLOWER ARRANGEMENTS  
 COMPETITIONS

**Entries Accepted From Anywhere**

All exhibits must be forwarded (Prepaid) to arrive at the  
 Winnipeg Auditorium before Midnight, August 14th, 1961

FOR COMPLETE PRIZE LIST WRITE TO

**MR. W. J. TANNER**  
 Secretary W.H.S.  
 518 Henderson Hwy.  
 WINNIPEG 15

or

**MRS. S. CALHOUN**  
 Secretary W.G.S.  
 646 Henderson Hwy.  
 WINNIPEG 15

not only by bringing a virile strain of Viking blood into the clan but by her own gardening interests.

"The Prairie Gardener" and Mrs. Brown attended the fifth Winnipeg International Flower Show. This permitted Manitobans to express in a tangible manner their appreciation of the grand work he has performed for sixteen years by his Sunday morning broadcasts over CBW of the Canadian Broadcasting Corporation. So, on Wednesday evening, August 17, 1960, Dr. Brown was made to realize that he is richly appreciated in the Keystone Province, the gateway to the prairies.

Hon. George Hutton, Manitoba's Minister of Agriculture and Conservation, presented Dr. Art. Brown with the Order of the Buffalo Hunt, a top honor, in grateful recognition of his many fruitful years of noteworthy service through horticulture. President William H. Gray, head of the Winnipeg Horticultural Society, presented the guest of honor with an honorary life membership in the society and pointed out that Dr. Brown has been a potent and very effective help in the printing of the society annual, "The Prairie Garden". On behalf of the parent body, The Manitoba Horticultural Association, Mr. H. F. Harp, vice-president, handed The Prairie Gardener an ornamental scroll recording happy gratitude for his ever helpful and encouraging Prairie Gardener program. Mrs. Brown was asked to accept a beautiful bouquet of Manitoba flowers.

The Browns have been made aware that they and their works are deeply cherished on The Great Plains.



**LILIUM HENRYI**

Henry's Lily

The true Liliu Henryi blooms in August with yellow flowers, much used in crossing to give hardiness to new lily strains. The flower illustrated is a white Henryi seedling.



## BIG PLANS

ARE IN PROGRESS! DETAILED INFORMATION  
IS LIMITED NOW, **BUT** REST ASSURED

# Winnipeg's Tenth Annual RED RIVER EXHIBITION

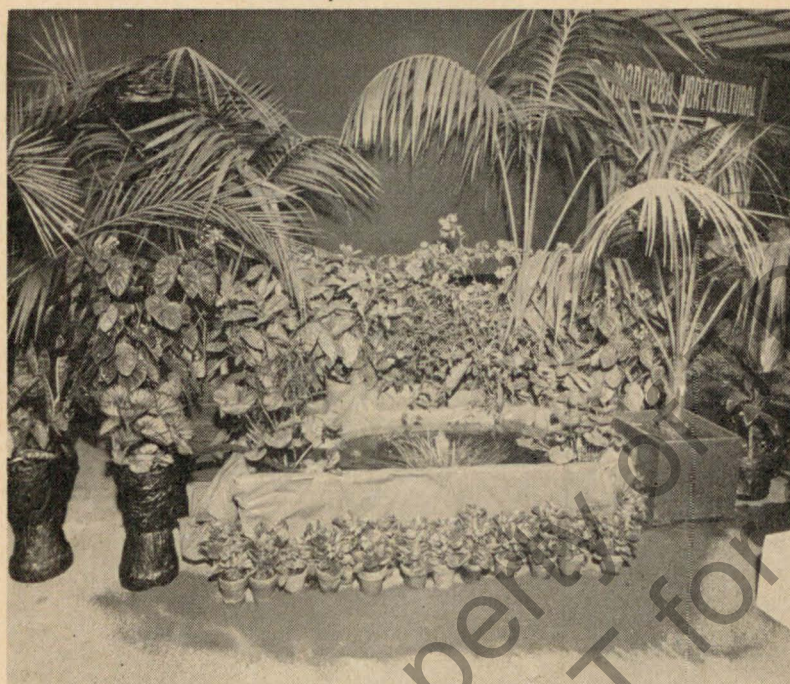
WINNIPEG ARENA and STADIUM GROUNDS

FRIDAY, JUNE 23, TO SATURDAY, JULY 1, 1961

Will Include **ATTRACTIVE HORTICULTURAL EXHIBITS**

Obtain Prize List From: Rm. 9, 1430 Wolever Avenue, Winnipeg 10.

Telephone: SP 2-9464



## 8 BIG DAYS

ENLARGED Handicraft and Photography Section  
4H Club Displays, Prize Cattle and Horse Shows  
Industrial and Machinery Exhibits

**Outstanding Grandstand Show**

# ROYAL AMERICAN SHOWS

WORLD'S LARGEST MIDWAY

## Dr. C. F. PATTERSON

*From The Prairie Gardener's CBC radio program of January 8, 1961*



I wish to honor, on your behalf, Dr. C. F. Patterson, Head of the Horticultural Department, University of Saskatchewan, at Saskatoon, until his recent retirement on December 31st, 1960.

Dr. Patterson came West nearly forty years ago to help organize and head up the new Department of Horticulture at the University of Saskatchewan, a post he has filled with distinction, over these many years.

Dr. Patterson was born on an Ontario farm, graduated from Watford High School, went on to obtain his Bachelor of Science degree in Agriculture at Ontario Agricultural College, from whence he took up studies at Urbana, Illinois, that earned him a doctor's de-

gree, specializing in the field of pomology.

In a pioneering department such as this, he had a triple responsibility as administrator, teacher, and research worker. He had to have special knowledge in all fields of horticulture and of related science, as well as being able to help the home gardener in basic, down-to-earth matters.

Doctor Patterson has met the challenge of his great responsibilities with a high degree of success.

In the field of plant breeding he has developed many apples, plums, pears, cherries and small fruits; in gladioli he has bred and named several fine varieties, including Doctor Walter C. Murray; in lilies he has created a sensation with the University of Saskatchewan series, including many extraordinary new pinks and yellows; in vegetables he created an improved Buttercup Squash, now known as Perfection, and succeeded in producing an early high quality Netted Gem potato, to be known as Saskatchewan Russet.

He made the growing of choice glads and how to exhibit them a major accomplishment, in which he and his wife displayed remarkable talent. They played an active role in establishing the Saskatoon Gladiolus Society and in setting up the standards of perfection by which glads and glad arrangements should be judged.



This brief outline of Doctor Patterson's achievements is necessarily very incomplete, and doesn't even hint at the role he played in helping to set up the Western Canadian Society for Horticulture, in making a real contribution to various activities sponsored by this society, and his untiring efforts to set prairie horticulture upon a sound basis.

Again, on your behalf, I wish to say how much we all appreciate Doctor Patterson's efforts. We trust he and his wife may continue to have that modicum of health which will permit them to enjoy the fruits of their labours. Thank you very much for a job well done.



PLUME POPPY

MACLEAYA or  
BOCCONIA CORDATA

Tall perennial, with ornamental foliage and graceful plumes of small creamy flowers. Suitable as background plant in large beds or borders. Most effective in front of evergreens. Requires shelter from wind and winter snow cover.



CELOSIA  
PYRAMIDALIS

PAMPAS FIRE

A colourful hardy annual, three to four feet in height. Shining red and yellow plumes of colour. Likes a sunny warm location.

## The Certificate of Merit — 1960

By D. R. ROBINSON, University of Saskatchewan, Saskatoon

The Certificate of Merit has been mentioned on more than one occasion in The Prairie Garden. It was instituted in 1957 by the Saskatchewan Horticultural Societies' Association, and is awarded only to amateur or non-professional horticulturists. Recently several candidates were nominated by the horticultural societies and two awards were made in August 1960. Those receiving the certificate on this occasion were Mrs. W. R. Garbutt of Belbeck and Mr. George Gatenby of Eston. A review of their activities in the field of horticulture is given below.

Mrs. Garbutt was born at Belbeck farm (near Moose Jaw) in 1917. At an early age she became interested in horticulture and Aberdeen Angus cattle. In both activities she was encouraged by her parents, Dr. W. J. F. and Mrs. Warren. Mrs. Garbutt writes as follows: "At the age of six I began entering in the children's farm garden competition, sponsored by the Moose Jaw Agricultural Society, and have shown flowers and vegetables at horticultural shows ever since." Mrs. Garbutt has been a life long member of the Moose Jaw Horticultural Society and has won numerous trophies and other prizes. She actively assisted her parents in beautifying their farm home grounds. Here one may see a wide variety of trees, fruits, shrubs and flowers growing under prairie conditions. These grounds are frequently made available for garden parties sponsored by the Red Cross and other organizations. Mrs. Garbutt has generously donated perennial plants and shrubs for the landscaping of hospital grounds, school grounds and other public buildings.

Some 25 years ago, a small nursery was established on the farm and special attention has been given to the propagation of hardy perennials. A recently constructed dugout provides water facilities and gladioli and strawberries are now grown with considerable success. A variety of herbaceous perennials are grown in the nursery and in the flower borders. Those given particular attention are: Pacific hybrid delphiniums, long-spurred columbine, peonies, hardy chrysanthemums, pyrethrum, dianthus, phlox and bellflowers. Mrs. Garbutt has originated a double rose colored pyrethrum. It is much sought after by those seeing it in bloom. More recently, she has taken a keen interest in the hardy lilies developed by Dr. C. F. Patterson. Several kinds of house plants may be seen in her home. African Violets are a specialty and these popular flowers are grown in considerable numbers. Mr. and Mrs. Garbutt's son, Warren, is a graduate in engineering from



the University of Saskatchewan. It is of interest to note that her father, now 87 years of age, still takes an active interest in all Mrs. Garbutt's gardening activities.

Mr. George Gatenby was born in Yorkshire, England, in 1874. As a young man he spent three years in Africa and New Zealand. He was married in 1902 and in 1911 Mr. and Mrs. Gatenby came to Canada. They farmed for several years in the Pheasant Forks district near Lemberg, Saskatchewan, finally moving to Eston in 1923 where they continued their farming operations. Mr. Gatenby was, for many years, keenly interested in various branches of gardening and was always willing to help his neighbors with their gardening problems. At Eston, he established a large orchard which contained many of the recommended varieties of fruit. This orchard included apples, crab apples, plums, cherries, currants, gooseberries and raspberries; even pears and apricots were tried out. Over the years, these trees produced tons of fruit. Mr. Gatenby developed one apple which has considerable merit. He was particularly interested in the propagation of fruits and has had rather marked success with budding and grafting. On more than one occasion he top-worked fruit trees for his neighbors in town. During the past ten years Mr. Gatenby devoted some time to the development of an early tomato suited to the Eston district. In this endeavor he met with considerable success and one of his tomato selections is grown quite extensively in the Eston district.

The Eston horticultural society was organized in 1957 and Mr. Gatenby served both as president and director of the society. Undoubtedly, his enthusiasm for horticulture has been of real value to the society and has encouraged many of his neighbors to take a greater interest in gardening. As a young man he was an active member of the Grain Growers' Association. He was deeply interested in church work and served as a lay preacher, first in England for the Wesleyan Methodist Church, and later in this country for the United Church of Canada. It is with sincere regret that we record the passing of Mr. George Gatenby on November 17, 1960.

CLEAN WATER THROUGH TRANSITE PIPE  
ASBESTOS ROOFING  
INSULATIONS  
INSULATING BOARD

**CANADIAN JOHNS-MANVILLE CO. LTD.**

156 McPhillips Street

Winnipeg 3

## Tuberous Begonias – Well Worth Growing

By HILDA CROOK, Mirror, Alberta

Do you want a real show in a shady place in your yard? Something spectacular, that everyone will notice. Flowers of immense size and color.

If so, have you tried the tuberous begonias?

For a massed effect in a border I like the camelia-flowered ones, with flowers often 6" across. The flowers last so long, the first ones coming out lasted a month, with others following until it was a picture of big blooms.

They need starting in the house to have them ready to bed out after danger of frost is over. The way I did mine was to start them in damp peat moss until the leaves started (just press the bulb in it to make roots). One must not cover them at first as they have a depression in the centre where the water would lie and rot the bulb. They are funny looking bulbs and surely look like they are planted upside down, for you put the humped side down.

While these were growing, I went to the woods and brought back some nice leaf mold which I mixed with equal parts of peat moss. Then I found a container that would hold four of these little plastic baskets that strawberries, etc., come in. I fitted these in and filled them with my material. As soon as the leaves showed nicely, I transplanted the bulbs and kept them well watered.

They grew beautifully until it was time to plant them out. All I had to do then was lift the baskets out and cut them away with a pair of scissors or plant the basket; either way it does not disturb the roots so they never knew they were transplanted and went right on growing and flowering right through the summer till frost. Peat moss is a great favorite with me because the soil here is quite sandy and needs something to hold the moisture. I put plenty of peat moss, leaf mold and good manure in the border before I planted my begonias.

The best time to start them for outside growing is late March or early April. Try some this year in a shady spot and see if you are not thrilled with the blooms.









VIEW IN ASSINIBOINE PARK

### OPERATED FOR YOUR HEALTH AND ENJOYMENT

- Kildonan and Windsor Park Municipal Golf Courses.
- Sargent and Pritchard Open Air Swimming Pools.
- Sherbrook Indoor Swimming Pool.
- 54 Supervised Summer Playgrounds with 35 Wading Pools.
- Supervised skating rinks with over a million square feet of ice surface, plus 43 regulation hockey pens, in various parts of the City.

### AND—1227 acres of Park and Recreation lands, which include:

- 1 Indoor Summer Theatre (3,000 seats)
- 26 Football Fields
- 2 Cricket Pitches
- 24 Shale Tennis Courts
- 3 Bowling Greens (26 rinks)
- 32 Baseball Diamonds
- 1 Quarter Mile Running Track
- 1 Ice Speed-Skating Track

AND The Assiniboine Park Zoo.

by

**THE WINNIPEG BOARD  
OF PARKS AND RECREATION**

## The Magic of the Cups

By MARGARET MILES HANLON, Westlock, Alberta

"It was only a cup of water  
That the woman gave at the well,  
But it quenched the thirst of the Master  
So the Sacred Writings tell.

Not so much the thing that is given  
That answers the heart's demand.  
It's the spirit in which it is offered  
That blesses the giver's hand.

We grieve at a friend's indifference,  
When suddenly we find  
We are crushed by an act of kindness  
In a world we had thought unkind.

We buy and sell and barter  
Where the bargains of trade are sought  
And mayhap with a cup of coffee  
Is a lasting friendship bought."

from Pipe Dreams, Copyright 1952, by the Author, Delbert Davis, Dedicated to Dick Fogarty, Guthrie, Okla., Published by Calkins Printing, Guthrie, Okla.

The summer of 1960, just for fun, I kept track of how many boxes of plants, etc., we shared with our neighbors and friends far and near. To look at our garden, you would see no holes, no dents, no bare spots, but we gave away about fifty boxes, large and small!

The first arithmetic lesson you learn when you become a garden fan is that plants you divide multiply themselves: what you subtract from your garden, adds to your friend's! In other words, the more you give away, the more you have for yourself (regardless of whether anyone gives **you** any or not!) Divided, perennials grow and flourish; undivided, they kill themselves out eventually. Give for the joy of giving and not with the expectation of receiving gifts in return.

When we returned to farming in the mid-fifties, we chose a quarter with the house set in the midst of spacious lawns bounded by hedges and wide flower beds landscaped with shrubs from Lilacs and Honeysuckles down to Spireas, interspersed with Lilies, Peonies, Roses and other perennials. Amid them, Dahlias, Glads, annuals; (but these latter I find easier to care for in rows at the road-end of the vegetable garden





## For Gardens Beautiful Protect with Niagara

To prevent or check insect or fungus disease damage in your garden, or to control weeds such as dandelions and chickweed in your lawn, there's a specific material for the specific job in the NIAGARA line. All are professional materials for the home gardener.

For instance, for those wanting one material for several jobs there's Pomogreen, Canada's No. 1 rose spray. This is a combination insecticide and fungicide, which can be used as a dust or spray. Then there's Gardenall for general bug and blight prevention or control. For a material to kill all types of insects on most plants, there's Niagara Multispray, which contains such leading insecticides as Lindane, Malathion and D.D.T.

For the extermination of dandelions and other broad-leaved weeds in lawns, Niagara 2,4-D is available in liquid and granular forms. Special formulations are available to kill brush and poison ivy, quack grass, chickweed, and clover in lawns.

See your garden centre, hardware, feed and store or department store for the Niagara line of garden protectants. There also you can get your free copy of the Niagara Dust and Spray Guide and the Niagara Weed Control Guide.

**Niagara**

**NIAGARA BRAND CHEMICALS**  
BURLINGTON, ONT. REGINA, SASK.

where they make a better "show", are easier to weed, and easier to get ready for winter in the fall-rush.) Half a dozen effective Rockeries, Specimen trees, Fruit trees, Vines complete the picture. Bloom from the first Violets of April to the last Daisies of fall and, at times when bloom is sparse, the variety of leaves and plant shapes still make the garden interesting. Sometimes I feel I enjoy it most in winter when the plants expose their naked forms in pristine beauty in the snow and I have no weeds at all!

The cheapest way to secure new and different plants (besides trading with your neighbors, that is!) is to read the letters in the farm papers and then write to the folks who offer exchange plants. I wrote in myself, telling what I had in surplus and what I'd like in exchange for variety in my garden.

My garden is a collection of plants arranged as attractively as I can manage and re-arranged as they multiply or after they bloom and I find they are too tall or too short, too bushy or too skinny for that particular place in the border. I don't have any special color scheme or any unified plan. Like Topsy, my garden just grewed! I do try to have the Thyme and Mint and "sich" near the kitchen door for obvious reasons; other plants where they "look nice"! I am so proud of my "pen-pal plants" from here and there.

I have received plants from as far as N.B. which have made themselves at home here in Alberta and have sent plants there successfully for several years. Just a little advice for the novice:

Never ship plants when the weather is freezing cold.

Always select sturdy, healthy plants. Under no circumstances should you propagate diseased plants — no matter how rare they are or how precious to you. It's not worth it!

Select firm, corrugated cardboard boxes for your shipping container — as light in weight as possible but firm enough to stand the pressure of many boxes and many mail bags. Most cereal boxes, shoe boxes, etc., arrive flattened or broken and the plants disappointingly bruised and battered and sometimes some missing.

Prune your plants almost ready for planting before you ship them. I say "almost" judiciously. A few leaves and broken roots generally need to be trimmed upon arrival. Top and root must balance for best results. A sturdy root and one stem with several sturdy buds is often a better shrub in the end than a bushy plant with too little of the original root system saved.

I find a **damp** layer of sphagnum moss from the nearby muskeg wrapped closely about the roots, held in place with



a damp old rag "bandaged" to exclude as much air as possible and finished off with a tight plastic or foil wrap the best shipping material. Enclose the whole plant in a second plastic bag of appropriate size to hold it without crushing or rattling around. Seal it with a string or wire grocer's tie with some air in it to cushion the plant in transit.

Line your shipping container with plastic or firm, heavy waxed paper. Crush some damp (but NOT wet) newspapers and place a layer in the bottom and between the plants and on top as needed to prevent the plants moving around in the box. Remember, a gallon of water weighs ten pounds and water is present when your package is weighed. All you need is a **little** moisture to counteract the dry air and to slow down evaporation from the plants.

Put a card **inside** the package with the names of the sender and of the receiver just in case the wrapping should get torn. Remember, it could be **your** package in the mail bag in that accident.

Now, give for the sake of giving! Live for the sake of living! And may **your** garden — small or large — a windowbox or an acre — be the joy and pride of **your** life.

## Planet Jr.

THE QUALITY LINE OF GARDEN MACHINERY

GARDEN TRACTORS

SEEDERS

SPREADERS

PLANETILLERS

ROTARY HOES

WHEEL HOES

CULTIVATORS, ETC.

# C.C. KING & COMPANY LIMITED

1485 ERIN ST.



WINNIPEG 3, MAN.

## Dutch Elm Disease

By R. H. PATMORE

Patmore Nurseries Ltd., Brandon, Manitoba

Dutch elm disease has been the subject of a number of rather alarming newspaper and magazine articles in recent years. Most of these seem to imply that this disease is uncontrollable and means the disappearance of the American Elm. The writers of these articles are residents of Eastern Canada and the middle States, however, and while they might have some reason for pessimism in their areas, their doleful forecasts do not necessarily apply to the Canadian prairies, or even the northern States.

At present, the disease is known to exist throughout Southern Ontario, Quebec and the Maritime Provinces, in Canada, and in Illinois, Iowa, and the southern tip of Wisconsin, in the midwest. This disease, unlike many diseases that have devastated certain species of trees, the Chestnut blight, for example, does not spread on the wind. It is not even carried by birds. So far as is known the only means by which it spreads (vector as the plant pathologists call it) is the elm bark beetle. There are two species of these, the native elm bark beetle and the European elm bark beetle which was introduced into the Eastern States on elm logs imported from Europe. The native beetle, while it can act as a vector, is not the important one. The European bark beetle is by far the most aggressive factor in spreading the disease.

The European bark beetle has spread to Illinois and surrounding states, and I believe has been found in southern Minnesota. The beetle does not necessarily spread the disease. It can only do so if it comes into contact with the live Elm disease bacteria, which it carries to healthy trees. This is part of its life cycle. The adult beetle burrows **under** the bark in the cambium layer of sickly or dying elm where it deposits its eggs. The young beetles develop, and come into contact with the disease bacteria, which have been produced in the cambium layer of the tree, if the tree has been previously infected with the disease. As they mature, the beetles emerge, and fly to nearby healthy elm trees, chewing through young bark on the upper portions of the tree and infecting the cambium layer of the healthy tree. This is where the European beetle differs from the native. The native beetle does not attack the young bark in the upper portions of the tree, and is less effective in infecting the healthy tree. The fact that the beetle requires



dying trees for breeding purposes, has made effective control possible in the northern States.

Phloem necrosis is a virus disease of elm long established in areas south of the northern Iowa state boundary, and in Illinois, but climate seems to prevent this disease moving north of that line. Where Phloem necrosis exists control of Dutch Elm disease has been difficult and expensive, and even ineffective. Trees weakened or killed by Phloem necrosis have provided ideal breeding material for the bark beetles, and they have bred at such a rate in these areas, that where the Dutch Elm disease has become established, it has often got out of control.

However, north of Iowa, where Phloem necrosis cannot develop, control of the Dutch Elm disease has proved quite feasible. Sanitation, that is the removal and burning of all weak, dying and dead elm wood before beetles have an opportunity of breeding has reduced losses to under one per cent. Since such dead or dying elm wood would have to be removed eventually in any event, such clearing up is not an extra expense. It merely anticipates a job that would eventually be done.

Control by sanitation has proved so effective in southern Wisconsin, that spread of the disease has been almost completely checked. The disease is known to exist in only fifteen counties (end of 1959) in the extreme southeastern corner of Wisconsin, some 1,000 miles away from the Canadian border.

Some factors appear to justify the hope that the disease is not a threat to the Canadian Prairies. One is the fact that the elm bark beetle, which is the only means of spreading the disease, has not been found on the prairies. Some of the native species were discovered at St. Adolphe on the Red River, in 1957. Whether these have actually survived in the area, or whether they were brought down on debris from the head waters of the river is not known. Climate may be a factor limiting the activity of the beetle, especially of the European species, which is the most active vector of the disease. It should be kept in mind that the presence of the beetle does not mean that the disease is present. That can only happen if diseased trees exist for the beetle to breed in. The European elm bark beetle is not known to exist at present beyond the southern part of Minnesota.

Another factor is the limited mobility of the beetle. It can only spread if elm plantings are relatively close together. The beetle has been known to fly for a distance of 2 miles. It might even be able to move over a somewhat greater distance. However, the large distances between elm plantings on the Cana-

dian prairies favor control of the beetle even if climate were not a factor. Elm plantings well away from continuous elm growth along river valleys are unlikely to be infested by the beetle, unless dead elmwood carrying the beetles is taken into these areas. At the present time, diseased elm could be carried into the middle of such prairie elm plantings without spreading the disease, unless such diseased elm wood carried the elm bark beetle with it.

In the spread of the disease in the east, the greatest factor has been the movement of diseased elm logs carrying the beetle, into wood working plants using elm logs. In fact, the disease was brought to this continent from Europe by this means. Strict control of the movement of such logs should help considerably in checking the spread.

Even in areas where the disease is established, the elm is still being planted. It is the leading boulevard tree in such cities as Chicago, and is still planted in the Eastern cities. Dutch elm disease was first discovered in Holland just after the First World War, and was believed to have been introduced from Asia, by Chinese labor battalions, bringing diseased logs from Asia. Even here, where elm plantings were devastated by the disease, elm are now being extensively planted in parks, and along streets and canals, according to a report in the December issue of the American Nurseryman. Strict sanitation practices are carried on to prevent spread of the disease, and work is being done to develop disease resistant strains.

The American Elm is possibly the most beautiful tree we have. It has been prized as a street tree all over this continent, where it is adapted, and even in the Eastern States, where so many other tree species are available, it is the leading boulevard tree, and is still being planted. All eastern nurseries still grow and sell the American elm, especially grafted selections of it. Articles dealing with the elm and the disease have been unduly sensational and pessimistic and there is every reason to believe that it will continue to be our leading ornamental tree. Progress of the disease towards this area is slow and it must pass through an area over a thousand miles in length, throughout which authorities are actively concerned and keeping a close watch to prevent the disease becoming established. There is reason to believe it may never reach the prairies, even if climate does not prove to be a controlling factor. Even if it should, conditions here are so favorable to its control that there seems little reason to believe the elm will not continue to be the leading ornamental tree of the prairies.

As mentioned above, nurserymen in areas affected by Dutch elm disease have not discontinued growing elm. They



are still propagating them, and finding a ready sale for them. In fact, demand for boulevard elm has exceeded the supply in those areas. In areas where it will grow, a selection of the European Elm, the Christine Buisman Elm, is being widely grafted. It is resistant to the disease. Other outstanding American selections, such as the Augustine Ascending Elm, and a fastigate form resembling the Lombardy poplar in appearance, are being grafted by nurseries in the Chicago and surrounding areas. Beaverlodge Elm, a selection from the Peace River country, is being grafted by an Ontario nursery, as well as by prairie nurserymen. Such investment in the American elm suggests widespread confidence that its position as our leading tree is not threatened.

## For the Best and Latest in . . .

### Vegetables and Flower Seeds

Gladioli, Dahlias, Lilies, Begonias, Gloxinias  
and Other Bulbs

### Trees, Shrubs and Plants of All Kinds

Grafted Blue Spruce, Scotch Pine, Pyramidal Cedar  
and Other Evergreens. Grafted selected Elms, etc.

Plant Prairie-Grown Acclimatized Stock

Write to:

## PATMORE NURSERIES LTD.

BRANDON

MANITOBA

Free Spring Catalogue Issued in January  
TULIPS, HYACINTHS, DAFFODILS, etc.  
Listed in Fall Catalogue Issued in August.

## CROPP'S RELIABLE SEEDS

FLOWER AND VEGETABLE SEEDS

Lawn Grass Seed and Fertilizers

Special Mixed Bird Seed

PHONE WH 3-7717

221 MARKET AVE., WINNIPEG 2

## Onions for the Home Garden

By H. T. ALLEN,

Horticulturist, Canada Department of Agriculture,  
Lacombe, Alberta.

The majority of gardeners are continually searching for new varieties and growing methods to improve the quality of the product they produce. In this respect, the onion possibly more than any other garden crop, has been neglected as new varieties and methods of production have been slow in becoming established as regular tools of the home gardener. Fortunately, this has not been the case with the commercial grower.

Early tests in the Lacombe area showed that the most reliable methods for producing onions were either through the use of sets, or indoor seeding of one of the common varieties at least six weeks before field planting. For years, sets have been the main source of supply for the home garden mainly for the very early greens that they produce, and although good sized bulbs can often be obtained for storage purposes this factor is rarely considered. The transplants that have been made available in recent years are usually of Spanish types and are much too late for a mature crop in most areas. They do, however, produce excellent bulbs for fall use but the thick-necked characteristic renders them unsuitable for prolonged storage. Prior to the introduction of the hybrid onion, crops from field-sown seed varied considerably with the variety and seasonal conditions, and a mature crop was a rarity. More reliable results were obtained with most of the common varieties when they were treated as a transplant crop.

The greatest improvement in onion production came with the introduction of the hybrid onion and particularly the variety Autumn Spice. From the first year of testing in 1954 the superiority of this variety over existing varieties was apparent. It was earlier, more uniform in type and possessed excellent storing qualities. Even crops from field-sown seed were early enough to mature in sufficient time to permit adequate curing for storage purposes. The use of this variety together with indoor seeding during the latter part of March has produced crops that have yielded at the rate of twelve tons to the acre that have begun to mature during the first week in August and that have kept for over six months in storage. And further improvements can be expected, for after one season's observations two other new varieties, Aristocrat and Early Harvest, were on a par with Autumn Spice.

Starting onions indoors may seem to be a laborious method



but handling the onion in this manner is easier than for any other transplanted vegetable or even flower. Seed should be sown in a flat or other suitable container in the soil mixture usually used for starting plants indoors. The seed should be sown thinly and no thinning or transplanting will be required other than planting directly into the garden when conditions permit. If the tops become too large and tend to droop over, they can be clipped back to within four inches of the base of the plant without injury. Although regular watering is advocated, the onion will tolerate a certain amount of neglect. Being a plant that tolerates cool temperatures they can be placed in a location for hardening-off sooner than can most crops. The date to seed indoors will vary with location and experience, but for a start March 20th to 24th is recommended.

## FERTILIZERS

Northwest and Sherritt Brands

CONSULT YOUR NEAREST U.G.G. ELEVATOR AGENT

**UNITED GRAIN GROWERS LTD.**

Winnipeg - Saskatoon - Regina - Edmonton - Calgary

## GLENORCHIE NURSERY

FRUIT TREES - FLOWERING SHRUBS - PERENNIALS

COMPLETE LANDSCAPING REQUIREMENTS

Member Manitoba Nurserymen's Association  
Box 23 Group 2 — R.R. 1 Winnipeg

RED RIVER BLVD.,  
OLD KILDONAN

Telephone  
EDison 4-1223

## My Garden Companions Are My Timing Guides

By MARY McLAUGHLIN, Milestone, Sask.

My garden is my sanctuary where I find peace and contentment, receive for free both in body, mind and spirit, values in abundance untold.

My garden is also a place to experiment, to enjoy and a thing to share.

I have three "Don't" rules that I insist on being carried out: I Don't do any fussing — Don't allow any cussing — and Don't take any bossing.

I keep a bird calendar as well as a garden one. While the seasons vary from year to year, I find the timing of the bird arrivals are seldom wrong. Since I love both birds and flowers gardening gives me a wonderful opportunity to join in the harmony and study nature at work.

Someone said: "Plant flowers for your heart." Even if your heart isn't so good plant flowers anyway and it will feel better for it. So I seed pansies on Feb. 14, Valentine's Day. And from March 25-20, Asters, Carnations, Castor-oil Plant, Celosia, Dahlias (annual), Gloriosa Daisy, Gaillardias, Hollyhock, Lobelia, Petunias, Pinks, Salvia and Sweet William.

April 1-10 — When the crows and cranes arrive I plant Calliopsis, Chrysanthemums (annual), Morning Glory, Phlox Drummondii, Satin Flower, Portulaca and Stocks.

April 10-15 — When the meadow larks greet me with their heart-lifting song I plant African Daisy, Alyssum, Butterfly flower, Love-in-a-Mist, Marigolds African and French, Nicotiana and Swan River Daisy. During the same time when my friend "Flicka", the woodpecker, is sounding off the old dead tree stump — where the year before a family of little Flickers were housed — I know it's time to start my outdoor planting. At this time, I plant Bachelor's-buttons, Candytuft and Sweet Peas.

May 10-15 — It's the week of the Red-Winged Blackbird Symphony. There must be hundreds of them that gather in a favorite maple tree just to the back of the house. They seem to have a leader, then all join in. Oh, what a melody! How often



**HARDY NURSERY STOCK**

grown in  
NORTHWESTERN SASKATCHEWAN

Catalogue sent on request.

**MOUNTAIN'S NURSERY**

LLOYDMINSTER, SASK.

## The Dutch Growers Garden Centre

Saskatchewan Hardy Nursery Stock Grown in Our Own Nursery

**ORNAMENTAL TREES — FRUITS — EVERGREENS  
SHRUBS — ROSES — HEDGES — HARDY PERENNIALS**

**POTTED PLANTS FOR GREATER SATISFACTION  
Grass-Seeds — Peatmoss — Insecticides — Garden Tools**

**BULBS**

Write for **FREE** Illustrated Catalogue or Phone us  
**FREE ESTIMATES** for **LANDSCAPING**

Phone: CH 2-8112

Saskatoon, Sask.

**PRAIRIE GROWN LILIES, ROSES**

and other hardy Nursery Stock.

We propagate only varieties that stand up under our severe conditions.  
Our general price list is ready for mailing in late February,  
the Lily list in August.

**HONEYWOOD NURSERY**

PARKSIDE

A. J. PORTER

SASK.

I wish that I could have it recorded and play it when the thermometer dips down to 25-30 below.

During Symphony Week I seed the last of the annuals — Bells of Ireland, Calendula, Clarkia, Cosmos, Larkspur, Lave-tera, Lupins, Mignonette, Nasturtiums, Night scented Stocks, California Poppies, Salpiglossis, Strawflowers, Sunflower, Sweet Sultan and Zinnias. When the Zinnias and Nasturtiums are up and there is risk of frost, I take the hoe and cover them up with soil in the evening and repeat the next evening. In the morning, I just gently push the soil off the plants with my fingers, and they are not harmed in any way.

June 1-5 — "Brownie" the Mocking Bird has arrived and is standing in the highest poplar tree telling all the world that he is happy to be back. Time to set out the bedding plants that are most hardy — African Daisy, Asters, Carnations, pinks, Gaillardias, Snapdragons, Phlox, Stocks, Sweet William and the Verbenas.

June 10-15 — "Peter" the Oriole arrives and declares that "Peter Peter Will do" but the only thing he seems to want to do is sing and look for grubs but that is good enough for me.

That means time to finish setting out all the rest of the bedding plants and hope for the best. I like to set the plants out late in the day and sometimes I work as long as I can see if I can get away with it. The Moose Jaw creek runs right by the garden. I usually go down and wash my hands before leaving the garden. One time I ended up by getting my face showered as well. "The Boss", that is the beaver, showed his disapproval of my working overtime by suddenly slapping the water with his tail with a great splash that sent moonlit ripples far and wide. It was a rather shocking experience but amusing too.

July 15-20 — The Humming birds arrived — two ruby-throated gentlemen and their iridescent green gowned ladies. I'm glad the window boxes and beds are well filled with their favorite blossoms. They practically disappear in the petunias. There's lobelia, delphinium, soapwort Verbenas and who can resist Scabiosa? We usually enjoy watching them go after the nectar. It makes planting flowers worthwhile.

**1961 ALBERTA HORTICULTURAL SHOW**

August 24th — Lacombe, Alberta

Sponsored by

The Lacombe and District Garden Club



## *A Valuable Contribution*

We are happy to join with others in congratulating the Winnipeg Horticultural Society upon the contribution it is making toward the advancement of good gardening in Western Canada through its publication "The Prairie Garden".

## **Searle Grain Company, Limited**

**WINNIPEG**

Country and Terminal Elevators

FLOUR

FEED

COAL

SEED

**A TASTY SNACK - ANYTIME**



**PEERLESS CREAM SODAS**

## Winter Injury in Raspberries

By A. J. PORTER, Honeywood Nursery, Parkside, Sask.

The raspberry is the most widely grown small fruit in the Prairie Region. It will give some returns in most seasons and in favorable years yields abundantly. Occasionally, though, winter damage is excessive and little or no fruit is produced the following summer.

Here at Parkside we have tested many varieties over the past twenty-five years. Few of these have sufficient hardiness to winter consistently without protection. Most wintered well and yielded heavily where the canes received sufficient protection, either by bending down so the snow could cover them, or burying completely with soil. The latter method must be used where the snow fall is light or where it is removed by Chinooks during the winter. In the more northerly and easterly parts, however, the snow cover gives sufficient protection.

Assuming that we start with the hardiest raspberry available, so as to avoid the labor of putting the canes down for winter, there are still several types of damage that can occur in test winters:

1. Simple drying out of the canes. This is most in evidence after a dry fall where the soil goes into winter in a very dry condition. Smooth-caned sorts seem to suffer worse than the rough ones. The obvious preventive measure is to water the planting thoroughly just before freeze-up. The soil should be moistened to the depth of a foot, at least. A surface wetting is of no value.

2. Immaturity of the canes. A wet fall is the cause of this; also over fertilization; cultivating or irrigating through the late summer, thus encouraging continuous growth rather than ripening of the canes; planting in a poorly drained location; or, in short season districts, having a variety that naturally needs a longer season to mature its wood. The remedies are obvious. In the case of a wet fall, all that can be done is to put the canes down for protection, even if this was not the original intention.

3. Sunscald. This occurs just above the snow line on warm March days followed by sudden drops to zero temperatures at night. The cane is killed at the snowline, though the upper part is uninjured. It will leaf out normally in the spring but die later because of lack of nourishment through the injured part of the cane. Not much can be done to help in an established plan-



tation, unless it is small enough to provide shade for the plants under such conditions. In setting out a new planting, choose a northern exposure, plant a hedge or windbreak to the south to break the glare, and run the rows north and south rather than east and west.

4. Bud-kill. Some springs the canes will appear to be green and healthy, but the buds are injured or dead, perhaps only those on the south side of the cane, perhaps all of them. This is caused usually by a fairly long period of warm weather in late winter or early spring starts growth in the buds, even though the swelling might not be noticeable. Later freezing kills these buds. Prevention is along the same lines as recommended for number three but this is not likely to be effective in the Chinook areas. Here the grower should resign himself to complete covering of the canes in the fall until varieties are developed that will remain dormant under such conditions. There may be some possibilities in the new dormant sprays but so far I have not heard of any such being used on raspberries.

There is considerable variation in the reaction of different varieties to these different forms of winter injury. Also conditions vary widely, not only from one winter to another, but from one area to another, thus no blanket variety recommendations can be made. Sorts that are successful in southern Manitoba are of little value here in northern Saskatchewan. Those that do well here may not succeed in southern Alberta. Get advice from someone in your own area who is growing raspberries successfully, or ask your local nurseryman or nearest experimental farm. Join your local Horticultural Society. Much can be learned by meeting and talking with other gardeners and you may have knowledge that will be helpful to them.

### CAREERS IN HORTICULTURE

A wide choice of interesting careers awaits the scientifically trained horticulturist. In fact, no branch of the whole agricultural industry offers greater opportunities to the University-trained man or woman than horticulture. Canada needs more and more graduates in order that "science shall be put to work" in the interests of a sound and progressive prairie horticulture.

## LINE ELEVATORS FARM SERVICE

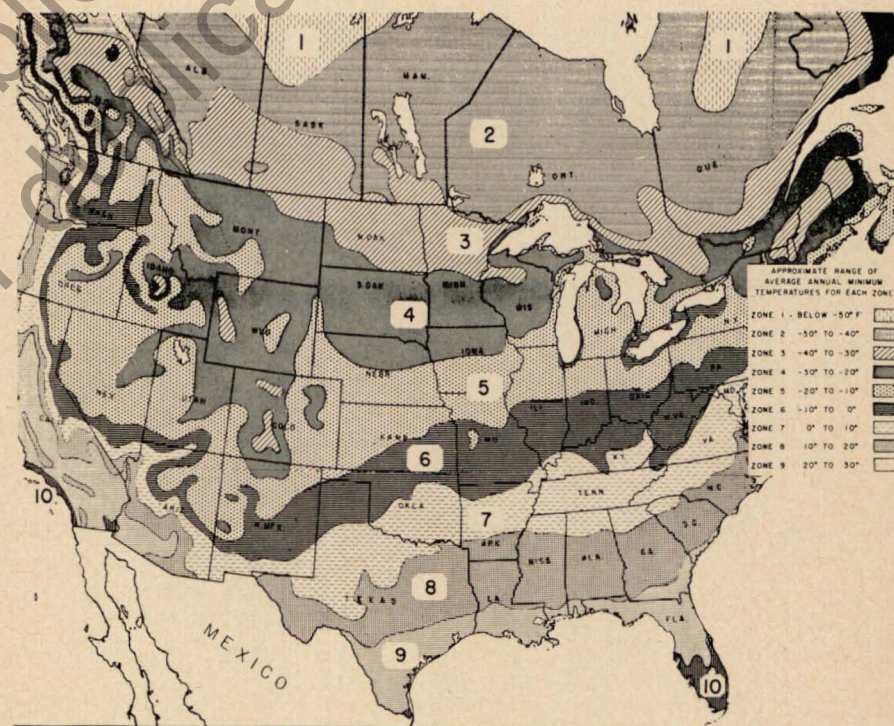
WINNIPEG, MANITOBA

**MEMBER COMPANIES:** Federal - Pioneer - Alberta Pacific - Canadian Consolidated - Paterson - McCabe - Parrish & Heimbecker - Inter-Ocean - Ellison Milling - Quaker Oats

## The Hardiness of Lilies

By JAN DE GRAAF, HAROLD F. COMBER and EARL HORNBACK, Oregon Bulb Farms, Gresham, Oregon.

The publication of the new Plant Hardiness Zone Map by the Agricultural Research Service of the United States Department of Agriculture (Miscellaneous Publications No. 814), illustrated on this page, has afforded an immediate incentive to publish these few notes regarding the hardiness of lilies. While originally written to be used in answering mail inquiries from customers, it is our thought that the subject is of sufficient interest to all lily growers, amateur and professional, to warrant a wider distribution.



The Zones of Plant Hardiness. An adapted version for small scale reproduction.

Soon after the initiation of our large-scale breeding production in Oregon, we found that reputed half-hardy species, such as *L. leucanthum* var. *centifolium* and *L. nepalense* could live through zero weather. This made us doubt some of the



statements in the lily literature as to the hardiness of several other species. It became obvious to us that so many factors influenced the growth of lilies that a broad categorical and definitive hardiness classification was impossible. All we could do was to explore the problem, define some of the terms and conditions involved and record our own experience. We should like to open up the entire question of hardiness for further comment by growers from other areas.

While the new Hardiness Map shows minimum temperature zones for the North American Continent, it does not give the dates of latest and earliest frost occurrence, nor does it show data on the penetration of frost at various depths. It would be interesting to have this information and correlate it with reports of lily hardiness or winter damage. The fact that certain Aurelian Hybrids and some trumpet lilies, such as our Sentinel Strain, have successfully been grown in Winnipeg (Zone 3a), and have lived through severe winters, indicates that either such lilies are hardier or that ground temperatures at bulb level are higher than we have been led to believe. The excellent article by Dr. F. Stoker, in the Royal Horticultural Society Lily Yearbook, 1934 edition, provides the best discussion of the subject we have found. It does not cover, however, hardiness in other regions than those of the natural habitat of the species.

We believe that hardiness of lilies should be judged on the basis of several years' successful growth of well-established bulbs. The next point to consider, then, is just what is a well-established lily bulb.

It is in the nature of the lily's life cycle that maximum bulb growth, in most cases, is made after the plant has flowered. The only exception to this rule is in *L. candidum* and possibly in some of its hybrids. Since, unfortunately, the public and the trade have become accustomed to buying lilies by size, under the often erroneous impression that the bigger they are the better they must be, commercial growers must wait until the bulbs have made their full growth before digging and shipping. At the same time it is a fact that bulb quality depends a great deal on maturity. This, in turn, is decided by climatic and soil conditions. We have found that while premature digging and transplanting of lilies, soon after flowering, with the foliage intact and with adequate water, is possible, it is always at the cost of the bulb and its quality in the following year. Since, in any commercial production plan, we must expect that transplanting will be interrupted by a period of storage or a delay en route from the nursery to the ultimate "consumer" — the gardener — it is obvious that we must wait until the bulb has attained the season's

maximum growth and is as plump as possible before it is harvested, graded, packed and shipped. Admittedly, it is difficult to harvest lilies and also to make it possible for the gardener to plant at the ideal time.

The American native lilies and their hybrids, such as those belonging to the Bellingham Strains, benefit from early transplanting. In fact, they must be fall-planted, if they are to flower properly. Others that benefit from as short a storage period as possible are *L. martagon* and its hybrids, the Paisley and Backhouse Strains. There may well be other species that benefit from early harvesting and early planting. No lily improves during storage nor from a long waiting period between harvest and subsequent planting — a fact that has helped domestic lily production in competition with foreign sources of supply.

In lilies we can point to three different conditions of "establishment" — the early fall-planted bulb that will be well-rooted before winter sets in; the late fall-planted bulb that has had little chance of becoming well-rooted; and the spring-planted bulb which will be well-rooted and settled in by the time winter comes. In this connection, it may be of interest to know that we find that bulbs stored at about 35 degrees Fahrenheit make rapid and vigorous growth when planted in April. They often surpass the late autumn-planted stocks. Such bulbs, taken from cool storage, do not, however, make the same, good bulb growth as the fall-planted bulbs do.

Maturity of the bulb when planted and its full-grown, plump, well-filled condition are definite factors that determine the survival potential of lilies. When planted in Fairbanks, Alaska, for instance, *L. henryi* bulbs will survive the first winter and flower well during the next summer. The short summer season there, however, does not give them sufficient time to build up strength again and they fail to survive another winter. In regions where the growing season is only a little longer, *L. henryi* is perfectly hardy and will live for many years.

Hardiness such as we are discussing, covers not only winter hardiness — the ability of the bulbs to survive when dormant — but also what I might call spring hardiness — the ability of its foliage to survive during late frosts. Some Asiatic species, grown in Oregon, have a natural tendency to emerge late enough to escape damage from late spring frosts. Others emerge so late that they fail to make adequately mature and plump bulbs before the cold, wet weather of autumn sets in. *L. nepalense* and *L. papilliferum* are examples of this type of species. Both need more warmth, for a longer period of time, than our climate affords.



## WALLACE NURSERIES

LIMITED

ISLAND PARK,  
PORTAGE LA PRAIRIE, MAN.

Hardy Manitoba Grown Fruit Trees, Small Fruits, Ornamental  
and Shade Trees, Windbreaks, Conifers, Flowering Shrubs,  
Roses, Hedges and Perennials

SEND FOR FREE ILLUSTRATED CATALOGUE

**VISITORS ALWAYS WELCOME**

"Adjoins Beautiful Island Park"

Telephone 7-5551

## REG. POOLE & SON NURSERY

BRANDON, MAN.

GENERAL NURSERY STOCK

Large Selection Herbaceous Perennials.

Specializing in Delphiniums and Hardy Chrysanthemums.

LOCATED QUEENS AVE., WEST OF 18th ST.

P.O. BOX 33

PHONE Parkway 6-2983

## PORTAGE PLAINS NURSERY

A. H. YOUNG, Proprietor

SPECIALIZING IN HARDY PERENNIALS  
BEDDING PLANTS — PUSSY WILLOWS

EVERGREENS, BIRCH, ROSES, FERNS, HEDGING, SHADE TREES  
FRUIT TREES

P.O. Box 1096 - Portage la Prairie, Man.

Phone 7-3312

## MESTERY'S RADIO & ELECTRONIC SERVICE

Phone SP 2-1766

188 Sherbrook St.

Winnipeg 1, Man.

The total length of the growing season, from the date that the soil and the surface temperatures have reached a level that will permit the lily to make above-ground growth to the date that the first fall frosts will cut the foliage down, is one important factor in the production of sound, well-filled, substantial bulbs. Another even more important factor is the length of the period between flowering and the first killing fall frost. It is then that the lily bulb makes its growth.

Where spring planting is done and the bulbs are harvested again in the fall of the same year, the bulb may well have attained a size sufficient for marketing purposes. Under such conditions, it can hardly be expected to be solidly built up and to have stored sufficient reserves to live through a severe winter to give a good performance the next summer. We, therefore, find the leading lily nurseries established in regions where mild winters, long, cool and moist summers prevail and where the fall frosts come very late. Bulbs grown in regions with shorter growing season often fail to flower well or fail to survive, not because of a lack of hardiness, but because of a lack of sufficient vigor. Each report of lack of hardiness of any lily, be this a species or a hybrid, should be carefully scrutinized before any general conclusions are drawn. A plant that has had an opportunity to harden gradually will be able to stand more cold than one that has grown rapidly during a warm spell and then is subject to freezing weather. In this respect, local experience is of the utmost value. The micro-climate of one's own garden is, in the last analysis, the determining factor that spells success or failure.

Bulbs in storage, or those carried over in pots and stored uncovered above ground, will freeze at a temperature of 22 degrees to 25 degrees Fahrenheit. This applies especially to purple bulbs. The others are hardier and there probably is a great variation between species, and even between individuals, within the species. If the pots are plunged in and covered by four inches of semi-dry peat, no obvious damage occurs during short periods of zero frosts. Frost damage shows up in the center (growing point) of the lily. A darkening of the tissue can be noticed within a week after frost has occurred and the entire bulb, from the inside out, will turn brown or black and become soft. The frozen tissue breaks down and rots, very much like a potato or apple would rot under similar conditions. Damage to bulbs from lack of drainage, pests, diseases and improper planting time is often blamed on lack of hardiness. The symptoms are often the same as those of frost damage only.

For winter hardiness, the temperature of the soil should be considered from six to twelve inches deep below the sur-



# J. H. FROM

Winnipeg's Largest Equipped Landscape Gardeners

DESIGNING - CLEARING - LEVELING  
SODDING, ETC.

Complete Line of Garden Equipment and Supplies

1070 ARLINGTON ST.

WINNIPEG 3, MAN.

Phone SPruce 4-3501

## PERLITE

### The New Long-Lasting Soil Conditioner

Rebuilds soil, improves plant growth, provides high moisture holding capacity, does not get soggy or decay, lasts indefinitely, prevents soil from compacting, and is safe, inexpensive, and easy to use for gardens and lawns, in nurseries and greenhouses.

## PERLITE PRODUCTS LTD.

500 Raleigh Street

Winnipeg 5, Man.

ENQUIRIES INVITED FOR REPRODUCING AND  
ADDRESSING YOUR MEETING NOTICES

## Dominion Carbon & Stencil Supply

DUPLICATING & ADDRESSING MACHINES

214 Bannatyne Avenue

WINNIPEG 2

MANITOBA

face. This again depends on mulch or snow cover. Consideration should be given to mulches and especially to their removal, once the foliage emerges. A mulch protects the bulb by insulating the soil against extremes of cold. Conversely, when outside temperatures rise, the same mulch, if dry, would insulate the soil and prevent it from radiating stored heat to protect the new foliage. For the same reason cultivation of the soil should be avoided in the spring where damaging frosts may occur, as this cultivated layer may dry and serve the same purpose as a dry mulch, preventing ground radiation.

In all discussions of hardiness, based on winter cold only, we must realize that the effect of temperature on the lilies is dependent on the duration of cold and on its penetration. Judged by our present knowledge and excluding losses from purely local spring conditions, late frost or alternate thaws and frost which might cause water to stand over the bulbs, we can classify the lilies according to their hardiness as shown in the following table:

ZONE 1 — Below 50° F. None hardy.

ZONE 2 — -50° to -40° None hardy.

ZONE 3 — -40° to -30° *L. cernuum*, *L. dauricum* and *L. henryi*, and some of the hybrids raised from these species.

ZONE 4 — -30° to -20° *L. amabile*; *cernuum*, *dauricum*, *pumilum*, *tigrinum* and some of the hybrids of these species.

ZONE 5 — -20° to -10° *L. candidum*, *concolor*, *davidi*, *martagon*, *pardalinum*, *monadelphum* and related species, some Aurelian, and all the Mid-Century and Fiesta Hybrids.

It is readily conceded that *L. regale* and several of the trumpet lily hybrids, such as the early-flowering Sentinel Strain, will be hardy in zones colder than those listed here.

A lily grower from Manitouwadge, Ontario, which is situated about half way between Port Arthur on the west end of Lake Superior and Sault Ste. Marie on the east end—60 miles north of the lake and 70 miles from White River, Ontario, the coldest place in Ontario, has the following suggestions and information. He writes:

"I should perhaps mention the climate more thoroughly. We can expect lowest January temperatures of -40 degrees F., and highest in July of 98 degrees F. The first fall frost to kill tenderest plants (beans and nasturtiums) about September



15th and last spring frosts of the same severity about May 20th, although the last two years it was in April, about the 25th, I think. The last of winter's snow goes about April 1st and the first permanent snow comes about November 1st.

"Yet in spite of this much shorter summer, the three varieties doing best in my garden bloom at the times you list in the reference chart of your New Book of Lilies (now out of print), are: L. x Azalia (a Philadelphicum Hybrid); L. martagon x hansonii and L. x Lemon Lady (listed by Dr. Skinner of Dropmore as a Willmottiae Hybrid). The latter is by far the best lily in the garden but grows a rich golden yellow, not the pale yellow it does at Dropmore.

"I have found that shallower to much shallower planting is more effective. This has also proven true with tulips, gladiolus, hyacinths and crocus. Tulips, for example, planted at the "correct" depth grow bulblets in the stems and the old bulb dies.

"L. x Azalia at the 'correct' depth produces a profusion of bulblets and none, or very few, at shallower depths, but a much larger main bulb and a sturdier, showier plant. L. x Lemon Lady planted six inches deep produced no top growth at all one year. With two inches of cover it produced a fine display."

**A Complete**

## PRINTING SERVICE

Smart printing is produced by modern, up-to-date equipment, combined with the skill of competent workmen. Let us handle your printing orders promptly, accurately and attractively.

Telephone SPruce 4-3414

**CANADIAN PUBLISHERS LTD.**

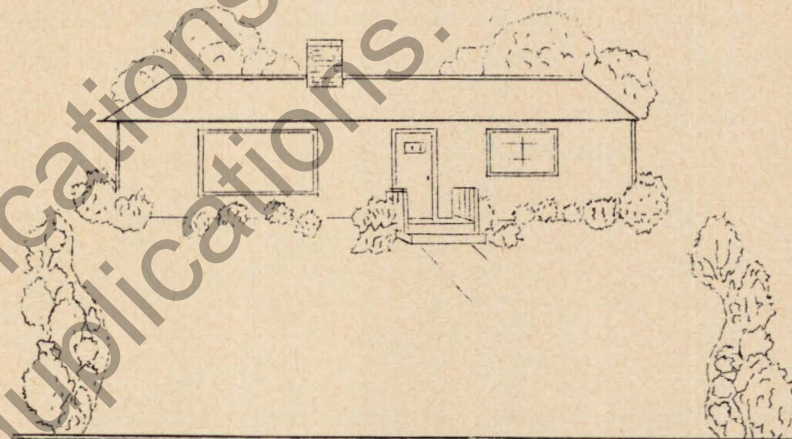
619 McDermot Ave.

Winnipeg 2, Man.

## The Modern Home Landscape

By **ELSIE A. TORGESON, B.A.,**

Chief Landscape Designer, Prairie Nursing Ltd., Estevan, Sask.



Foundation Planting and Border Shrubs in the Public Area  
Framing Trees in the rear.

Architectural changes in modern houses have necessitated changes in landscaping the grounds on which they are built. Tall houses of the past emphasized the vertical. Today's houses strongly emphasize the horizontal. Clipped spruce, trimmed shrubs and hedges are widely used where one wishes to curtail growth, in keeping with the smaller front yards and the lower house lines. Careful selection and placing of trees and shrubs are more important than ever. Dwarf evergreens, dwarf shrubs and taller shrubs, with fine foliage that lends itself to trimming, are all coming into prominence in place of the taller, coarser, more massive plantings of yesterday.

A satisfying Home Landscape is not created by buying a few pretty shrubs and trees and planting them at random. Each plant should be chosen for its particular suitability to a certain location. A Blue Spruce is a beautiful tree but, if it is planted so that it obscures the view from a picture window, it can become an eyesore.

The placing and arrangement of all plant material are of the utmost importance. Tall shrubs should be planted in the background, with medium and dwarf varieties planted in front of them. Do not plant a whole area in Spring flowering shrubs, such as Lilacs, early Spireas, Flowering Almonds, Mock Orange and Yellow Roses. Similarly, do not plant only late



maturing shrubs that produce brilliant colors in Autumn, such as Golden Elder, Cotoneaster, Ginnala Maple, High Bush Cranberry and Mountain Ash.

All this points up to the importance of starting with an overall plan, drawn by a competent landscape designer. This enables you to see the picture as it will be in years to come, with trees and shrubs properly arranged as to size, location and season of bloom. You may not be able to plant a full landscape the first season, but you can make a start and all the plants that you add will help to complete the picture.

Most Home Landscapes divide, naturally, into three areas — the Public Area, the Service Area and the Private Area or Outdoor Living Room.

The Public Area is the part of the Home Landscape that is seen from the sidewalk and street. It consists of (1) a lawn, (2) plantings along the foundation of the house and (3) trees and shrubs planted on the lawn for shade, or to help frame the house. Avoid unnecessary concrete walks in this area. If possible, use stepping stones and have them placed in a curved effect. If a walk must go in a straight line from the front steps to the driveway, be sure that it is placed three or four feet out from the foundation so there is ample room to plant shrubs between foundation and walk.

The foundation planting is the most important feature of the Public Area. The purpose of this planting is to connect the house with the lawn. The foundation planting has three main features, the entrance or doorway planting, the corner plantings, and the plantings between the corner and the doorway shrubs — called connecting shrubs. These connecting shrubs need not completely cover or hide the foundation. They may be planted in a group, or in several groups, with lengths of foundation showing in between.

If you stand on the sidewalk at the centre of your lot, facing your house, your eyes will naturally travel from the taller corner shrubs down to the more showy doorway shrubs, if both have been properly chosen. For a house with a low or medium foundation, with fairly low windows, you should have three spreading shrubs of medium height at the house corners, or you may use one taller shrub off the corner and place a shrub of medium height on either side. The purpose of the corner plantings is to soften the rigid vertical lines of the building and blend them with the lawn.

To frame your doorway, choose shrubs of striking texture or color. Use hardy dwarf evergreens, such as Mugho Pine, Siberian Arborvitae, Savin Juniper, hardy Rugosa Hybrid Roses, that live on from year to year, and shrubs, such as

Spirea Van Houttei or Arguta or hardy Mock Orange (*Philadelphus Waterton*). The height of the shrubs can be controlled by trimming after the blooming season is over.

Connecting shrubs should be dwarf shrubs, such as Spirea Froebelli, Spirea Trilobata, Potentilla and dwarf evergreens. Plant these shrubs in a slightly curved, rather than a straight line. It is advisable to use a continuous group of one variety here rather than several varieties, unless the foundation line is very long. In this case, break the planting in the centre by adding two or three of a different variety. Connecting shrubs should provide a rather neutral link between doorway and corner shrubs.

If your house has a high foundation, use taller shrubs at the corners, such as Spirea Sorbifolia, Spirea Van Houttei (left untrimmed), *Rothomagensis* Lilac and Cotoneaster Integerrima. At the doorway, use a different variety of high or medium shrubs. These higher shrubs, at both corner and doorway, should be faced down with dwarf shrubs or evergreens.

If your house faces North, you are more limited in your choice of foundation shrubs. However, dwarf evergreens are better on the North than the South, where they sometimes brown off from the glare of the sun on the snow. Cotoneaster and all the Spireas do well on the North. Roses and Lilacs require more sunlight for flowering, and should not be planted on the North.

Besides the foundation planting in the Public Area, we should have ornamental trees, such as Rosybloom Crabs, Mountain Ash, Japanese Tree Lilac (*Amurensis Japonica*) and Spruce (which can be controlled by trimming). These ornamentals should be planted near the building line, on either side of the house. In this way, we frame the house, rather than hide it. The house may also be framed by groups of fairly tall, colorful shrubs, such as French Grafted Lilac, *Prestoniae* Lilac, Yellow Roses and *Prunus Triloba*, arranged in groups, in a curved outline, near the edges of the property. These tall shrubs should be faced down with shorter varieties, such as Roses, dwarf Spireas, etc. We call these border plantings. A combination of ornamental framing trees and border plantings is very effective, if it is used on a wide lot. Where the lot is narrow, border shrubs may be planted along the outside edges of the Public Area, and the house may be further framed, from the rear, by planting tall shade trees at either side in the Private Area at the back.

Keep the centre lawn open and free from all plantings in the Public Area. The only exception to this is where shade



## ***Hardy***

### **Saskatchewan Grown Nursery Stock**

***Plan your outdoors living room today  
with "LAKE SHORE" Plants***

Ornamental and Flowering Shrubs, Lilacs, Roses,  
Hedging Plants, Perennial Flowers, Peonies, etc.,  
Fruit Trees, Small Fruits, Spruce Trees and  
Shade Trees

**FOR A DESCRIPTIVE PRICE LIST WRITE OR PHONE**

## **LAKE SHORE NURSERIES**

**SUB. P.O. 11, SASKATOON — PHONE OL 2-1395**

1 Mile West of the Government Elevators on 11th Street West.

**Shade and Ornamental Trees,**

**Flowering Shrubs and Hedge Plants**

**Evergreens, Large and Dwarf Types,**

**Peonies, Lythrum, Other Perennials,**

**Fruit Trees and Fruit Bushes,**

**and Free Landscaping Designing Service.**

Prairie Nurseries free landscape plans and hardy tested varieties have been combined to beautify many thousands of homes, parks, schools, hospitals and other properties during the past 45 years.

## **PRAIRIE NURSERIES LIMITED**

"THE ESTEVAN NURSERIES"

Largest In Western Canada

**ESTEVAN**

**SASK.**

trees may be a necessity on the lawn that faces South or West. Do not cut up the centre lawn with any shrub groups or flower bed plantings.

Since present day homes have fairly small Public Areas, we do not always recommend hedges, as hedges make a small area look even smaller. However, there is often a definite need of a hedge along the sides, and across the front, to divide the property from a neighbor, to prevent people cutting across the corner of your lawn, or to discourage dogs, or even weeds and papers, from collecting on your lawn. In these cases, we do recommend low or medium low hedges, such as Pygmaea Caragana, Blue Arctic Willow, Spirea Froebelli, Cotoneaster Acutifolia and Potentilla.

Now we leave the Public Area with its open lawn, its foundation plantings, with specially chosen corner and doorway shrubs, its framing trees, curved border plantings of shrubs and, if desired, a low or medium hedge.

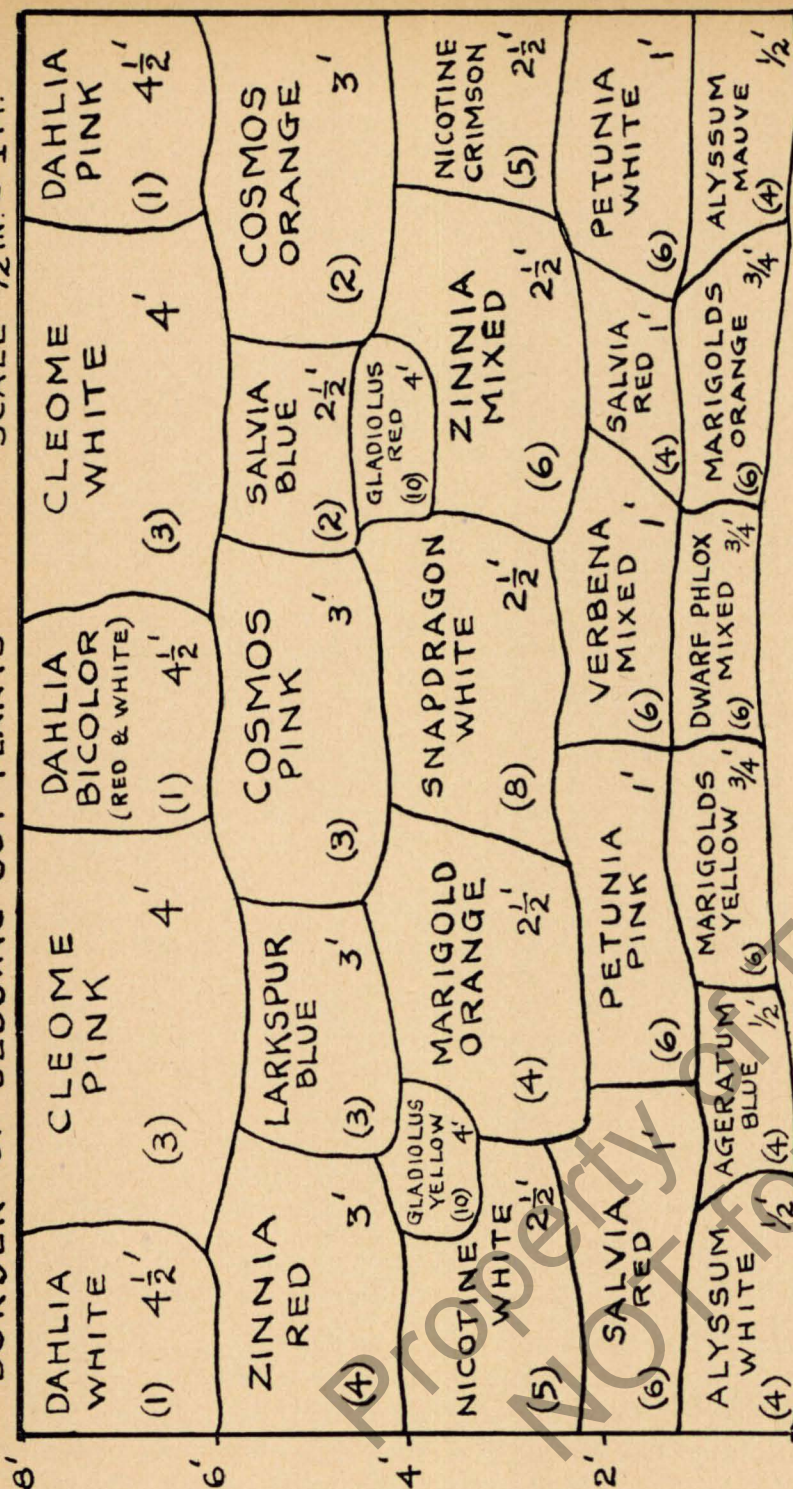
Most homes require a Service Area, where the home owner can have clothes lines, kitchen garden, play area and often the garage. The Service Area should be accessible from the back door. The play area should be in sight of the kitchen window.

We come now to the Private Area, usually at the back of the house. This is called the Outdoor Living Room. It can be an extension of your indoor living room. It should be a comfortable, secluded area, for rest, recreation and entertaining. The Outdoor Living Room should be colorful and interesting, and have ample shade, curved border plantings with an open lawn and shade trees placed to shade the afternoon sun from lawn or patio. If your house has a picture window or a patio, it should adjoin this area. Annual and perennial flower beds add to the beauty of the Private Area. Here, again, do not cut up the centre lawn with them. Place them at the ends or along the sides. A tall hedge of Villosa Lilac or Cardinal Honeysuckle will ensure privacy in the Outdoor Living Room, or border plantings of tall shrubs may be substituted for the tall hedge, to screen the neighbors' properties, or the lane or Service Area. Groups of Amur Ginnala Maple, Red Berried Elder, Russian Olive, Villosa, Prestoniae or French Grafted Lilac will give an effective and colorful screen.

Although we cannot grow tropical plants in Western Canada, we have a wide variety from which we can choose. We can have beautiful home grounds if we know what to plant and how to arrange it effectively. An unplanted house is just another house, but a planted house becomes a Home.



SCALE  $\frac{1}{2}$  IN. = 1 FT.

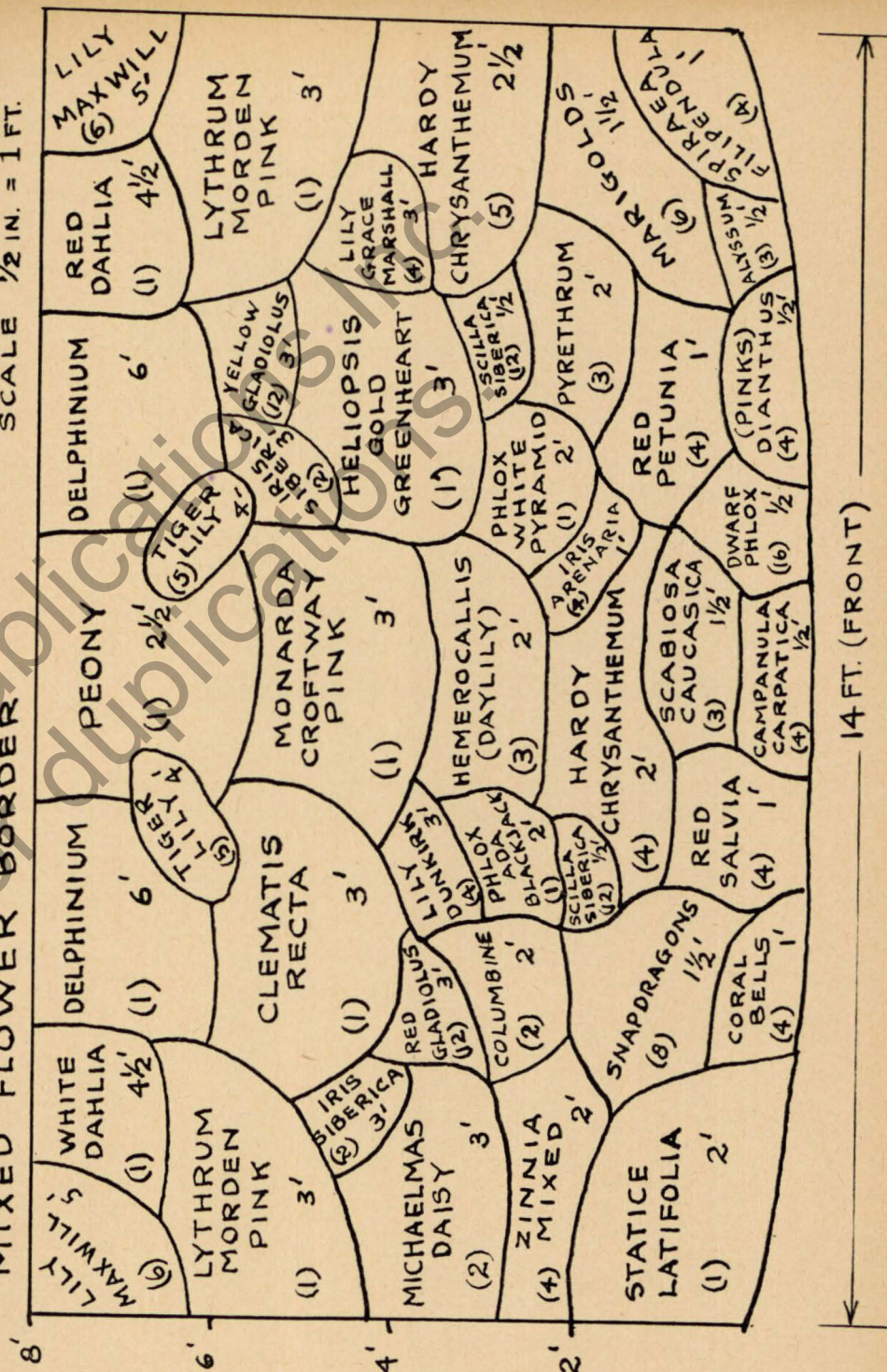


**BEDDING PLANT BORDER PLAN**—Plan is intended as a guide for height and colour combinations. Height indicated in feet', number of plants (8). Depth of plan in diagram is 8 ft., however, smaller borders can be planted from this diagram using figures on left. All plants except Dahlias and Gladiolus are started in flats. Gladioli in this instance is included for texture, their swordlike leaves contrasting with other growth; Dahlias for height and colour. Length of plan diagram is 14 feet, a longer border would be more effective.

—Hector Macdonald, Supervisor, Assiniboine Park, Winnipeg, Manitoba.

MIXED FLOWER BORDER

SCALE  $\frac{1}{2}$  IN. = 1 FT.



**MIXED FLOWER BORDER.** This selection of plants should give bloom from early spring (Scilla Sibirica) to heavy frost (Chrysanthemums and Michaelmas Daisy). The early blooming plants (Scilla and Iris Anemania) are planted towards centre of border so that their fading foliage in midsummer is hidden by taller growth. Perennials chosen for front of border (Coral Bells, Campanula Carpatica, Pinks and Spiraea Filipendula) have attractive foliage all through the season. Even when their bloom is off they will be neat and fresh. Annuals are interplanted through perennials to keep border colourful through the season and to conceal plants that are ripening their foliage: Snapdragons in front of Columbine. This type of border should be at least six feet wide.

—Hector Macdonald, Supervisor, Assiniboine Park, Winnipeg, Manitoba.



**"CHEZ PERRON TOUT EST BON"****"PERRON'S SEEDS ARE GOOD SEEDS"**

Everything in Seeds, Ornamentals and Garden Accessories.

**W. H. PERRON & CO. LIMITED**

515 Labelle Blvd.

L'Abord à Plouffe (Montreal 40) P.Q.

(General Catalogue on Request)

**AUBIN NURSERIES****CARMAN****MANITOBA****Phone SHerwood 5-3268****One hour from Winnipeg on Highway 3****CONSULT US FOR ANY BLOOMIN' THING****D. CONNERY**Quality Plants from Specially  
Selected Seeds**LOT 164,****FERRY ROAD, ST. VITAL, MANITOBA****ST. GERMAIN P.O.****PHONE ALpine 3-8093**

Compliments of

**Melady, Sellers Securities and Grain  
Corporation Ltd.****850 Grain Exchange    Winnipeg    Phone WH 3-9865**

# Soil Management & Improvement in the Home Garden

By **R. A. HEDLIN,**Associate Professor of Soil Science, University of Manitoba  
Winnipeg, Manitoba

The soil is the natural medium for plant growth. A soil which is in good physical condition and one which has a good supply of nutrients and moisture is an almost perfect medium for plant growth. Many soils fall short of the ideal and, therefore, in one way or another are unsatisfactory as growth media for plants.

The problems of low soil productivity can be divided into two groups: namely, physical problems and chemical problems.

**Physical Condition of the Soil**

A soil is said to have a good physical condition when it does not become excessively sticky when wet, when it does not bake or cake when it is dry, when it does not become waterlogged following heavy rains, and when, on the other hand, it is not so porous that water drains from it excessively rapidly. In other words, a soil has a good physical condition if its tilth is good so that a mellow, friable seed-bed can be prepared readily.

A poor physical condition usually results from one or more of the following causes:

1. A very high clay content, as is typical of soils in the Greater Winnipeg area.
2. Digging or working a soil when it is too wet.
3. An excessively high sand content.
4. A lack of organic matter in the soil.

**How to Improve the Physical Condition of the Soil**

There are a number of ways in which the physical condition of a soil can be improved:

1. Addition of sand — This is useful in improving the physical condition of garden soils which are high in clay content, provided that they also contain a reasonably high level of organic matter. To obtain good results, about three inches of sand, at least, should be added and worked into a depth of about six inches. Amounts less than this are of no particular value unless more than one application is made.

2. Addition of organic matter — The physical condition of clay soils and of very sandy soils can be improved by regular



additions of organic materials. Organic matter decays quite rapidly and, therefore, frequent additions are necessary. Barnyard manure or compost applied at the rate of half a ton per 1,000 square feet every year or two will have a beneficial effect.

3. Replacement of the topsoil — Sometimes the simplest solution to poor physical condition of the soil is either to remove some of the soil and replace it with good black topsoil, or to build up the garden by the addition of several inches of topsoil. This is relatively expensive, but if good soil is obtained, it may be the best way of overcoming the problem.

In the Winnipeg area, topsoil is usually available under names such as "black loam" or "Bird's Hill sandy loam." Frequently, the "black loam" is of a clay texture. However, if it is dark in color and high in organic matter content, it is a good substitute for subsoil clay, although not as satisfactory as a dark-colored topsoil of sandy loam to clay loam texture.

#### Chemical Condition of the Soil

There are three types of chemical problems in soils:

1. A deficiency of nutrients which are essential for plant growth either because they are present in inadequate amounts or because they are present in chemical forms unavailable to the plant.
2. Sourness or acidity of the soil.
3. Salinity or high salt content of the soil.

**Nutrient deficiency** — Of the sixteen elements which are considered to be essential for plant growth, thirteen are obtained from the soil. As a rule most of the thirteen are present in amounts adequate for plant growth. However, in many Western Canadian soils, phosphorus, nitrogen and iron may be present in quantities insufficient to meet the needs of the growing plant. Occasionally, elements such as potassium and sulphur may be deficient. These can be supplied by using manures or mineral fertilizers as discussed below.

**Soil Acidity** — Frequently, people who come from Europe or the Eastern part of this continent believe that their soils are acid (sour) and should be limed. This condition frequently is a problem in areas of high precipitation where most of the lime is leached from the soil. However, with few exceptions, soils in the Prairie Provinces are neutral to alkaline in reaction and do not require liming. In the region of Precambrian rock outcrop (Canadian Shield), strong acidity may develop. Under

such conditions the addition of ground limestone may be necessary. If a soil is thought to be acid, a sample should be tested\* and lime applied if necessary.

**Saline soils** — Under certain conditions, soluble salts accumulate in the soil. These may accumulate naturally in dry areas or in poorly drained areas even when precipitation is quite high. Normally, magnesium sulphate, sodium sulphate, magnesium chloride, sodium chloride and calcium chloride are most likely to be troublesome. Presence of soluble salts can sometimes be detected by the presence of white flecks in the soil. If a soil is thought to be saline, the presence of salts can be confirmed by analysis. The tolerance of plants to these salts varies greatly. Most trees, shrubs, flowers and many vegetables have a very low salt tolerance. On the other hand, some grasses and vegetables can withstand appreciable salt concentrations.

No chemical treatment will counteract this condition. Addition of manure or other organic materials will help to reduce the toxicity of these salts. Heavy watering will help to remove the salts provided that permeability of the soil is great enough to permit some percolation to take place. Where salinity is a serious problem, it may be practical to grow only salt-tolerant plants.

#### Fertilizers for Gardens

1. Apply manure at a rate of one-half ton per 1,000 square feet. Work into the soil in the fall or early spring, or

2. Apply a mineral fertilizer. Fertilizers which can be used include 16-20-0, 24-20-0, 23-23-0. Apply broadcast at a rate of about 10 pounds per 1,000 square feet. These fertilizers can also be applied in bands beside the rows of plants. If this is done it is important that they do not come in contact with the seed. Application should be at about 8 ounces per 50 feet of row. Lower analysis products, such as 8-12-6, may also be used at about twice the above-mentioned rates, or

3. Manure and mineral fertilizer. In this case an excess of nitrogen may be applied unless a fertilizer relatively low in nitrogen is used. Manure at half a ton per 1,000 square feet and 11-48-0 at 10 pounds per 1,000 square feet applied broadcast or 8 ounces per 50 feet of row is suggested.

#### Fertilizers for Lawns

A good lawn usually can be maintained only by adequate fertilizer applications. Grass has a particularly high nitrogen

\*Routine soil testing has not been generally encouraged in the Prairie Provinces. If a soil is unproductive a sample may be sent for analysis to the Dept. of Soil Science at the University of the province in which you reside.



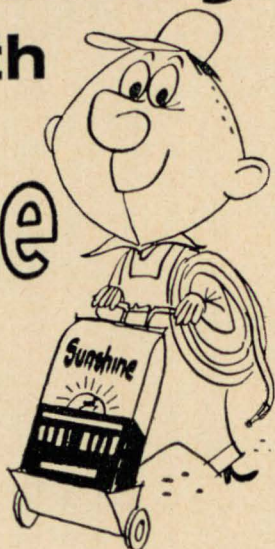
## Good Gardening Begins with

# Sunshine

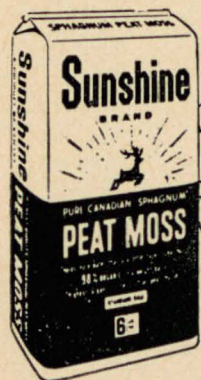
*pure sphagnum*

## PEAT MOSS

*The World's Finest  
Soil Conditioner!*



Peat Moss makes any garden or lawn healthier and more vigorous by providing vital soil humus, improving soil texture and acting as a reservoir for moisture and plant foods. Sunshine Brand Pure Sphagnum holds up to 20 times its own dry weight in moisture. This "sponge" action saves valuable fertilizer and prevents drying and hardening. Peat Moss lets clay soils breathe easily — gives body to light sandy soils. Your garden is healthier, your lawn is greener and thicker.



*Start  
Good Gardening  
with  
Sunshine  
Today!*

Available at all leading garden, hardware and department stores, or call

### WESTERN PEAT COMPANY LTD.

NEW WESTMINSTER,  
B.C.

MOSS SPUR,  
MANITOBA

requirement and on most of our soils, benefits from the application of phosphorus as well. Application of rotted manure as a top-dressing is useful. Organic nitrogen in these products becomes available slowly and, therefore, has a lasting effect. Mineral fertilizer applications can also be made. These are highly available to the plant and tend to be used up rapidly, at the same time stimulating rapid plant growth. Good results can be obtained by a spring application of a fertilizer such as 27-14-0, 16-20-0, 10-20-10, or 10-30-10 at 8 pounds per 1,000 square feet. This application may be repeated at intervals of about six weeks during the summer or if it is preferred, may be substituted for by nitrogen compounds such as 33½-0-0 (ammonium nitrate) or 21-0-0 (ammonium sulphate) at the rate of 5 to 8 pounds per 1,000 square feet.

There are slow-acting chemical nitrogen fertilizers sold under such trade names as Golden Vigoro (12-5-7), Uramite (38-0-0), etc. These can be applied less frequently. They do not give such a rapid flush of growth when first applied and so have a more lasting effect. They are considerably more expensive than the mineral nitrogen fertilizers mentioned above.

Where mineral fertilizers are applied uniformly at recommended rates they usually give excellent results. However, under certain conditions burning may result. This is most likely to occur if fertilizer is applied when the blades of grass are wet or when fertilizer is applied during a prolonged hot, dry spell. In fact, mineral fertilizer should not be applied in hot dry weather unless liberal applications of water are possible.

### "Lime-Induced Chlorosis"

In some of our common ornamentals, such as Mountain Ash, roses, spirea, and fruits such as apples, plums, and raspberries, a characteristic chlorosis or yellowing of the leaves frequently occurs. The interveinal tissue turns yellow, while the veins remain green. As the deficiency becomes more severe the leaves become almost white and a browning of the margins occurs. The symptoms are more acute on the new growth than on older leaves.

This deficiency is related to a high lime content in the soil which makes iron unavailable to the plant. Perhaps the best way of overcoming the problem is to spray the plants or treat the soil with compounds known as iron chelates. These are available under trade names such as Versenol Iron Chelate and Sequestrene FE-330 Iron Chelate. Application should be made as directed on the container.



# Rosa

## Canina

## Understock

*Proven the Best—By Amateur Test*

*Comparison proves again*

Test after test has proven Canina to be superior and outstanding, particularly under adverse severe winters and alkaline soils in many parts of Canada and the U.S.A.

FOR ACCLIMATIZED CANADIAN ROSE BUSHES

**ROSECROFT NURSERIES**

Box 14, R.R. 7

LANGLEY, B.C.

CUSTOM GROWERS OF HARDY ORNAMENTAL  
DECIDUOUS STOCK

## Planning with Perennials

By R. H. KNOWLES

Associate Professor of Horticulture, University of Alberta,  
Edmonton, Alberta

There is perhaps more justification for saying that perennial borders are old-fashioned because, after all, they did originate during the nineteenth century. There is, on the other hand, little justification for considering them unsuited to the modern garden for they are still as desirable as the sun deck and the private outdoor swimming pool. Admittedly, perennial borders take a good deal of space but for those who have the room for them, I would suggest that no other garden feature can be more satisfying.

|              |    |
|--------------|----|
|              | 2  |
| BACKGROUND   | 2  |
|              | 2  |
| MIDDLEGROUND | 1  |
|              | 1½ |
| FOREGROUND   | 1  |
| EDGING       |    |

But perennial borders require a good deal of planning and a good deal of refinement before the ultimate can be achieved. With the more common annual flower border the problem of planning is reasonably simple since the more or less static characteristics of the plants limit the designer to one picture and one picture only from spring until fall — a rather elementary problem involving good colour sense and planning simply within the three dimensions of space. With perennials, however, planning is so much more complex, since not only is there the element of colour with which to deal but also the decisions which will allow the composition to retain a high degree of interest in the face of changes, that are continuous with time.

The purpose of this brief article is to provide some suggestions for the design of perennial borders so that choice and arrangement of materials might be made on a somewhat ra-



tional basis. In principle this is not difficult and may be achieved by following through a series of steps.

Because perennials show such a wide variation in blooming periods, size and habit of growth, it is necessary to begin by first laying out a framework or skeleton on which the final plan might be developed. This framework should be adhered to quite closely although deviations from it would be allowed in the plan later to achieve the individuality dictated by both site and personality. The framework shown in Fig. 1 provides for six zones showing the proportions 1:1.5:1:2:2:2. These divisions allow for the general locations of plants of varying stature, character and period of bloom.

The first zone is designated for edging material, small compact plants varying from 6 - 8 inches high. The second for what might be called foreground materials, consisting of low spring blooming perennials 15 - 18 inches high, of low annuals for summer and for spring flowering bulbs. The later blooming plants of this second zone help to provide a foil for those of a third, to be used for the most part for things like iris and daylilies, plants which, although attractive while in bloom, possess the undesirable characteristic of having coarse unattractive foliage. In the fourth zone, that of middle ground, would be placed the bulk of the taller 2½-foot midsummer blooming plants. Following this we have the first two background zones to accommodate the massive 3 - 4-foot plants of late summer and early fall and finally the last one for the tallest and latest blooming plants of all.

With these general considerations made, the designer is prepared to undertake the next step, that of laying out his colour scheme. This entails, first of all, some knowledge of the use of colour and finally the superimposing of a completed colour diagram over the basic skeleton.

But, first, what about the use of colour out-of-doors? To a great extent it is influenced by light and shadow, climate and humidity and because of this, many of the theories that apply to situations where light is controlled cannot be used. This is why the Birren colour system is generally employed. This system recognizes six colour primaries which are listed here in descending order according to the amount of light reflected from each.

|              |     |             |     |             |     |
|--------------|-----|-------------|-----|-------------|-----|
| White .....  | 80% | Green ..... | 35% | Blue .....  | 20% |
| Yellow ..... | 55% | Red .....   | 25% | Black ..... | 0%  |

In applying the Birren system it is realized that masses of high value colour are not too effective in full sunlight since they tend to produce glare. In such situations, therefore, lower values are allowed to predominate. In very shady borders on the other hand, high colour values can be used more freely, but in deepest shade, colours which possess a high degree of

luminosity (orange and scarlet) are much more satisfactory than yellow or white even though the latter have higher colour values.

As for the combining of colours it must be realized that primaries of high value and of high intensity have the greatest strength. This means that small quantities of these stronger colours will effectively complement or offset larger quantities of the weaker types. Thus large blocks of blue may be effectively used with much smaller amounts of orange and scarlet and that smaller quantities of bright red will effectively go with large masses of dense green.

A number of useful combinations are presented in the following:

#### Blue

- (1) With scarlet and buff.
- (2) With white and yellow.
- (3) With orange and scarlet.
- (4) With various intensities of blue.
- (5) With yellow or orange of the same intensity (but use sparingly).

**Violet, Purple and Magenta** (These colours lie between Red and Blue).

- (1) Those hues nearer Blue — group together or use with tints and shades of Blue.
- (2) Those hues nearer Red — group together or use with tints or shades of Red.
- (3) Violet or purple should be used with plenty of yellow or yellow-green foliage.
- (4) Violet and purple can be contrasted with whites and yellows of equal intensity.

#### Red and Scarlet

- (1) With dense green backgrounds.
- (2) For sharp contrast, with white or clear blue.
- (3) With analogous hues, red-violet and red-orange.

#### Pink (Tint of Red)

- (1) Will gain more strength if interspersed with white.
- (2) Goes well with other colours of the same intensity.

#### Orange

- (1) With darker colours — red, browns, and bronzes.
- (2) With turquoise blue (complement).
- (3) With purple flowers and bright green foliage (split complement).



- (4) With creamy white or yellow.

#### Yellow

- (1) With blue of equal intensity.
- (2) With white (but use sparingly).
- (3) Small amounts will liven up cold heavy compositions.

#### White

- (1) Frequently turns out to be a tint of one colour or another. If so, use with other intensities of same colour, or as a contrast with that colour's complement.
- (2) If interspersed among low value colours, it softens them.
- (3) If interspersed among high value colours, it strengthens them.

## Polyethelene

The accepted packaging material for vegetables and fruit, to retain their freshness.

Gardeners find many uses for this versatile plastic.

Growing season can be lengthened by covering frost-tender material.

May be used to cover cold frames.

Steady moisture is assured when flats are covered with Polyethelene.

Useful for air-layering woody plants.

Black Polyethelene used for mulching, controls weeds and conserves moisture.



**Polyethelene Bag Mfg. Co.  
Ltd.**

335 TWEED AVENUE  
WINNIPEG 5 — MANITOBA

### THOMPSON GARDEN SUPPLIES

### LANDSCAPE DESIGN & CONSTRUCTION

GARDEN SUPPLIES FILLING EARTH CINDERS

Power Equipment, Loaders, Bulldozers, Trucks.

1000 Elgin Ave.,  
Winnipeg 3, Man.

Telephones  
SUnset 3-3788  
SPruce 4-9378

#### Greens

There are a great many foliage greens varying from deep, dull green through lighter grey-green, blue and yellow-green to the darkest of the evergreens. Foliage must be secondary to flower colours and be carefully chosen to intensify the effect of anything placed in front of it. Thus, yellow-green or blue-green foliage can spoil the effect of a carefully arranged harmony that will not be at its best if yellow or blue is included.

#### Grey and Silvery Foliage

They can be used to lighten heavy or monotonous masses of dark green, and at the same time heighten the effect of distance. They can also bring conflicting colours into pleasing relationships. Ineffective when dotted among bright colours, but effective in similar surroundings if used in mass. Most effective with light-tinted flowers.

When the colour scheme has been laid out on paper and adjusted to scale, it is then ready to be superimposed on the framework with which we started (Fig. 1). This will enable the designer to proceed one step closer to the choice of actual material.

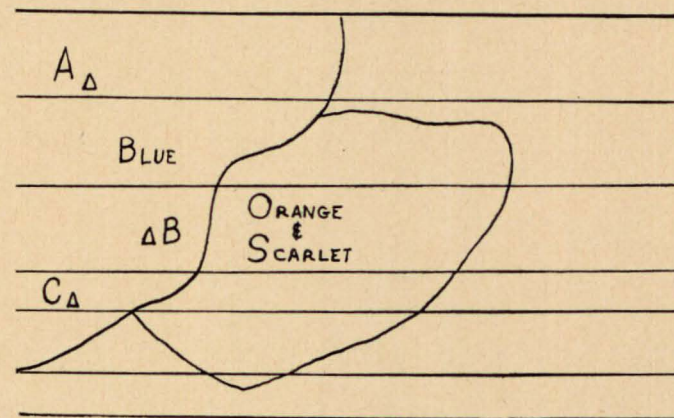


Figure 2 illustrates just how the colour diagram might be used with the original framework. Plant A, it will be noted, must possess the following characteristics (Blue, 4-6 feet tall, blooming period August-September). Plant B, on the other hand, must also be blue but will be of smaller stature than A and will have its season of bloom in midsummer. Plant C would belong to an Iris-Daylily section and would of course be a blue Iris coming into bloom sometime in June.

With these preliminaries complete, the choice of specific plant materials can be made. In order to simplify the problem,



the designer must have at his fingertips, not only lists of plant materials, but lists which classify them on the basis of colour, of size and season of bloom\*. From these he can make his choices quickly and easily and with some assurance that the relationships he is establishing are reasonably good.

Such are the basic techniques of planning perennial borders. It should be remembered, however, that this information will not carry you all the way down the road. The number of ways of combining these plants is infinite. Frequently you will find it necessary to make adjustments in the scheme of things to unify or to harmonize or simply to make things more interesting in one particular section for a particular week or two during the season. If you do find this necessary, you should not be discouraged, after all, this is a problem in four dimensions whereas most day to day situations only involve three.

\*A publication of the Department of Extension, University of Alberta, dealing with plant lists for perennial borders is now available.

### VAN DUNGEN'S NURSERIES

Very Large Selection of  
FIELD DUG SHRUBS — TREES — PERENNIALS — ROCK GARDEN  
ROSES — ROOTS — BULBS — EVERGREENS  
IN NAMED VARIETIES

#### ALSO

Quality Pot and Bedding Plants  
Including All the New Fi-Hybrid Petunias of  
Red Satin - Minstel - Scarlet Lustre - Serenade - Ballerina  
Comanche - Pale Face - Mohawk - Crusader - Tango  
Prima Donna - Apache

Stalls at Civic Offices — Princess and William

OPEN EVENINGS

Home Address: Lot 137 St. Mary's Rd.  
Tod P.O., Manitoba Phone AL 3-4311

### THE HOLLAND BULB GARDENS Reg'd.

3276 DUNDAS ST. WEST TORONTO 9, ONT.

FREE CATALOGUES ON REQUEST

Spring catalogue ready Feb. 1st: GLADIOLI, BEGONIAS,  
GLOXINIAS, DAHLIAS, LILIES, ROSEBUSHES, etc.

Fall catalogue ready July 15th: TULIPS, DAFFODILS,  
NARCISSUS, SCILLAS, MUSCARI, HYACINTHS,  
CROCUS, etc.

PLEASE NOTE: "WE HAVE NO OTHER OFFICES IN CANADA"

## The Amateur and African Violets

By KEN BARNES,

African Violet Grower and Hybridizer, Winnipeg, Man.

It is hard to know just where to begin to tell the amateur about growing African Violets, but if he will follow a few simple rules, that have been learned the hard way by many of us, the trial and error system, it will make growing violets so much more pleasurable and a lot less discouraging. I am going to list the rules as I see them and together with a love of violets, a little common sense and an urge to try, your plants will be the envy of all your friends and neighbors.

1st—Select a good plant.

2nd—Sterilize all soil and utensils used in the care of African Violets.

3rd—A good light soil or growing medium.

4th—Good light.

5th—The right sized pot.

6th—Enough but not too much water.

7th—Fertilizer when needed.

8th—A good warm and humid growing area.

Now let us take these rules in order. Select a good plant from a reputable grower. It is just as easy to grow a good plant, one that has a new type of foliage, or color that you like, as it is to grow the old single blue.

Sterilize your soil even though you have bought soil that is claimed to be sterilized. This is easy to do in the kitchen oven. First wet the soil and spread in a tray. It is most important to really wet the soil, as if the soil is too dry the nurture will be killed. Get the oven heat to 250 degrees, place the tray with the soil on the center shelf and leave for 30 minutes. Stir occasionally. Remove from the oven and let dry thoroughly, stirring and turning often. When completely dry it is ready to use. Utensils can be sterilized with a good disinfectant.

A good light soil is 50% good black top soil, 25% peat moss and 25% sand. When this mixture is moistened, take a handful and squeeze, then release your pressure and if the mix will crack and crumble, it is correct. But if it will not crumble, it is too heavy and you will have to add more peat and sand until it does crack and crumble for you after being squeezed. This mixture is then moistened with a good fertilizer, either 15-30-15 or any other good liquid fertilizer. Now you are ready to plant.

Good light means natural light; 12 to 14 hours per day is ideal. But during our long winter months this is impossible, so we have to supplement with artificial light. However, do



not grow your violets in a strong southern light, as this will cause the leaves to burn. Light glass curtains will break the sun's rays.

The right sized pot is important if you want your plant to bloom. Violets will bloom best when they are root bound, so that means a small pot. A new plant can be grown in a 2-inch plastic pot, and when 3 months old transfer to a 2½-inch pot, and so to the final size of a 3-inch plastic pot. I feel that under no circumstances should a violet be in a pot larger than 3 inches. I also prefer plastic pots to clay pots. Plastic pots do not dry out as much as clay pots and this makes watering easier.

Never overwater. Overwatering causes crown rot, and this one thing kills more violets than any other disease. You can water from the top or bottom. Be sure to use water of room temperature, and if you get water on the leaves, wipe off with a soft cloth or keep out of the sun until they dry naturally. Water on the leaves causes spots, but does not harm the plant. Only water when you can press your finger a ½-inch into the soil and still not feel moisture, and then do not drown the plant with too much water. It is better to water with smaller amounts more frequently than with large amounts once in a while. The roots of a violet require oxygen to stay alive, and too much water drives the oxygen from the soil and so the root drowns.

A good fertilizer should be used about once a month. I recommend 15-30-15, which requires 1 teaspoon to 1 quart of warm water. Use this fertilizer the day after you have watered your violets. The soil at that time is still moist from watering and will allow the fertilizer to spread throughout the entire pot. Another fertilizer, 33.5-0-0, though not a balanced fertilizer, can be used to promote good colored leaf growth. It is very high in Nitrogen. Still another one is 11-48-0, which can be used just occasionally to promote bloom. This one is very high in phosphorus. Both 33.50-0-0 and 11-48-0 should be used as recommended for 15-30-15, that is 1 teaspoon in 1 quart of warm water.

And last but not least, your growing area. Choose a warm place for the violets, free from drafts and as humid as possible. Humidity is important and can be obtained by placing small containers of water among the violets, refilling as often as they dry out.

Now by following the rules, you should have some lovely plants, and be ready to try your hand at propagating. This however opens up an entirely new field and is subject to a new set of do's and don't's. But knowing violet growers as I do, you too will be trying your hand at increasing your stock before long — so good luck and happy violetting.

## From Potato to Chip

By G. E. STONE,

Horticulturist, Potatoes, Dept. of Agriculture and Immigration,  
Province of Manitoba, Winnipeg, Man.

How often have you entered your favorite food store or cafe and picked up a package of potato chips for your family to eat as you drive through the countryside? Have you ever wondered how such a delectable morsel is obtained from our friend the potato? The process of manufacturing potato chips is very interesting and is an exacting process. From the time seed is purchased to the time you buy a package of chips, careful steps are taken to guard the quality of the end product.

The potato grower must follow good cultural practices right through the season and on to the delivery to the manufacturer. The grower must grow a suitable variety for the chipping process. The potato must be handled as though it was a new born babe. Bruising caused in harvesting, handling, hauling or storage may cause serious loss to the grower. The chipping potato, like the new born babe, must never be chilled. As the temperature of the potato goes down, the starch content of the tuber begins to convert to sugar. If the sugar content reaches a level of 1.5 to 2 percent, the result is a brown unacceptable chip.

Potatoes must be kept cool if they are to be stored for a long period and the cooler they are kept, the higher the sugar content of the tuber goes. In the chipping business a compromise must be struck between starch conversion and storage temperatures. If the storage temperature does not get below 45 degrees, certainly no lower than 42 degrees F, the process of starch conversion to sugar can be reversed under special conditions. This is done by "conditioning" the potatoes, that is, placing them in a thermostatically controlled room with a temperature of 75 degrees with forced air circulation. The potatoes are kept under these conditions for a length of time which depends upon the amount of sugar in the potato. This may be a period of two weeks or longer.

These are some of the factors which influence the quality of the potato chip and some of the steps taken prior to the actual processing.

Now to the processing plant. Step inside the door and notice the modern machinery and methods that are used. First of all the potatoes are washed and peeled, mechanically of



course. After passing over an inspection table where any unsuitable tubers are removed, the tubers then proceed to another machine where they are cut in slices. The thickness of these slices vary from one manufacturer to another but usually are in the range of 1/15th to 1/30th of an inch. The shape of the cutting blades determines whether the end product is plain or ripple in type. The freshly sliced potatoes travel through a spray of water which removes the starch from the cut and surface of the slices. This is done to prevent the slices from sticking together as they go through the fryer. As the slices come out of spray they pass on to a vibrating screen through which the small fragments drop. The slices then enter the fryer and are cooked in oil which is kept at a constant temperature. There are several types of oil used in the industry and these include corn, cotton seed and peanut oil as well as other types.

As the crisp hot chips emerge from the frying oil they pass under a salt applicator. A uniform amount of salt is applied, usually 1.5 to 2 percent. The salted chip now passes an inspection table from which undesirable chips are removed. Some of the chips go directly to packaging machines, others are combined with flavouring material to produce the well known flavours such as Bar B. Q. and Onion and Garlic.

Once packaged, the chips are stored in a warehouse to await delivery to the retail outlet and then to you, the consumer.

Manitoba has produced potato chips since 1942 and recently has increased to four manufacturing plants. Manitoba now uses about 18 million pounds of potatoes in chip production. This produces approximately 4½ million pounds of chips. About 800 to 900 acres of Manitoba's potatoes go to this industry. These are only the highlights of the process of "potato to chip". There are many more details in the manufacturing of chips. Next time you buy potato chips you will have an idea what has gone into the production of the crisp, tasty potato chip.

## J. CONNERY & SON

### Greenhouses

Pot, Bedding and Vegetable Plants

GREENHOUSE:

Lot 160, St. Mary's Road

St. Vital, Man.

Telephone ALpine 3-8547

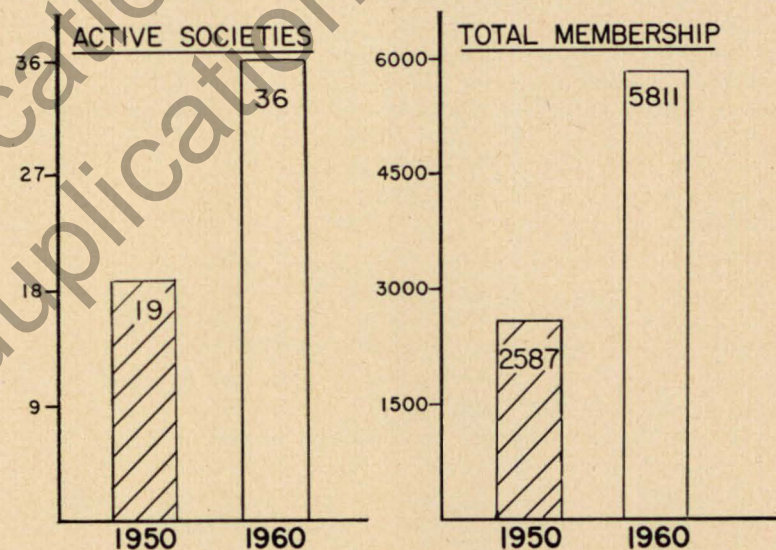
City Market: Stalls 19, 20 & 21 — Market Ave., Winnipeg

Mailing Address: Hulton Post Office, Manitoba

## Saskatchewan Societies

By D. R. ROBINSON, Extension Horticulturist,  
University of Saskatchewan, Saskatoon, Sask.

The Saskatchewan horticultural societies have enjoyed a period of growth and expansion since the mid '40's. This development has probably been influenced by the expanding population of our urban communities but other factors, no doubt, have played a part. More people are interested in home



SASKATCHEWAN SOCIETIES GROW

beautification and there seems to be a growing interest in gardening as a hobby. From 1950 to 1960, the number of active chartered societies increased from 19 to 36. During this same period society membership showed a correspondingly greater increase (see chart). The societies receive some help from provincial and federal horticulturists — judges are provided for the August flower shows, and lecturers for short courses. However, to a large extent, the societies plan and carry out their yearly programs on their own, and with considerable success.

It would require more space than is available to mention each society and its activities; accordingly, only a few of the highlights will be referred to at this time. In 1959, garden competitions were sponsored by 26 societies — included therein were eight rural garden competitions. During this same period 118 educational meetings were held. One of the newer projects is the horticultural short course — usually held in March. Dur-



ing the winter of 1960, nine short courses were sponsored by horticultural societies with an average attendance of about 40. These short courses operate for two or three evenings and emphasize the landscaping of urban and rural home grounds. According to available records Regina can claim to be the oldest society — a flower show having been there in 1896. At present, Saskatoon is the largest society in the province with 1,554 members. Uranium City, on the north shore of Lake Athabasca, is one of the most northerly horticultural societies in Canada. A relatively young society at Rosetown is rendering a useful service to the community through the purchase and sale of bedding plants and bulbs. In 1960, they sold plants to the value of \$3,271.91. Bedding plants and other materials are sold each spring by societies at Eston and Kamsack. Other societies raise funds by means of bake sales, blossom time teas, and the sale of flowers at the August show. It should be mentioned here that the Provincial Department of Agriculture provides an annual grant to the individual societies for horticultural shows and garden competitions.

Several societies provide TV broadcasts on gardening. At Saskatoon, TV broadcasts are given on a weekly basis throughout the year. Probably one of the most useful projects is the distribution of premiums. Shrubs, roses, perennial flowers and gladioli corms are distributed each spring by one half of the societies. In 1960, one society spent \$511.00 on premiums. Horticultural shows are staged by all of the societies in August. The various flower classes make up a large part of the individual show. In recent years, flower arrangements and compositions have attracted considerable attention, and at many of the shows some of the following items may be seen: "an arrangement of flowers depicting a song title or a book title"; "beachcomber's treasure"; "reflections"; "Eastertime"; and "harvest moon." In addition to the annual shows, "glad of the week" and "dahlia of the week" competitions were sponsored last summer by societies at Estevan, Weyburn and Indian Head.

Each summer, one or two regional meetings are held. Society programs and activities are discussed at these meetings, and frequently a tour of gardens is included in the itinerary. An annual convention is held in August at the time of the provincial fruit and honey shows. Last summer, the convention was held at Canora with 16 societies represented and a total of 68 persons in attendance. These combined events are held at different centres from year to year in order that as many people as possible may have an opportunity to attend them. Other activities and projects could be mentioned but the outline given above will indicate that our horticultural societies are actively promoting the gospel of "better gardening."

## Shrubbery of Deep Coloring

By DR. W. R. LESLIE  
Winnipeg, Manitoba

*Supt., Morden Experimental Farm, Morden, Man., for many years. Now resident in Winnipeg, acting as landscape consultant and garden columnist.*

Gardening in our young country has been somewhat lagging when it comes to making use of strong colors in shrubbery plantings. There is opportunity to work out many impressive effects. Fortunately, a rather surprising range of choices in the colorful trees and shrubs is available. Moreover, new things are being added every year or two.

The list presented here pays homage to our earliest pioneers, the Redman, with his coppery skin. The items suggested vary from reds in different shades, to coppers, violet hues and purples. Dull reds and purple tinting give the end of a vista a dim and distant effect. They make the object seem far away. That is in contrast to scarlet and laughing goldens which tend to bring the object much closer to you. Greens are neutral.

Out here on the expansive plains where there is little undulation to the terrain there is extra reason to bring new interest to the environment by way of planting for color effects. Banks of woody plants, carrying contrasty coloring can be arranged to make the skyline resemble a setting in the mountains. The spires of spruce and pine take the place of mountain ranges; dim blues and dusky maroons give the effect of misty valleys beneath the peaks; and shrubbery in diverse masses of differing shading and dimension supplies the foothills region.

At the outset, we recognize that the use of strong dominating colors is for the rear garden rather than for the front of the home. They also have an important role to play on large estates and in the furnishing of public parks. It is a happy circumstance that plants robed in red, magenta, purple, coppery, tawny, and deep bronze leaves range in stature from low shrubs to lofty trees. This permits making a variety of landscape picture scenes.

**TREES AND SHRUBS:** A Canadian visiting the beautiful gardens of Western Europe is impressed by the presence of trees dressed in spectacular red and purplish foliage. Notable among them are Japanese Red Maple, a large shrub with red-purple very finely cut leaves; Purple European or Copper



Beech, a noble round-headed tree with shiny, dark purplish leaves; Purple Persian Plum, a small tree with bright reddish leaves; Purple Giant Filbert, a sturdy shrub with large leaves of dim misty purple; and Copper or Purpleleaf European White Birch, with coppery foliage. All of these have proved to be "out-of-bounds" in our area with one exception — the Copper Birch. It has lived here for a number of years but has not shown as much vigor as desired.

Now we consider the subjects which are adapted, and available, to act as adequate substitutes for the European beauties. It is noted gratefully that the assortment is impressive in numbers and distinctiveness.

— **SCHUBERT CHOKECHERRY** is comparable to Copper Beech in richness of coloring. Being a selection of the native western chokecherry, made by the Oscar H. Will nursery at Bismarck, North Dakota, it is abundantly hardy. It puts on growth rapidly until it attains a height of up to twenty feet. The oval-headed small tree has large leaves which turn purple in the latter half of June and tend to hang on until about mid-October. The leaves are green in spring and for a time on new growth but later the whole tree is a purple mass. The purple fruits are typically chokecherries. As a clipped hedge, Schubert becomes a striking feature. Secure stock on its own roots, or worked on Mayday-tree, a non-suckering cherry, so that trouble from greenleaf suckers that results with stock budded on ordinary chokecherries will be avoided.

— **ROSYBLOOM CRABAPPLES** offer several varieties which are clothed in heavily tinted summer foliage. Strathmore, a fine-textured small tree, conic in outline, is purple tinged in summer and brilliant red in autumn. Leslie Copperleaf, an introduction from Valley City, North Dakota, is velvety in leaf surface and as richly colored as the less dependable Copper Birch. It is a small tree of roundish form. Sutherland, introduced by W. L. Kerr, Forest Nursery Station, Sutherland, Saskatchewan, is prized right across the prairies for its hardiness and deep colored foliage. Tomiko from Ottawa is noted for its full color. The tree is less vigorous here than the varieties mentioned above. Redflesh and Red Silver, two immigrants from South Dakota, are purplish to bronzy green in midsummer. Additional colorful crabapples are under test and some of them are brighter red in leaf than the ones already named.

— **CRIMSON KING MAPLE**, a stunning variety of Norway Maple, is an arresting purplish red. It is borderline in hardiness and sometimes the terminal growths kill back during winter. However, specimens at Morden and Winnipeg have been growing for a number of years. It is probably best to

treat it as a feature shrub, encouraging new shoots to spring up from near the ground. Young growth has the richest coloring. Leaves are red all summer and particularly bright during the first half of the summer.

— **CISTENA CHERRY** is a landscape gem. A hybrid between Sand Cherry and Purple Persian Plum, developed at Brookings, South Dakota, it is worthy of its aristocratic Asiatic parent in brightness. A shrub of small to medium size, it is showy at all seasons, having rich red winter bark. Its sister, Stanapa, also is useful but less vivid.

— **REDLEAF ROSE** is a well favored hardy bush from 3 to 4 feet tall. The purplish foliage is effective all summer. The small red fruits add interest after leaf-fall.

— **PURPLE SMOKETREE**, a medium to large shrub, is a rounded sumac that has been wintering fair to well at Morden. The fluffy flower head is a large mass of feathery purplish-crimson. Leaves open a rich crimson and turn to purple. It is regretted that the bush is somewhat tender.

— **CUTLEAF SMOOTH SUMAC** is a relative of the last subject. It is a refined plant with the leaflets deeply divided, and the petioles reddish. A weakness is its tendency to sucker freely. Although a form of the native Sumac, it sometimes suffers winter injury.

— **BARBERRIES** have been esteemed a long time for the forms with colored leaves. The Purple European Barberry was a favorite until banned as a host to stem rust disease of wheat. It was hardy and different to other medium shrubs. Purple Japanese Barberry is being used but it lacks in hardiness and in severe winters may be frozen back badly. The new introduction from Ontario, Sheridan Red Barberry, is the most attractive of them all. The medium sized bush is dense with branches generously dressed with dark red leaves. Mr. W. A. Cumming, Horticulturist, Experimental Farm, Morden, rates this as an ornamental of top value. It is hoped that it remains on the list of barberries not guilty of entertaining cereal grain rusts, and in that regard has different fate to European Barberry of lamented memory.

**WINTER EFFECTS:** Appearance during the dormant season is another aspect of ornamental gardening. It looms large in consideration in the northlands where most plants are bare from late October until about the end of April or later. Other than our evergreen conifers, there are few woody plants that



retain their leaves. Three come to mind as common planting stock. Most notable is Mongolian Oak which retains its full quota of leaves until May. Bright red in autumn, they dull to brown after drying in repeated freezings. Ironwood, a native tree, hangs on to many of its leaves into deep winter. They are brownish. The third tree is Russian olive with its silvery leaves. Sometimes part of foliage clings until late winter, as does much of the silvery fruits unless harvested by winter birds.

**WINTER BARK:** There are two trees with coppery winter bark which deserve to be given much more employment. Amur Chokecherry is one of our finest winter possessions. Bark on young trees is yellowish but as the plant ages the bark darkens until it is shiny dark copper, marked with long white lenticels. Swedish Linden, a form of the European Littleleaf Linden, has bright tawny bark which adds to the cheerfulness of the scene.

Many trees and shrubs have attractive winter bark. Others have a showing of red, bronze, maroon, or purple fruits. So, in glancing over the inventory of the woody plants on hand to work with, we realize unused possibilities in adorning the prairie landscape. Let's be bold and make more color pictures.

## FOR THE FASTER WAY TO MAKE YOUR MONEY GROW

See an Investors Man.

He can be your best friend financially.



**Investors**  
**syndicate**  
OF CANADA, LIMITED

HEAD OFFICE: WINNIPEG • OFFICES IN PRINCIPAL CITIES

## Nursery Stock in Containers

By **WALTER SHELMEERDINE**, Shelmerdine Nursery,  
Charleswood, Manitoba

Folks who visit nurseries these days find many changes for the better, not the least of which is the fact that trees and shrubs can be bought and planted successfully any day of the summer. One finds every conceivable kind of plants from tiny perennials to fair size trees offered for sale with their roots growing in soil in pots, pails, boxes, barrels, etc. These containers are easily removed leaving a fine ball of soil around the roots for planting.

This modern approach came to us from the south. Nurserymen in Florida and southern California have such a short period of dormancy that they simply had to find a way to transplant nursery stock while it was growing and blossoming. The tin can was the solution to their troubles. The two commonest sizes are the so called one gallon and the five gallon cans. The idea spread so rapidly and became so popular with home owners that almost all nurseries in the south now sell exclusively from containers.

Canadian nurserymen soon found that a good many people here were asking for plants in midsummer, with the result that many growers are now merchandising their stock in cans for summer sale. It should be pointed out, however, that in the early spring, trees and shrubs may be planted bare root without fear of loss. Therefore, there is no great advantage in purchasing in containers at that time.

Here are some of the advantages of nursery stock in containers.

1. The roots and soil are removed intact. Even plants in full bloom suffer no set-back whatever.
2. Those who plant after the spring dormant season can be assured of success.
3. An immediate effect is obtained when specimens in full leaf are planted. We have had actual instances where new homes were sold in midsummer principally as a result of planting jobs done during the full growing season. This would have been considered impossible only a few years ago.
4. Certain varieties of plants have always been considered difficult subjects to transplant. These are easily handled by this method.
5. Plants may be positioned on the site, before planting, to give the owner an idea how they will look when planted.



## SHELMERDINE NURSERIES LTD.

*Our experience in planning home grounds, commercial and industrial sites, is available to you.*

Visit our Garden Centre this spring. You may wander around the specimen garden, display area and propagating frames. It is all clean, even in wet weather. Our aim is to grow and stock everything you might need to make your home grounds a pleasant place in which to live.

ASK FOR FREE CATALOGUE

CHARLESWOOD, MANITOBA

VErnon 2-3993

For FASTER THRIFTIER  
LONG DISTANCE  
CALL  
STATION TO STATION

**Manitoba Telephone System**

Shrubs or trees can be repositioned this way or that, to suit the most exacting purchaser. When satisfactory positions are decided upon then the plants are removed from the containers and set in the ground.

6. At least some good soil is assured around the roots of the plant. We do recommend, however, that additional soil be used.
7. It allows those who are not familiar with the many varieties of plants to see and choose what they like at the nursery. No longer does the glamorous name or picture sell the plant.
8. Planting is easier and less care is required after planting.
9. Stock does not have to be planted immediately after it arrives. It may be kept indefinitely. This is a good feature for timid gardeners when plants arrive during cold or wet weather.
10. Your nurseryman knows how to place even an eight-foot tree into your car for easy transportation.

Many different types of containers are now being used. Personally, we have found the tin can to be the most satisfactory and adds least to the purchaser's cost. However, plastic, peat, wood, paper and other wood fibres are being used to a great extent especially in more densely populated areas where cans are not so easily obtainable. For very large trees, special containers are used.

### How to plant—

**PLANTS IN CONTAINERS**—Cans are cut at the nursery so that the ball of soil may be easily removed intact when you get the plant home. Sometimes the ball of soil is removed from the can at the nursery and wrapped in paper. Do not use any water until planting is complete. Dig the hole somewhat deeper than the ball and place good top soil in the bottom. Gently place the balled root in the hole making sure that the top of the ball is not more than an inch deeper than formerly. Fill the sides with good top soil and pack it firmly with your feet. Now water the soil around the plant thoroughly.

To see canned plants at their best, visit your nurseryman in June, July and August when plants are blossoming or are in full leaf and with new growth.

Really it is not a new idea. There is evidence that the Egyptians were growing trees and shrubs in containers four thousand years ago.



**Compliments of the****MANITOBA****FARMERS****UNION**

Although there are less than 15 percent of Canadians engaged in the production of food, 43 percent of our population are entirely dependent upon agriculture for their livelihood, and over 65 percent of new wealth created in our economy each year is created by agriculture.

Singled out as a group, Canadian farmers have been driven down to the bottom of our economic ladder, while the rest of the country continues to enjoy an ever-increasing expansion; as a result, farmers' efforts to assure Canadians and the world an abundance of the highest quality foods have brought them economic suffering.

In Manitoba alone, agricultural producers have experienced a loss of Cash Income in each of the past five years of \$20,490,000 compared with the previous five-year period. The loss in Net Income has been \$16,437,000 per year. The total net loss in purchasing power in the last five years has been \$82,186,000 or \$2,054.00 per farm.

This condition has forced farmers to produce more and more in order to meet the ever increasing production costs. During the past five years, actual operating costs on Manitoba farms have increased by 18.3 percent. Increase in production and marketing of Cattle was 31.6 percent; Calves, 20.1 percent; Hogs, 36.3 percent; Poultry, 118 percent and Eggs, 36.6 percent. Production of grain has decreased by 1.5 percent.

In addition to this dilemma and in order to survive, Manitoba farmers have increased their debt position from \$45 million in 1958 to an estimated \$34.7 million in 1960.

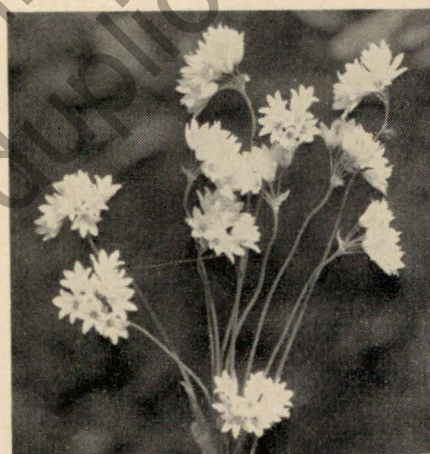
Agriculture is vital to our Nation's Economy — It is still our most important basic industry.

**Hardy Bulbs for Prairie Gardens**

By D. B. McNEILL, B.S.A.

Skinner's Nursery Limited, Dropmore, Manitoba

There are a number of hardy flowering bulbs, other than lilies, available to gardeners on the prairies, that are not well known, but because of their usefulness and attractiveness should be more widely grown. Many of these little bulbs provide a wide range of color in early spring, in some cases before the snow has gone, when very little else has started to grow. These bulbs should be planted in September in any good soil and require little attention, other than cultivation, once they are established. The best effect is obtained when they are planted in groups of 10 or more and they should be located in an area where they will have a good snow covering.



ALLIUM ZEBDANENSE



TULIPA TARDA

The Alliums are members of the Onion family but they should not be confused with the table varieties for the flowering onions are very showy. Allium azureum (Blueglobe Onion), with its deep blue globes on 18-inch stems, is very colorful in early summer. A. moly (Lilyleek) grows about 6-9 inches high with large umbels of bright, yellow flowers and has the same period of bloom as A. azureum. A. ostrowskyanum and A. zebdanense both flower in May and June, the former with large umbels of wine red flowers on 6-inch stems and the latter with heads of dainty, bell-shaped, pure white flowers on 12-inch stems.

Galanthus elwesii (Giant Snowdrop) along with some of the Muscari, is one of the first flowers to bloom in the spring



## SKINNER'S NURSERY LIMITED

*The Home of Dropmore Hardy Plants*



### MOCK ORANGE "PURITY" ANOTHER RECENT HARDY INTRODUCTION

By Western Canada's Renowned Plant Breeder  
F. L. Skinner, M.B.E., LL.D.

CONSIDERED ONE OF THE TOP TWO MOCK  
ORANGES AT ST. PAUL-MINNEAPOLIS

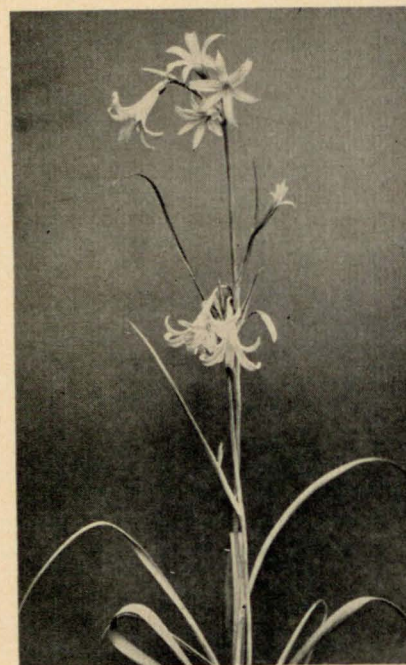
WRITE FOR FREE CATALOGUE — featuring this and  
many other plants especially developed for  
Prairie Gardens.

SKINNER'S NURSERY LIMITED  
DROPMORE, MANITOBA

and on occasion they have been known to bloom as early as the 31st of March. The flowers are white on 4-6-inch stems and do best in a cool, moist, shady location. This is the only Snowdrop that has been successful at Dropmore.

The Ixiolirions are another group of desirable spring flowering bulbs that are related to the Amaryllis and should be more widely grown. There are only a few species available and they are similar in growth habits and foliage but vary slightly in color and time of bloom. The blue lily-like flowers are borne on 12-inch stems in May and early June.

The Muscari or Grape Hyacinths group contain not only some of our earliest flowering bulbs but also one of our most attractive spring flowering plants. Muscari alpinum is the largest flowered of this group and produces large spikes of blue flowers on 9-12-inch stems in June. M. azureum and M. azureum alba are the earliest flowering of this group with the former producing 2-inch spikes of clear blue flowers on a four-inch stem, while the latter has white flowers. These two varieties are often in bloom before the snow is gone. M. polyanthum is similar to M. azureum but has dark blue spikes of flowers in May. Muscari tubergenianum is the showiest of the Grape Hyacinths grown at Dropmore, with very bright blue flowers on 6-inch stems in May and June.



IXIOLIRION

There are a great many Tulips that can be grown on the Prairies but for hardiness and reliability it is hard to surpass *Tulipa tarda*, *T. urmiensis* and *T. kolpakowskyana* and once established these tulips will bloom each spring for many years. We have one report of *T. kolpakowskyana* purchased 23 years ago still doing well. *T. tarda* is a dwarf tulip which has white flowers with yellow centres in May. *T. urmiensis* is larger flowered than *T. tarda* and the flower is completely yellow. *T. kolpakowskyana* has bright orange-yellow flowers in May while hybrids that have been raised of this species have brilliant scarlet and bright yellow flowers in May.



The Colchicum or Autumn Crocus behave the opposite to most of the bulbs planted in the fall. They produce their seed and foliage in the spring, die down and then produce their flowers in August and September. The bulbs are planted in September before they commence flowering and should have a good snow covering for best results. Colchicum autumnale have mauve crocus-like flowers on 3-4-inch stems. There are also white and double pink forms of this species. C. byzantinus is similar to C. autumnale but the flowers are lilac-pink in color.

These are only a few of the bulbs that can be grown on the Prairies but these are the most reliable and are worthy of a place in any garden. These varieties are also readily available so when planning your garden this winter and spring, consider these bulbs and leave a spot for them in your garden for next fall.

*Wishing You Successful  
Gardening in 1961*

**K. A. POWELL (CANADA) LTD.**  
GRAIN MERCHANTS

563 Grain Exchange

Winnipeg

Compliments of . . .

**A. S. BARDAL LTD.**  
FUNERAL SERVICE

N. O. BARDAL — K. L. BARDAL

Phone SP 4-7474

843 Sherbrook Street

Winnipeg 2, Man.

**Chas. McLean Electric Ltd.**

Repairs, Wiring and Supplies

See us for your fluorescent installations

811 Portage Avenue

Winnipeg 10

Phone SPruce 4-5479

## Hints for Flower Arrangers

By **BETSY SHORTT**, Winnipeg, Manitoba

Mrs. Shortt is well known in Winnipeg as a competent judge of Flower Arrangements.

Flowers arranged in a pleasing manner are a joy to the beholder. Hundreds of people attending the Annual Show of the Winnipeg Horticultural Society attested to the fact as they crowded around the tables on which the flower arrangements were displayed.

More and more entries are brought in each year and it is becoming increasingly difficult for the judges to choose the best. Many times they would like to give prizes to six or seven, as they are almost equally excellent to the eye. However, upon closer and more critical inspection, almost to the extent of being ruthless, we find small and hardly noticeable points to discredit an entry.

Sometimes there are just too many flowers in an arrangement, which gives a top-heavy appearance and overbalances the container.

A common error noticed was the failure to cover up the "frog", which detracted from the beauty of the arrangement. Even if leaves that have no relation to the flowers were used, they would take away that "artificial aid" look and make the whole effort appear more natural.

The use of too many different colors together gives a jumbled look.

Some flowers are more suited to arranging than others and it requires a little experience to find out which flowers hold up well in water, and which are wilted within a day. Usually the Show is held in August when some of the days are swelteringly hot and as a result, people viewing the exhibits the day after judging often wonder what the judge saw in this or that arrangement, which is by then all wilted! However, if the arrangement is pleasing and measures up to certain standards when judged, it is worthy of an award, even though it may be drooping the next day.

The quality of the flowers is important too and one poor specimen soon disqualifies the whole. When there are so many excellent arrangements to consider, tiny flaws have to be looked for.

Sweet pea arrangements are best when they have that



"airy" look, with just a bit of space between the blooms — not bunched down into a tight mass in the bowl.

Entries for coffee tables should be easy to look at from **all angles** and should not show any of the supports used to keep the flowers in place. Some lovely arrangements in this class had to be disqualified because they definitely had a front and back side. These really would have been idea for buffets or side-boards and should have been entered as such. As coffee tables now come in so many sizes and shapes, a wider range in the size and shapes of the arrangements can be used, but they must be viewed from **all sides**. Also, the bigger the coffee table, the larger the arrangement can be.

On the other hand, how small should a miniature "arrangement" be? Some are so tiny: are these really arrangements? Others — just a little larger — say in a teacup or something of that size — are much more attractive to me and I feel these should be in a class of their own. This section attracted a lot of attention and has proven to many surprised admirers, that bouquets and arrangements do not need to be huge affairs nor do they require a great number of large flowers — tiny ones will do.

It is interesting to see the many artistic and ingenious ideas people have and how they go about getting these ideas across to the beholder, via a lovely and unusual arrangement of flowers. We hope to see many more.

As so many of the arrangements are almost equally good, and only have to be eliminated because of minor flaws, we would like to have some "Honorable Mention" ribbons to give to these nearly-best-but-not-quite entries as we feel their fine efforts should be recognized and encouraged.

THE  
**Fluorescent**  
SALES and SERVICE

1036 PORTAGE AVENUE

Telephone  
SP 5-8475

WINNIPEG 10

For All Your

**ARTIFICIAL LIGHTING**

FLUORESCENT OR INCANDESCENT

FREE ESTIMATES

Wholesale Prices To All Members

Visit our Fluorescent Shop.

## MODERN DAY LILIES

Bloom in succession through the summer.



**BOLD  
COURTIER.**

YELLOW  
AND ROSE  
BICOLOR.

EARLY  
HEIGHT 36".

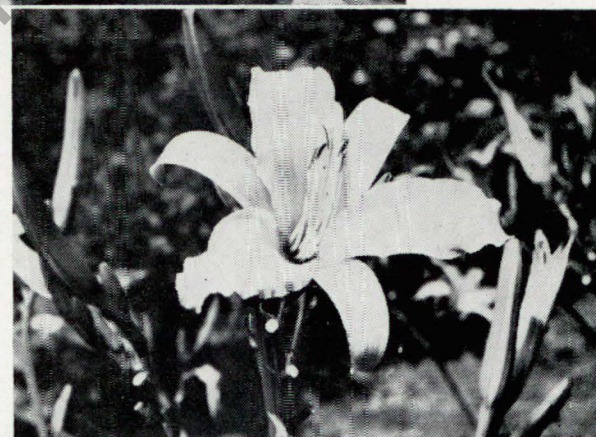
All like a well  
drained loca-  
tion. Resist  
drought.

**CANARI.**

CANARY  
YELLOW.

MID SEASON  
HEIGHT 40".

All are best in  
full sun but  
will get along  
in light shade.



**FLAMBOYANT**

DEEP  
YELLOW  
AND  
INDIAN RED.

MEDIUM  
EARLY.  
HEIGHT 36".

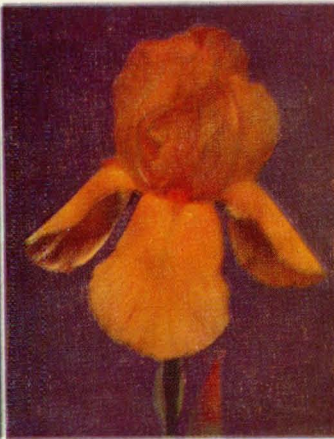
All hardy at  
Winnipeg.



### Bearded Iris Varieties



Pink Formal



Zanther



Black Diamond

### Reliable Border Lilies



Bright Cloud—Late August



Henryi Lily—Mid-August



Prosperity—Early July



Enchantment—Early July



**Early Cut Flower Dahlias**  
Top row—Palace, Piquant, Lillianne, Ballego  
Left—Doris Day  
Right—Brightest Pink



**VARIOUS TYPES OF TUBEROUS BEGONIAS**  
The most colorful plant for shady locations. For beds and borders, window boxes and hanging baskets. Usually started indoors and planted out when frost damage has passed; can also be grown under cloches or hot caps. Left and right—Hanging Baskets.



**Tuberous Begonias—**  
Above Marmorata. Top, left to right—Camelia, Hanging Basket Types, Marginata, Crispa.

Above Carnation type—In centre, Multifloras. Helen Harms, Red Flamboyant.



## GOOD BORDER PLANTS

### LIGULARIA SPECIOSA

An outstanding perennial introduced by Dr. Skinner, Dropmore. Tall spikes, up to six feet, of golden yellow blooms. Large, attractive leaves. Needs ample moisture to give best results. Perfectly hardy. Blooms just after the Delphiniums. A grand background plant.



### DWARF MORNING GLORY

A most attractive annual plant. Similar in habit of growth to Petunias. For best results should be started indoors. Covered with bloom from mid-June to frost. Comes in mixed colors or named varieties, the most striking is Royal Ensign, deep blue flowers with white and deep yellow throat. Likes a well-drained location in full sun.

### PHLOX WHITE PYRAMID

The original hardy white Phlox, a sport of White Pyramid, was found by Mr. Asbly, of Neepawa, Man., and named Ada Blackjack. This, with the variety Moosejaw, are the only reliable hardy Phloxes of this type on the Prairies. Subject to attacks by Red Spider in dry weather. Easily increased by root divisions in Spring.



## WATER WONDERLAND

By R. A. SMITH, Winnipeg, Manitoba

An aquarium with green growing plants that has beautiful jewel-like fish of all the colors of the rainbow, gliding gracefully through the foliage, you can have in your own home for your year-round pleasure.

You are creator of your own little world; this is kept in balance by the amount of plants and fish you have; the food is given sparingly to the fish; the plants live off the droppings of the fish; in turn the fish breathe the oxygen that the plants give off to the water. This is the cycle which gives life and nourishment to your plant and animal kingdom, and is controlled by the amount of food, fish and plants in the aquarium.

The project comes easy to any good gardener, as you control the amount of heat and light for your underwater world; this you cannot do in gardening.

There are floating plants such as Riccia, Chain of Stars, Salvinia. Others that can be planted or floating, such as Hornwort, Anacharis, Cabomba. Then the rooted grass-like plants of Vallisneria and Sagittaria, of different species that grow from 2 inches to 48 inches long. The Cryptocorynes that are all sizes; some with light green leaves, others with dark green leaves that are bright red on the underside. Also Sword plants, lace plants with the leaf an open mesh-like screen netting; Banana plants, Pineapple plants, Four Leaf clover where every leaf is a lucky four leaf. There must be as many underwater varieties of plants as there are surface plants and they propagate the same, by seed; from roots sending up other shoots; by plants growing out of a leaf; by slips, etc.

Fish are the flower-like jewels of your underwater fantasy. They come in all colors, temperaments and sizes.

The Live Bearers — that bear their young alive. In this group are the common Guppies and fancy Guppies that sell from ten cents each to \$50.00 a pair. The Moon Platies and Swords that come in red, gold, blue, green, black and any combination of the above colors from cross-breeding.

The Mouth Breeders — After the eggs are laid and fertilized, the parents gather the eggs up in their mouths and carry them till they are hatched; until such time that the young get large enough that they cannot all stay in the mouth.

The Egglayers — Some blow bubble nests and keep blowing bubbles until the young are large enough to swim away;



others adhere their eggs to a stone or leaf and stay over them, guarding them and fanning the eggs with their fins until the young fish can start out on their own. The marvels of nature are to be observed in your own home.

Aquariums are not the problem they used to be, now that you can get thermostatically controlled electric heaters, automatic aerators, filters, properly packaged fish food, and even holiday food that you drop in your aquarium and go away for a couple of weeks at a time without any worries about the care of your fish.

This is such an extensive study to put into an article this short. The writer recommends Wm. T. Innis Books as he has found that they explained more clearly the care of the aquaria. They are: Exotic Aquarium Fishes, Gold Fish Varieties, and Water Gardens. For a beginner The Modern Aquarium priced at \$1.00 is a good book to start with.

WE HAVE MANY EXOTIC PLANTS AND TROPICAL FISH  
ON DISPLAY FOR YOUR SPECIAL INTEREST.

OPEN EVENINGS TILL 9 P.M.



PETS & AQUARIUM FISH

720 SARGENT AVE., WINNIPEG 10, MAN.

Compliments of

**CROWN CLEANERS & LAUNDERERS**

DRIVE-IN PLANT

Lilac at Corydon

Winnipeg 9

Phone GL 2-4111

CARRY AND SAVE STORES ALL OVER THE CITY

**SARGENT FLORISTS**

FLOWERS FOR EVERY OCCASION

Phone SPruce 4-4885

739 SARGENT AVENUE

WINNIPEG 3, MAN.

## Recommended List of Annual Flowers

*This list has been prepared by a committee appointed by the Manitoba Horticultural Association.*

The following list of Annual Flowers have been found satisfactory in prairie gardens. Some must be sown indoors and transplanted out in June; others can be sown outside about May 10 where the plants are intended to bloom. For sowing indoors the use of sterilized soil and treating the seed with Semesan will greatly lessen the chances of "damping off." A night temperature of not less than 60° will be found satisfactory.

| Common                    | Botanical Name   | Seeding Dates             |
|---------------------------|------------------|---------------------------|
|                           |                  | I.—Indoors<br>O.—Outdoors |
| African Daisy (blue eyed) | Arctotis         | I. April 15-20            |
| Floss Flower              | Ageratum         | I. March 20               |
| Alyssum                   | Lobularia        | I. or O. May 10-25        |
| Prince's Feather          | Amaranthus       | I. or O. Apr. 1-May 20    |
| Amaranth Globe            | Gomphrena        | I. April 15-20            |
| Alkanet                   | Anchusa          | O. May 10                 |
| Asters                    | Callistephus     | I. March 31-Apr. 7        |
| Baby's Breath             | Gypsophila       | I. or O. May 1-15         |
| Bachelors Button          | Centaurea        | I. or O. April 15-30      |
| Balsam                    | Impatiens        | I. April 15-20            |
| Bells of Ireland          | Molucella        | I. March 20-31            |
| Burning Bush              | Kochia           | I. or O. April 15-31      |
| Blue-Lace Flower          | Trachymene       | I. or O. May 20-31        |
| Butterfly Flower          | Schizanthus      | I. or O. May 1-15         |
| Calendula                 | Calendula        | I. or O. April 15-30      |
| Calliopsis                | Coreopsis        | I. or O. May 1-15         |
| Campanula (Bell-flower)   | Campanula        | I. or O. March 20-31      |
| Candytuft                 | Iberis           | I. or O. April 15-30      |
| Cape Marigold             | Dimorphotheca    | I. April 15-30            |
| Marguerite Carnation      | Dianthus         | I. March 15               |
| Castor Oil Plant          | Ricinus          | I. March 20-31            |
| Celosia (Plumed)          | Celosia plumosa  | I. March 20-31            |
| Celosia (cockscomb)       | Celosia cristata | I. March 20-31            |
| Chrysanthemum (annual)    | Chrysanthemum    | I. April 1-15             |
| Clarkia                   | Clarkia          | I. or O. May 1-15         |
| Chinese Forget-Me-Not     | Cynoglossum      | I. or O. April 15-30      |
| Coneflower                | Rudbeckia        | I. March 20-April 10      |
| Cornflower                | Centaurea        | I. or O. May 10-25        |
| Cosmos                    | Cosmos           | I. or O. April 15-31      |
| Cup-Flower                | Nierembergia     | I. Feb. 20-March 20       |
| Dahlia (annual)           | Dahlia           | I. March 15-31            |
| Dusty Miller              | Centaurea        | I. March 25-April 10      |
| Four-O'Clock              | Mirabilis        | I. or O. April 15-25      |
| Gaillardia                | Gaillardia       | I. March 15-31            |
| Hollyhock (annual)        | Althaea          | I. March 1-15             |
| Larkspur                  | Delphinium       | O. May 15                 |
| Love-in-a-mist            | Nigella          | I. April 15-31            |
| Lavatera                  | Lavatera         | I. or O. April 15-31      |
| Lobelia                   | Lobelia          | I. March 1-15             |



| Common                       | Botanical Name           | Seeding Dates             |
|------------------------------|--------------------------|---------------------------|
|                              |                          | I.—Indoors<br>O.—Outdoors |
| Marigold, African .....      | <i>Tagetes</i>           | I. April 15-20            |
| Marigold, French .....       | <i>Tagetes</i>           | I. or O. April 15-20      |
| Mignonette .....             | <i>Reseda</i>            | O. May 1-15               |
| Nasturtium .....             | <i>Tropaeolum</i>        | I. or O. May 1-15         |
| Nemesia .....                | <i>Nemesia</i>           | I. March 20-April 7       |
| Nicotine .....               | <i>Nicotiana</i>         | I. April 15-25            |
| Night Scented Stock .....    | <i>Mathiola</i>          | O. May 10-15              |
| Pansy .....                  | <i>Viola</i>             | I. February 20-28         |
| Petunia .....                | <i>Petunia</i>           | I. March 15-31            |
| Phlox Drummond .....         | <i>Phlox</i>             | I. April 1-15             |
| Pinks .....                  | <i>Dianthus</i>          | I. March 20-31            |
| Poppy, California .....      | <i>Eschscholtzia</i>     | I. or O. May 10-15        |
| Poppy, Iceland .....         | <i>Papaver nudicaule</i> | O. April 1-15             |
| Poppy, Shirley .....         | <i>Papaver rhoeas</i>    | O. May 10                 |
| Portulaca .....              | <i>Purslane</i>          | I. April 1, O. May 10     |
| Salpiglossis .....           | <i>Salpiglossis</i>      | I. or O. April 1-15       |
| Salvia .....                 | <i>Sage</i>              | I. March 1-7              |
| Satin Flower .....           | <i>Godetia</i>           | I. or O. April 10-25      |
| Snapdragon .....             | <i>Antirrhinum</i>       | I. March 7-15             |
| Sweet Scabious .....         | <i>Scabious</i>          | I. March 15-31            |
| Spider Flower .....          | <i>Cleome</i>            | I. March 25-April 7       |
| Statice .....                | <i>Limonium</i>          | I. March 20-31            |
| Stock—10 weeks .....         | <i>Mathiola</i>          | I. April 1-15             |
| Strawflower .....            | <i>Helichrysum</i>       | I. April 15-30            |
| Sunflower .....              | <i>Helianthus</i>        | I. or O. April 15-30      |
| Sweet Sultan .....           | <i>Centaurea</i>         | I. or O. April 15-30      |
| Sweet William (annual) ..... | <i>Dianthus</i>          | I. March 1-15             |
| Sweet Peas .....             | <i>Lathyrus</i>          | O. April 15-20            |
| Swan River Daisy .....       | <i>Brachycome</i>        | I. April 15-20            |
| Toadflax .....               | <i>Linaria</i>           | O. April 20               |
| Verbena .....                | <i>Verbena</i>           | I. March 20-31            |
| Viscaria .....               | <i>Viscaria</i>          | O. April 15               |
| Zinnia, pumila .....         | <i>Zinnia</i>            | I. or O. Apr. 20-May 10   |
| Zinnia, Lilliput .....       | <i>Zinnia</i>            | I. or O. Apr. 20-May 10   |
| Zinnia, giant .....          | <i>Zinnia</i>            | I. or O. Apr. 20-May 10   |
| Zinnia, Linearis .....       | <i>Zinnia</i>            | I. or O. Apr. 20-May 10   |

## VINES

|                           |                        |                      |
|---------------------------|------------------------|----------------------|
| Morning Glory .....       | <i>Ipomoea</i>         | I. or O. April 7-30  |
| Cobaea .....              | <i>Cobaea scandens</i> | I. March 25-April 7  |
| Hyacinth Bean .....       | <i>Dolichos</i>        | I. March 25-30       |
| Scarlet Runner Bean ..... | <i>Dolichos</i>        | O. May 1             |
| Canary Bird Vine .....    | <i>Tropaeolum</i>      | I. March 25-31       |
| Gourds .....              | <i>Cucurbita</i>       | O. May 1-15          |
| Climbing Nasturtium ..... | <i>Nasturtium</i>      | I. or O. April 15-30 |

## MAISON ST-JOSEPH NURSERY, OTTERBURNE, MAN.

Member of Manitoba Nurserymen's Association

Phone 327—R 4, St. Pierre Exchange

HARDY FRUIT TREES, ORNAMENTAL TREES AND SHRUBS,  
SMALL FRUIT BUSHES, PERENNIALS, ETC.

Bilingual price list free on request

## ORNAMENTAL CRABAPPLES

By W. A. CUMMING

Head, Ornamentals Section, Experimental Farm, Morden, Man.

Ornamental crabapples are gaining in popularity as smaller trees suitable for planting on the Canadian Prairies. An extensive breeding and testing program is being carried out at the Canada Experimental Farm at Morden. Eighty-five varieties and species are presently under test plus sixty-five selections from the breeding program. In addition several hundred controlled-cross seedlings are being carefully watched for superior individual plants.

Crabapples must have attributes other than beautiful flowers for a short period in the spring, to make the maximum use of them in modern landscape design. They must have continuity of interest, which is sought for in the structure and shape of the tree, the texture and colour of the leaves and the brightness of color and persistence of their fruits. Small fruited varieties are favored for ornamental plantings. These command much less attention from children than do the larger fruited sorts. This is particularly applicable to public plantings, where enthusiasm for picking fruits often results in severe damage to the trees. Another reason for selecting persistent, small fruited varieties is their attractiveness to winter birds. Additional interest and charm will be added by visits from the sleek and aristocratic Bohemian Waxwing, the colorful and cheery Pine and Evening Grosbeaks, the dashing blue of the Blue Jay and a reminder of spring to come by the odd visits from an overwintering Robin.

Larger fruited varieties may be used, in more protected areas on private property, for the dual purpose of producing culinary fruit and at the same time utilizing their ornamental qualities in the overall landscape design. The variety 'Dolgo' in its dual role as an ornamental tree and a top rating jelly crabapple is an excellent example.

We depend upon the Siberian crabapple introduced from Northern Asia to give us the required hardiness in both ornamental and culinary crabapples. This species itself has wide adaptation as an ornamental tree. Its large white flowers are freely produced and are followed by small red or yellow fruits. It grows to a height of from 15 to 20 feet. A sub-species, the Manchurian crabapple, is taller growing and more upright in character with even smaller, brightly colored fruits. 'Snowcap', a variety introduced by the Beaverlodge Experimental Farm in northern Alberta is a selection of the Siberian crabapple.

The Redvein crabapple, introduced from the Tian Shan mountains, which separate Turkestan and China, has been



# Save work and worry with Morton Chemical products

**PANODRENCH SOIL TREATMENT** prevents damping-off disease in newly-planted flats or pots. When used as a transplant dip, it protects your young plants from fungus disease attack. Easy to use, just mix with water.

**Z.I.P. ANIMAL REPELLENT** keeps rabbits, deer and other gnawing animals away from your costly shrubs and trees. Z.I.P. is easy to apply with brush or sprayer. And its protection lasts a full season.

**PANOGEN TURF SPRAY** stops lawn disease . . . prevents ugly spots and dead areas from spoiling the beauty of your turf. Application is simple and fast—just mix with water and apply with sprinkler or hose proportioner.

Morton Chemical Products are available at better lawn and garden stores throughout Western Canada.

WRITE FOR INFORMATION



**MORTON CHEMICAL OF CANADA**  
LIMITED

*New name for Panogen of Canada Ltd.*

345 Higgins Avenue—Winnipeg, Manitoba



SIBERIAN CRABAPPLE

combined with the Siberian crabapple to produce a group of varieties with pink to reddish flowers. These are known collectively as Rosybloom crabapples. One of the first of these to be named was the variety 'Hopa', which resulted from the hybridizing carried on by Dr. N. E. Hansen of South Dakota State College. It was introduced in 1920 and rates high among varieties of ornamental crabapples.

In 1920 Miss Isabel Preston commenced breeding work with this group at the Central Experimental Farm at Ottawa. Twenty-eight of the thirty or more varieties named and introduced at Ottawa have been tested at Morden. Of these 'Makamik' is outstanding for its symmetrically rounded tree shape, its bright pink flowers and bronzy-green foliage. Another Ottawa variety 'Sissipuk' is the last of the crabapples to come into flower at Morden.

The variety 'Almey' introduced by the Morden Experimental Farm in 1945 has become widely known and acclaimed as a top rating ornamental crabapple in both Canada and United States. Almey excels in the brightness and fastness of its red flower color which is enhanced by a white mark at the base of each petal. Its brightly colored small fruits hang on well into the winter. 'Sundog', another Morden introduction, was selected for its columnar habit of growth and the freedom with which it produces its large pink flowers.

'Strathmore', a production of the Provincial Horticultural Station at Brooks, Alberta, is distinctive for its compact



conical form, fine branching and copper coloured foliage. 'Jubilee', another Brooks introduction, is hardy, makes a shape-ly tree and has flowers of a good rose-pink color. Both of these are derived from 'Hopa'.

The variety 'Sutherland', selected and named by the Forest Nursery Station, Sutherland, Saskatchewan, is distinctive because of its dark-reddish bronze foliage which it maintains throughout the summer. It has very bright red flowers followed by small, dark red fruits which hang on well into the winter. Another selection with good coppery colored foliage has been named and introduced by the Northwest Nursery Company, Valley City, North Dakota, under the variety name 'Leslie'.

Dr. F. L. Skinner's relatively new variety 'Rudolph' possesses an abundance of hardiness. It was the only variety at the Morden Farm which produced anywhere near a normal quota of flowers, following severe late spring frosts in the spring of 1958. The tree is upright in habit with large cup-shaped clear pink flowers, followed by small colorful yellow and crimson fruits.

'Arctic Dawn', another introduction of the Beaverlodge Experimental Farm, is outstanding for its fall array of small, bright dark red fruits which cling tenaciously into the winter. It is extremely hardy and makes a strong well-shaped tree, flowers are pale pink.

These are a few of the varieties which have been hardy and outstanding in their performance at Morden and elsewhere on the prairies. New varieties are appearing every year, some of which will eventually find their place in our gardens. None of the double flowered varieties tested so far have anywhere near sufficient hardiness for prairie planting. At least three breeders are hopefully and actively engaged in trying to produce hardy double-flowered crabapples.

## A. E. McKENZIE CO. LTD.

Sixty-One years experience in the Seed business reflects itself in the selection of NEW and improved varieties found in our Annual Catalogue, as well as in Retail Store Displays. These Displays are found in leading Stores across Canada.

For best results and greatest satisfaction, purchase your COMPLETE selection from McKenzie Displays.

HEAD OFFICE — BRANDON, MAN.

Branches — Winnipeg, Toronto, Saskatoon, Edmonton, Calgary

## How to Grow Achimenes

By MRS. JEANE THOMPSON, Millet, Alberta

Achimenes (variously pronounced ak-i-menes or akimén-es) are attractive houseplants which fit well into the seasonal pattern of our window gardening, and deserve to be more widely grown. Their small, catkin-like tubers, planted in March, will provide indoor bloom during June, July and August while other members of the houseplant collection are having their annual holiday in the garden. Becoming dormant in September, they leave windowledge space free for plants returning from outdoors, and containers free for the fall planting of narcissi, hyacinths and tulips. Their tubers multiply quickly, providing a surplus for friends. They are free from insect pests or disease.

Achimenes belong to the Gesneria family, and are found wild in Mexico and Guatemala. They have been popularly called "Cupid's Bower", or sometimes, "Resurrection Plant" because, after blooming, the foliage dies down and the plant is apparently dead until the tubers send out small green velvet leaves again. The most robust variety is sold commercially as "Purple King". New hybrids come in various shades of purple, lavender, blue, pink, carmine red and white. Varieties may be tall or bushy, upright or trailing. Plants may be made to branch out by pinching end-growth, although this will delay the time of blooming. The beautiful, flat trumpet flowers, an inch or more across, come from the axils of the leaves.

Since the root systems of achimenes are small, they may be grown in decorative ceramic containers without drainage, as well as in conventional plastic or clay pots. A mixture of loam, compost or peat moss, and a little sand suits them well. The soil for potting should be moistened so that it will form a ball in the hand which will crumble easily (like a good pie crust mixture). Tubers should be laid on their sides, unless you can tell the sprouting end, about an inch apart in the container, and covered with a half-inch of soil. To retain soil moisture, the pot may be covered with a clear plastic such as Saran Wrap, held in place with a rubber band. The pot should be placed in good light, and not watered until the soil feels dry to the touch. Patience may be required; each tuber has its built-in time table, and if the tuber was not ready to break dormancy when planted, the sprout may not emerge for several weeks.

When the leaves show through, twigs or slender sticks may be placed between plants to serve as supports for the stems.



Achimenes like good light, but should be protected from hot sun through glass, which will burn their leaves and cause too rapid transpiration. While the plant is in full bloom it will require frequent watering. Faded blooms and seed pods should be nipped off.

When the blooming period is over, plants may be retired to the basement to dry out. When the soil ball is completely dry, you may break it apart, gently separate the small tubers and store in sealers of vermiculite or other dry material. Or the soil ball may be left in the pot until March when it is time to plant the tubers again. The tubers would, of course, sprout and grow again if not separated but the over-crowding resulting from the increase of tubers would result in smaller flowers.



Burial plots in a fully developed, landscaped section, GARRY MEMORIAL PARK, are available at

**\$90.00 per grave**

Interment Fee \$25.00 and \$32.00

**NOTHING MORE TO PAY — EVER!**

- 30% of all sales deposited in trust account for Perpetual Care Fund.

Conveniently located, McGillivray Blvd., two blocks off Pembina Highway, only 7 minutes by bus from Osborne and Broadway.

**For full information — without obligation —**  
Please phone LEnox 3-2924

**GARRY MEMORIAL PARK**  
Operated by the Elmwood Cemetery Company Ltd.

## BLOSSOM FLORISTS

Compliments of BILL HAWCROFT

2481 Portage Avenue

Winnipeg 12

Day Phone VE 2-1132 — Nite SU 3-3473

## Scotch Kale

By HECTOR MACDONALD, Winnipeg, Man.

Last night I stepped across the road to hae a wee visit with ma neighbour, Angus MacTavish. I had an idea I might be able to swap some of my Norland tatties for his Wasecas. Norland is no a bad tattie but I don't think it beats Waseca.

Waseca is more mealy and Maggie and me like mealy potatoes.

Angus grows grand stuff, but he disna like trying new things till he sees how they do in other fowks' gardens. He is gey canny, and I did'na make a verra good trade for his Wasecas.

However, it's no tatties I want to tell ye about, it's Angus's Curly Kale. I never saw a

better row of Curly Kale than Angus has, it looks real bonny, I couldn't help taking a snap of it, just to let ye see for yersel.

Some of the ladies of the Horticultural Society (the fowk that run the flower show) were telling Angus' wife Jean, that the leaves are wonderful for making flower arrangements to decorate a table, but Angus likes his table decorations cooked.

It's verra easy to grow, just sow the seed in the garden about the middle of May, like turnips, thin it oot when its twa inches high to a foot and a half between the wee plants.

There's more than one way of cooking it, but I like it best plain boiled. Maggie strips the green curly leaves off the stalks, drops them into a pot of boiling water with a bit of salt and a pinch of baking soda. She cooks them for twenty-five minutes, then strains off the water, chops them small and they are ready to sit beside a slice of roast beef.

Curly Kale is ready to use when the first frost comes, in fact a touch of frost improves its taste, and mind you its full of vitamins.







**FERTOSAN**  
COMPOST ACCELERATOR

Turns Garden Rubbish into Rich Manure in 5 to 6 Weeks

Get Fertosan from your local seedsman or hardware.

1 TON

Fertosan is packaged in sizes to treat 1, 4, 20, 100 and 1,000 tons at a time

**MYCO COMPOST ACCELERATOR:** This is similar to the Regular Compost Accelerator, it is made up and used in the same way but is six times stronger

Sole Agents for North America  
**MACDONALD & WILSON LTD.**  
562 Beatty Street, Vancouver, B. C., Canada

Simple and complete instructions are contained in each envelope and once the "stock solution" is made up and stored in an uncorked bottle, it will keep indefinitely.

Once the compost heap is made you just wait five to six weeks in summer (longer in cold weather), and then spread the composted material on the garden or greenhouse benches.

No smell, no forking-over, no work.

A very small area in an out-of-the-way corner of the garden will take care of all your garden rubbish at much less than \$1.00 per ton. Home gardeners are becoming more conscious of this wonderful product with its ease of application and very low cost and buy upwards of 50,000 packages from us each year.

Fertosan is packaged to treat 1, 4, 20, 100 and 1000 tons.

Sole Agents for North America  
**MACDONALD & WILSON LTD.**  
562 Beatty St. Vancouver, B.C.



**Fertosan** ORGANIC  
**SEPTIC TANK CONDITIONER**  
DOMESTIC SIZE TREATMENT

KEEPS ANY SEPTIC TANK FREE FLOWING FOR AT LEAST 3 MONTHS. PREVENTS PLUGGING AND REMOVES OFFENSIVE ODOURS. SAFE AND EASY TO USE.

NON POISONOUS NON CORROSIVE

UNAFFECTED BY MODERN DETERGENTS  
FULL DIRECTIONS ENCLOSED  
Made in England

## SEPTIC TANK CONDITIONER

Thousands of Home Gardeners are now familiar with the wonderful results obtained from the use of Fertosan Regular and Fertosan Myco Compost Accelerators.

Their low cost and ease of application make them a boon to all people who are interested in making a cheap but very valuable organic manure from their garden waste—weeds, leaves, spent annual plants, grass clippings, etc.

Now Fertosan Ltd. has made available another valuable product "Septosan" which is dormant bacteria, activated by merely adding hot water and when introduced into the septic tank by way of wash basin, sink or toilet flush, will keep the tank clean, clear and free from objectionable odours.

The above procedure applies to Septic Tanks that are operating normally. Where, however, clogging and blockages have already occurred, a second treatment should be injected into the system, fourteen days after the first treatment, when unclogging will occur.

If the treatment is followed at regular intervals of three months your Septic Tank will remain in a free flowing condition.

Septosan is NOT affected by any of the modern detergents and no advantage is gained by repeating treatments at shorter intervals than the three months already stipulated.

Clear, simple instructions are contained in each packet.

Sole Agents for North America  
**MACDONALD & WILSON LTD.**  
562 Beatty Street, Vancouver, B.C., Canada



## Growing Spanish Onions

By ROY L. CHUCKRY, Weyburn, Saskatchewan.

There are several strains of Spanish onions, but the Utah variety is best suited for the Canadian prairie. With proper care it will grow to two pounds. I find that to grow Spanish onions successfully, it is necessary to start them in boxes in a greenhouse in February and transplant them twice. The first transplanting into other boxes is done in about a month, when the onion has developed a second shoot. There is nothing gained by transplanting onions too early. It just sets them back. The plants should be placed about one inch apart.



MY ONION PATCH

From about the 15th to the 20th of May, they are transplanted into the garden, after all danger of heavy frost is past. The rows should be 14 inches apart, with six-inch spacing between plants. In a plot 70 feet by 80 feet, we have taken out 1,700 pounds of onions.

### KEEP THE EARTH AWAY

I have found out that if I remove the dirt after the onion has developed a fair bulb, the onion will grow larger. When the soil is packed around the bulb, the onion becomes soft and onion maggots are more likely to attack the bulb. By growing onions on top of the ground, I have had no trouble with onion maggots.

### HARVESTING

Onions should be harvested **well before** the frost and dried out in the sunlight. They should be stored on shelves in a cool, dry place at approximately 40° F.

## Polyethelene Is a Gardening Aid

By J. P. DE WET, Winnipeg, Man.

Polyethelene, that light, transparent covering which enters our homes nowadays as protection for a great variety of articles, can be put to many uses by the gardener, amateur or professional.

Qualities that recommend polyethelene to that important person are its toughness, its lightness, its ability to permit the passage of light and air while at the same time preventing the passage of water vapour, and its adaptability to many needs.

Perhaps its most favoured use is as protection against damage from frosts in spring and fall, either just spread over low-lying plants or in the form of cloches. Polyethelene protection this past fall kept my chrysanthemums in good bloom until October 19th, despite a temperature drop to 23 degrees on the morning of October 11th.

Requirements for a practical cloche are, first, two twelve-foot lengths of two-by-two wood, and seven six-foot lengths of 3/16th-inch rod which can be bought at most hardware stores. Failing that, heavy galvanized wire may be used as a substitute.

Holes of 3/16th-inch diameter are drilled through the two-by-twos at twenty-four-inch intervals exactly opposite each other, and the two pieces of wood are laid thirty inches apart on both sides of the row to be protected. The wood may be treated with a preservative (not creosote) or may be painted.

The lengths of rod or wire are bent into shape around an ordinary household garbage can and are pushed through the holes in the wood into the soil below and adjusted for height with a piece of twine.

A sheet of polyethelene, cut to the required size, is then laid over the hoops, allowing for a four-inch overlap at the sides and ends. The ends are attached to the hoops with ordinary spring clothesline clips, and the side overlaps are anchored with soil. The end openings are closed with separate pieces of polyethelene, attached to the hoops with the same clothesline pegs.

Since the polyethelene prevents the escape of moisture, watering is not often needed, but can be done by lifting the covering sheet. Ventilation when the imprisoned warmth becomes too high, can be provided in the same way.

This kind of cloche, in effect a miniature greenhouse, has the advantage of easy portability and storage, the covering



sheet being dried, washed if needed, and rolled up on one of the two-by-twos. The material is useful too as covering for cold frames or hot beds.

A sheet of polyethelene spread over low-growing plants, like bush tomatoes or melons, will ward off frosts, or alternatively may provide the extra warmth for early maturing of plants. A sheet laid over a seed bed will hasten germination.

Polyethelene's other uses are limited only by the inventiveness or the needs of the gardener himself. Thus, if you have lily bulbs or other plant material that you want to give to or trade with your neighbour, a wrapping of polyethelene, or insertion with a handful or so of damp peat moss in one of the many bags that come into the home, will stop drying out until they can be planted.

A sheet spread over a small wooden frame makes a serviceable propagation chamber; so does a clay pot in a poly bag. African violet leaves root readily in a poly bag with some soil or other material in the bottom. If you like to do a spot of hybridization, a poly bag over the pollinated blossom has advantages over paper bags. A poly wrap will stop moisture losses from grafted materials.



**Green Cross\***

**COMPLETE GARDEN PROTECTION AVAILABLE AT SEED, HARDWARE, DRUG, GROCERY STORES**

**THE PRODUCTS OF RESEARCH MADE AVAILABLE TO HOME GARDENERS**

**WEED-FEED**  
LAWN FERTILIZER  
30-10-5 and 2-40-1821  
BROAD-LEAF WEED KILLER  
WILL NOT HURRY  
CONTAINS COMPLETE FERTILIZER IN FERTILIZER & KILLS GRASS FIRST  
MADE IN CANADA BY GREEN CROSS LTD.

**ONION MAGGOT KILLER**  
FOR EASIER APPLICATION  
NATURAL COVER SPRAY  
1 P. P. P. P. P.  
CONTROLS MAGGOTS  
KILLS THEM BEFORE THEY REPRODUCE  
GREEN CROSS PRODUCTS

## Honey Bees and Horticulture

By D. M. McCUTCHEON, Provincial Apiarist,  
Province of Saskatchewan, Regina, Sask.

Most people know that honey bees produce honey and that they sting. In order to produce honey, bees collect nectar from flowers. Nectar is a sugar-water solution which many flowers secrete. The flower imparts to the nectar the delightful flavours and aromas which we associate with honey. The bee gathers nectar by means of a sucking tube. Nature has modified the mouth parts to form this sucking tube. Nature has also provided a special honey sac to carry the nectar back to the hive where it is deposited in the beeswax cells. Here bees add enzymes and evaporate moisture to make honey.

The stinger is a barbed spear which the bee extends from the rear tip of its body. It only uses the stinger to protect the colony and its food supply from intruders. One should not confuse honey bees with wasps, hornets or other wild stinging insects. You may have been stung by one of these when in your backyard and the honey bee was accused. Wasps, etc., have a smooth stinger and can sting again and again; they are cross individuals and will sting anything anywhere. Usually honey bees will not sting unless their hive is being molested.

As a pollinating insect, the honey bee is very important to horticulture. Pollination is the transfer of pollen (the male fertilizing element) from the (male) anther to the (female) stigma of the flower. Pollination is necessary to produce seed and fruit. Some plants require cross-pollination. That is, the pollen must be transferred to a flower on another plant of the same species. The honey bee does an effective job in transferring pollen since it flies from flower to flower gathering nectar and pollen.

Why are honey bees such good pollinating agents? First of all, they require pollen. It is the protein part of their diet and is necessary for the rearing of young bees. Bees even have a pollen basket on their hind legs for carrying pollen back to the hive. Their bodies are covered with fuzzy hairs which collect pollen grains as the bee pushes past the anthers in search of nectar at the base of the flower. The bee going from flower to flower then distributes pollen grains on the stigmas of other flowers. Bees have an amazing communication system which helps them to be able pollinators. Through a complicated system of bee dancing on the combs they are able to relate to others in the hive, the location of a good supply of pollen and nectar. A honey bee works the same species of plant in the same small area until food supplies there are exhausted. This means, then, that they do a more efficient job than would an insect which flits from one species to another over a wide area.



Since honey bees are domesticated, the beekeeper can control the numbers. When a specific number of pollinating insects are required at any time, a beekeeper can supply them, whereas with wild insects one has to depend on the whims of nature.

In some sections of Canada, honey bees are used extensively as pollinators in commercial fruit and vegetable production. They are used widely on cherries and apples; blueberries in Nova Scotia; melons in B.C.; cucumbers in B.C. and P.E.I.; greenhouse tomatoes in B.C. and Nova Scotia; greenhouse cucumbers in Ontario and B.C. and, of all things, on holly and nuts in British Columbia. Growers in many areas pay as much as ten dollars a hive for a supply of bees during the blossoming period.

On the prairies, fruit growing is a hobby rather than a commercial venture. However, sufficient pollinators are just as important. The enthusiastic hobbyist is keenly aware that adequate pollination is necessary to produce uniform, nicely shaped fruit. Often there is a beekeeper near with a few colonies of bees. These bees will normally fly as far as two miles to gather nectar and pollen during blossom time. These bees, coupled with the few wild bees that are usually in the vicinity, will generally accomplish a satisfactory job of pollination. Home gardeners on the prairies sometimes complain about the lack of bees for cucumber pollination. The placing of honey bees near these gardens will be of assistance, since the male and female flowers are on different plants and pollen must be carried from the male to the female flower. In the prairie provinces honey bees are most important to the pollination of clover blossoms where they help to produce more and better seed.

The next logical step in a discussion such as this would be to recommend that all amateur fruit growers and gardeners acquire a colony of bees. I am not going to do this since I know most of you would be scared to death of them. Your best bet is to take advantage of any bees which are nearby. I do, however, want you to appreciate the honey bee and what it does for us. I know that horticulturists being appreciative of the outdoors and nature will be able to appreciate the honey bee.

## Our Eight Year Old Becomes an Exhibitor

By ELLEN MICHIE, Souris, Man.

"You better watch out mummy", laughingly warned our eight year old daughter Ellen Joy, dubbed "Little Miss Muffet". "Why?" I queried. "Because I am going to beat you at the flower show next year", she replied. Our Horticultural Show was just over and she was the happy prize winner of a first, second and Honourable Mention.


Ever since Miss Muffet could toddle she has helped Daddy with the garden. When three years old she watered about eight newly transplanted tomato plants by yanking them out, filling the hole with water, and pushing the plants back in. Her thumb must have been green indeed; much to our surprise they survived this shock treatment.

The year she was five she planted a little plot of Ortho Zinnias, showed them at the Show and won first prize. Her garden plot was enlarged to include a few flowers and vegetables. This she tended with zest or indifference but never failed to extend to everyone a warm invitation to "come, see my garden, isn't it beautiful?" (weedy or otherwise). Our Horticultural Society includes a children's section in its prize list. We discussed this section with Miss Muffet, acquainting her with the rules and regulations, thus impressing upon her that in order to be an exhibitor her garden must be her effort with a minimum of help from us.

The Prize List called for a collection of vegetables, four varieties, at least two of each. Miss Muffet promptly decided on peas, corn, beets, lettuce, radish, carrots and one tomato plant. The flower collection called for six varieties of annuals. Here we felt she needed a little guidance so we suggested seeds that were easy to handle and would germinate fairly quickly. The selection included zinnias, marigolds, calendula, bachelor's-buttons, nasturtium and sweet peas, plus two others of her own choosing, salpiglossis and balsam.

Finally, one spring evening, Miss Muffet's garden plot was ready and under daddy's guidance the seeds were planted.

I go to books and to nature as a bee goes to the flower, for a nectar that I can make into my own honey.



**CLOVER CREST**  
HONEY IN THE NEW PLASTIC PAK



Next morning she was out scanning the rows to see if anything was up. In due time we were excitedly summoned to "Come quick and see my garden all green."

Every so often we had to hold firm: time to weed, time to water; it would have been much easier to have said "run along and play. We'll do it."

The garden grew and Miss Muffet who, first was so generous with her early produce, changed character. When the peas were ready, she and her friends intended to enjoy them, and they did!

It required a bit of explaining to assure her that most flowers must be picked in order to enjoy an abundance of bloom. This was best proved to her by not picking from one of the nasturtium plants and a bit of sweet pea vine. Many a bouquet she presented to friends and to me; and I was pleased to note that she kept a little vase with flowers in her room. Long ago we developed the habit of rising early in order to spend a little time in the garden, just walking around, admiring the color, the fragrance or the marking and shape of a bloom, often deeply aware of the glory of God and creation. We wanted Miss Muffet to develop the same habit and know the same pleasure, so whenever possible, upon her awakening, I would invite her to "Come look at your garden." I don't know yet if this meant anything more to her than the pleasure of going outside in her pyjamas and bare feet. But I did notice from time to time that she drew my attention to a choice bloom.

The garden reached its maturity and the Horticultural Show date was close to hand. Miss Muffet was caught up in new words, "quality," "uniformity," "arrangements", "showmanship", the authority of the prize list, etc. I was quite startled when our eight year old announced she was going to enter an "arrangement", and in the Song Title Class. We didn't know what to say as it was an adult class; but there were no restrictions, so we said "go ahead" and we waited with interest. For her arrangement she borrowed my Siamese cat planter, a wooden tray and a little oasis. She filled the planter with bachelor's buttons, snaps, small calendula and a little foliage. I had to keep saying to myself, "Hands off, do not touch," but I did give a few words of advice: "Do not crowd your flowers and use only your very best."

The cat was set on a wooden tray. A tiny doll, hands up-raised, standing in a doll's chair was added; also a modelled

clay mouse. This was titled "Pussy Cat, Pussy Cat, Where have you been." The judge awarded it an Honorable Mention.

Daddy showed Miss Muffet how to prepare the vegetables. They prepared about eight of each; out of which she was to choose the ones for the show. Uniformity and quality meant looking for twins or triplets, and the "bestest looking ones."

Our young exhibitor had ideas regarding how she would display her vegetables, and nothing we said influenced her. She was going to show her vegetables in a basket, a little wicker basket of all things, and she did. The Judge remarked on the quality of the collection, adding they could have been more attractively displayed, and awarded a Second Prize. Miss Muffet wasn't at all disturbed; she had accomplished what she wanted to do, that of showing a basket of vegetables.

For the flower collection she used a glass holder, six glasses and small doilies; again I had to mentally slap my hands and say "don't touch." But, oh how I wanted to fix one here and add another there!

I can see her yet, importantly carrying her exhibits to the display table, looking them over with optimism and pride. We were highly amused when she remarked to daddy "she didn't think he'd do as well this year", and that so far in one class my arrangement looked the "bestest". She was caught up in the bustle of the Show, wandered around interestedly looking things over. We were pleased to hear her remark of the attractiveness of one of the vegetable collections in the Children's Section.

We returned to the show; Miss Muffet and her friend, Donna, were jumping with excitement. They fairly gasped at the colorful array before them. The girls ohed and sighed "Isn't it just beautiful, just look". Suddenly Miss Muffet remembered her exhibits. "I wonder if I won anything?" she asked excitedly as she flew to them. We heard, so did everyone else in the Hall, "Mummy, Daddy, I won two prizes and some writing." The writing was the Honorable Mention on her arrangement.

The tickets have been placed in her scrapbook, another reminder of a happy event while growing up.

Among the things we hope for our daughter is the hope to imbue in her a love for the beauty of nature, for order, for truth and for faith.

Faith to plant seeds in her garden and to look forward to next year.



# FREE! *McConnell's* 1961 GARDEN CATALOGUE

## Special 50th Anniversary Edition

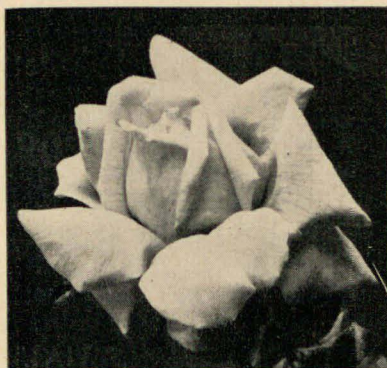
80 Pages of "Living Color" Illustrations — Hundreds of Money-Saving Offers, Ideas and Advice on Nursery Stock

WRITE FOR YOUR FREE COPY TODAY

See the Newest  
in  
**HARDY ROSES**

1961 All-America  
Award Winners

**DUET**  
**PINK PARFAIT**



OUR OWN EXCLUSIVE ROSE INTRODUCTION

**"Canadiana"**

Golden-Yellow Hybrid Tea of Unsurpassed Beauty and Vigor

**FLORIBUNDAS**  
POLKA  
GREEN FIRE  
RUBY LIPS

### NEWER VARIETIES

**HYBRID TEAS**  
FASCINATING  
SIMONE  
SUSPENSE

**GRANDIFLORAS**  
GOLDEN GIRL  
MERRY WIDOW  
EL CAPITAN

Also a complete selection of other newer varieties and the old favorites.

### ESTABLISHED 1912

Our 50th Year of Service to the Prairie Provinces and all parts of Canada.

**"HARDY PLANTS FOR CANADIAN HOMES"**

**THE McCONNELL NURSERY CO. LTD.**  
PORT BURWELL, ONTARIO

## GROWING IRISES

By T. JOHNSON, Winnipeg, Man.

Everyone knows the iris — or thinks he does: clumps of blue flowers, or brown and gold, that grandmother planted in the garden; and they have stayed there ever since without anybody having to give them any attention. They give a little color to the garden in June, but they are all pretty much alike.

This is perhaps a common opinion about the bearded iris (or German iris, as some people call it) but it is an opinion that is about forty years out of date. Why is it that the people of the Prairie Provinces, who grow the finest of gladioli and dahlias do not grow the finest varieties of iris, or even know that they exist? I have often asked myself that question but I have never answered it satisfactorily. Perhaps the main reason is that the seed and nursery dealers that supply the prairie gardener do not advertise iris varieties or they give the impression that the bearded iris is not hardy enough to grow in that region. Unfortunately, there is an element of truth in this attitude. Many of the fine modern iris varieties would not thrive in the prairie region; but, on the other hand, many of the finest varieties will do very well here if given a little attention.

And now, a word about the iris of today. All popular flowers owe their popularity to the variety of color, form and so forth to be found in the flower. That is why gladioli and dahlias are so popular; there is a great range of beautiful varieties to select from. The garden iris of yesterday, which everyone knows, is a plant from two to two and a half feet high with flowers either in various shades of blue or yellow or a combination of yellow and brown: the standards, that is the three upper petals being yellow and the falls, the three lower ones, brown. The iris of today is a much larger plant, up to four feet or more in height with a flower of at least twice the size and a range of color probably equal to that of any flower in existence. To denote the various color classes, the iris fancier uses terms not familiar to most ordinary flower growers: selfs, plicatas, and various bicolors including amoenas, neglectas and variegatas and, finally, the blends.

It is not easy, in words, to give the reader an idea of the color range of the iris, but some attempt should be made. The so-called selfs are flowers in which the color is uniform



throughout the flower. They range from pure white, through ivory, cream, creamy yellow, light, medium and deep yellow to gold. They range through various shades of brown to maroon red. They range from white washed with the palest blue through all imaginable shades of blue to a blue-black in varieties such as Black Forest. Another line of color may be traced through the blues to the deepest purples and violets. Pink is represented by three main classes: the orchid pinks, the lilac pinks and the new flamingo pinks which have recently commanded so much attention. Ridiculous though it may seem, there is also a class now, recently developed, of green flowers. The one color class that has not yet come into existence, though some of the greatest breeders have striven hard for it, is scarlet. The so-called red varieties are not truly red but approach that color from the maroon and from the purple.

So much for the selfs. The plicatas are really selfs with stippling of a different color. The most popular are those with blue, red or purple stippling on a white ground but there are also varieties with similar stippling on a yellow ground.

The amoenas — a difficult class for the breeder — have white standards and purple or blue falls, and some of the most recent ones, such as the famous varieties Pinnacle and Summit produced by Mrs. Stevens in New Zealand, have white standards and yellow falls. The neglectas are bicolors in two shades of blue or pink. The variegatas are bicolors with yellow or gold standards and brown or red falls. The blends are, as the name indicates, flowers in which various colors are blended. This is an ancient characteristic of the iris, observed by the ancient Greeks who gave the iris the Greek name for rainbow — the rainbow flower.

This enormous increase of size of flower and range of color, accomplished in the last half a century, was not achieved without some drawbacks. The bearded iris that existed at the turn of this century was the result of a long breeding process in which the parental elements were two European species: *Iris variegata*, the red-brown iris of central Europe, and *Iris pallida*, the blue iris of southern Europe. Since both parental species were hardy, the varieties derived from this breeding — the irises grandmother planted — were also hardy.

When Sir Michael Foster, in England, at the turn of this century, introduced various Asiatic species and succeeded in crossing them with the iris varieties of his day, he also introduced into the progeny of his crosses not only gorgeous new

colors but also some of the tenderness of the Asiatic species. The iris of today is the outcome of crosses made by Foster and his successors — crosses which have doubled the chromosome number of the plant, more than doubled its size and vastly increased its range of color. Most of these crosses, and the selections from them, were made in England, France, the eastern United States and the Pacific Coast States, that is, in regions where there was no need to select for hardiness. More recently, however, many fine varieties have been produced by breeders in more rigorous climates — as by the Sass brothers in Nebraska and Mrs. Whiting in Iowa. Some of the varieties produced by these and other modern breeders combine the gorgeousness of the modern iris with sufficient hardiness to make it well worth while to try to cultivate them in the gardens of Western Canada. It may well be, however, that the modern bearded iris will never be a commonly grown garden flower in the Prairie Provinces until breeders in that region make extensive crosses and selection in that area.

Many of the modern varieties of bearded iris are, however, reasonably hardy if one can judge from their performance in my garden. I shall, here, mention a few of the varieties that have performed quite well.

White — Matterhorn, Sharkskin.  
 Cream — Snoqualmie.  
 Lemon Yellow — Elsa Sass.  
 Deep Yellow — Ola Kala, Berkeley Gold.  
 Brown — Louvois, Grace Sturtevant.  
 Brown-red — Christabel.  
 Red-crimson — The Red Douglas, Garden Flame.  
 Flamingo Pink — Paradise Pink.  
 Orchid Pink — Manyusya, Dreamcastle, Harriet Thoreau.  
 Rose — Mulberry Rose.  
 Purple — Indian Hills, Vice Regal, Elmohr.  
 Violet — Violet Crown, Violet Symphony.  
 Black Violet — Mrs. J. L. Gibson, Sable, Indiana Night.  
 Blue — Blue Rhythm, Chivalry.  
 Blue bicolors — Amigo, Lothario.  
 Amoena — (White and purple) Wabash.  
 Plicata — (White with blue stippling) Blue Shimmer.  
 Variegata (Brown and gold bicolor) — City of Lincoln.  
 Blends — Grand Canyon, Prairie Sunset, Cascade Sendor.

Although the bearded iris is not very particular about growing conditions, still, it is well for the beginner to have a clear idea of its requirements. It likes a neutral or a slightly



*With the Compliments of*

# FLORISTS SUPPLY CO. LTD.

**Wholesale**

CUT FLOWERS - GREENS - SUPPLIES

696 McGEE STREET

WINNIPEG 3, CANADA

## IBBOTT & LEONARD

MANUFACTURING JEWELLERS

401 Donalda Blk.

Engraving, Setting, Repairs, Trophies, Shields, etc.

Phone WHitehall 2-7847

Winnipeg 2, Man.

Compliments of . . .

## S. S. KRESGE CO. LTD.

368 PORTAGE AVENUE  
WINNIPEG 1

## Thomson Chapels

FUNERAL DIRECTORS

*In the Service of Others*

Established 1879

I. THOMSON, President

BROADWAY at FURBY

WINNIPEG 1

alkaline soil, which are characteristics of most soils in the Prairie Provinces. It does not like "wet feet" and, consequently, it is well to plant iris roots in slightly raised beds — good drainage is one of the essential requirements. Heavy clay soils should be lightened by an admixture of sand or of peat moss, but the latter should not be applied in large quantities because it might make the soil acid. If barnyard manure is used, it should be well rotted and well mixed with the soil. Over-application of manure may cause rotting of the rhizomes. One essential requirement is sunlight. The iris is a sun-loving plant and it should have at least half a day of full sun. Another thing to keep in mind is that iris roots cannot compete with the root systems of large trees; they may be planted fairly close to shrubbery but the neighborhood of large trees should be avoided.

How and when to plant irises is a matter of importance. The iris is vegetatively propagated by means of its fleshy rhizomes. In transplanting, it is probably best to separate the individual rhizomes and plant them singly. Before planting, the fan of leaves should be cut back to about 8 inches. The rhizome should be planted very shallow, so as to be just under the surface of the soil. Two slanting holes should be dug with a trowel, leaving a dividing ridge in the centre. The rhizome is pressed firmly on the ridge and the roots are spread downwards to either side. The soil is then filled in and pressed down so that the rhizome is firmly anchored, and not more than about half an inch under the soil surface. The best time of planting, in Manitoba, is probably the end of July or early August. Later planting does not give the roots enough time to grow before winter sets in. Late-planted rhizomes with weak root systems are sometimes heaved out of the ground by alternate freezing and thawing.

One of the main difficulties facing the iris grower in the prairie region is winterkilling following winters with light snow cover and deep ground freezing. This raises the question of whether or not to give the iris bed a mulch in the fall. Actually, the best mulch is a good covering of snow — hence the advisability of some sort of "snow fence" to collect a snowdrift. Artificial mulching can be given with leaves or wheat or flax straw. Such mulches should not be applied until early November when the ground is beginning to freeze and should be removed about the end of March, as soon as the snow goes. If applied too early or left too late they may induce rhizome rotting.

The foregoing may give the impression that the bearded iris is the only iris that can be grown or is worth growing



in the prairie region. This is not so. I have centred attention on it because it is the centre of attention among most iris growers. There are two other classes of iris that are hardier and well worth planting, namely, the Siberian iris and the Spuria iris.

The Siberian iris is a very hardy plant with slender stems and leaves and flowers much smaller than those of the bearded iris. The color range is more limited but ranges from white through light blue to dark blue and even rose and purple. They are highly adaptable as to soil, doing quite well on heavy and even wet soils. Like the bearded iris, they are June bloomers.

The Spurias are tall, slender plants with flowers ranging from white through yellow to brown, lavender blue, blue and purple. They are highly adaptable to different soils and climates and are of special interest because they do not bloom until early July when the other iris are over. Once planted, they are best left alone for several years.

Congratulations to  
**THE WINNIPEG  
HORTICULTURAL SOCIETY**

from

**McCABE GRAIN  
Co. Ltd.**

ALL TYPES OF FARM SEEDS — "EVERGREEN BRAND"  
SPECIALISTS IN LAWN GRASS SEED

"Quinton's Cleaning Is Your Clothes' Best Friend"



BE WISE! Quinton's

**Quinton's**

CLEANERS - FURRIERS - SHIRT LAUNDERERS  
HOURLY SERVICE

Phone GL 2-3611 Jessie & Daly Streets Winnipeg 13

## Bulbs for Outdoor Culture

By **JOHN WALKER,**

Research Associate, Department of Plant Science,  
University of Manitoba, Winnipeg.

### KINDS AND VARIETIES TO PLANT:

For outdoor culture in our climate there is a rather limited choice of bulbs. The most dependable of course are the TULIPS of which there are a number of kinds and species besides a wide choice of desirable varieties. Depth of planting tulips should be around five inches to base of the bulb, or slightly deeper, and same distance apart.

SCILLAS are also very accommodating because they succeed where soil is relatively low in fertility, where there is fairly keen competition with other plants and they brighten some out-of-the-way corner of the garden. Recommended depth of planting is three inches to base of bulb.

One or two of the hardier DAFFODILS, such as Golden Harvest and Scarlet Elegance (short trumpet) may be counted on to provide a reasonable display of bloom year after year. A site that does not dry out or is not too sunny or warm is best, because daffodil bulbs are perennial and are never entirely inactive; plant so that the depth is from 5 to 6 inches to base of bulb.

If given a location where soil temperature and snow cover will be uniform in winter, the lowly, but colorful, CROCUS should also add a touch of brightness in early spring; plant from two to three inches deep and same distance apart. New corms should be planted each year.

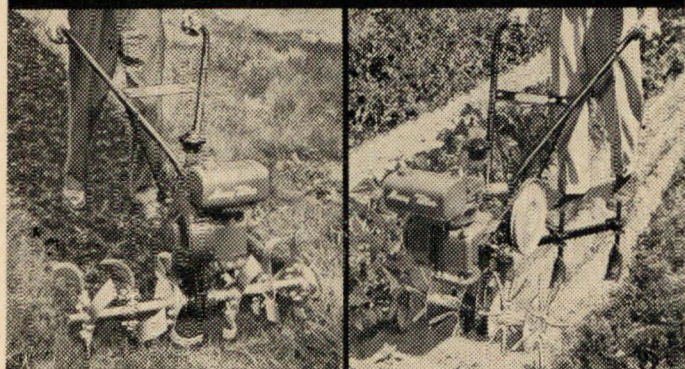
THE AUTUMN CROCUS, *Colchicum*, *C. autumnale* and *C. variegatum*, if given a well-drained place near steam pipes may be expected to make a display late in the season; depth of planting is around five inches to base of bulb. (Earlier planting).

Another hardy, interesting bulbous plant is the Dogtooth Violet, *Erythronium*. Planting depth is from two to three inches, and some shade from sun is beneficial.

**SOIL PREPARATION** — The preparation of soil for bulbs may mean a rush job for many gardeners, because some of the bulbs will occupy the same ground that accommodated the annual and other flowers. Be that as it may, successful rooting



## TILLER, TRACTOR, ALL-'ROUND GARDEN WORKHORSE



does ALL garden  
jobs ALL season

You've never seen one compact machine do so much. From spring planting to fall mulching, powerful traction and a wide choice of tractor tools keep a Merry Tiller working at top efficiency throughout the growing season—long after other machines are through. And it's so much easier to use than bigger, more costly equipment.

### DELIVERS EQUIVALENT OF 2 EXTRA HORSEPOWER

A rugged, efficient chain and sprocket drive helps give Merry Tiller its tremendous capacity for hard work. Engineering tests prove it delivers equivalent of two more working horsepower than worm-gear driven machines with the same power rating. Result: it takes a machine of 5¼ h.p. to equal the delivered power output of a 3¼ h.p. Merry Tiller.

It tills, mulches, plows, weeds, cultivates, cuts heaviest grass and weeds. Tills up to 12" deep, up to 40" wide—prepares seed beds in a single operation!

Choice of three models to 3¼ h.p. Choice of rotors. Choose *exactly* the right rotors for your jobs and soil conditions. Choice of tractor tools. See how easy, how much more fun gardening can be with a work-saving Merry Tiller—ask us for a free demonstration soon.

Distributor

## YETMAN'S LTD.

875 Notre Dame Ave.

• Winnipeg 3, Man.

and subsequent flowering of bulbs can be greatly influenced by the condition of the soil into which they are planted.

Soil for bulbs should be friable, open in texture, and of a dark color. These conditions are brought about by timely and ample incorporation of organic matter (rotted manure, decomposed peat moss, compost, leaf mold), and by pulverizing the soil when digging it at the most suitable degree of moisture content.

The site should be well-drained and the surface sloping, if spring run-off is likely to cause flooding. The addition of readily available nutrients from commercial fertilizers like Ammonium Phosphate will insure healthy growth — 3 or 4 ozs. per ten sq. ft.

Blooms will be longer lasting if the site is in partial shade for part of the day at least, e.g. along the front of a house facing east.

**PLANTING THE BULBS** — A few of us may recall instances where tulip bulbs planted outdoors in the fall of 1959 failed to grow and produce hoped-for blooms last spring!

Why was this so, and how can similar results be avoided or prevented? If this happened to you, don't quit, circumstances responsible for this condition may not occur again.

In explanation I think we can say that the excessive fall rains interfered with early root development. Planting may also have been delayed too long. We also experienced early winter temperatures, and I have an idea that spring-flowering bulbs are more often planted too deeply than at too shallow a depth in our heavy soil.

Early planting is desirable to permit early rooting by bulbs. If well rooted before winter, they will not be disturbed or heaved by freezing and thawing, and are equipped to begin or renew growth in spring without delay. If planting must be delayed until freezing occurs, the ground should be mulched beforehand to keep it from freezing. It should be again mulched after the bulbs are planted to permit adequate root development by keeping the ground from freezing. I realize that deep planting (over five inches) is advocated with the advice that the bulbs will not interfere with, or inconvenience, the planting of annual or other flowers in the same ground early in June. Actually, there must be an overlap in the use of border space for annual flowers and bulbs, because few bulbs have completed their flowering period when it is time to plant out annuals.

I suggest, therefore, that a very satisfactory plan to follow is to plant the tulips in irregular, but compact, groups



by varieties, (uniform color and time of flowering), (or in formal design), and when they have finished flowering, and tops are still attached to the bulbs, dig them up, and heel them in in a spare corner of the garden to mature their growth. If the bulbs have provided a bright, early-spring display, why not turn the area over for an unhampered display by summer flowers!

The trowel is a better tool than the dibber or dibble for planting bulbs; a small quantity of sand should be provided for bulbs to rest on when planted, especially in heavy clay, or lumpy, soil.

It is wise to place a protective mulch two or three inches deep over bulbs planted at the depths recommended. Benefits resulting from the mulch are:

- (1) freezing of ground in the fall is delayed and strong root development is encouraged,
- (2) soil is kept from drying out and cracking,
- (3) the danger of freezing and thawing during winter is lessened,
- (4) thawing in spring is delayed thereby preventing abnormally early shoot development which is often damaged by late spring frosts. Removal of protective mulch need not be rushed in spring; allow some growth to be evident and only part of mulch need be removed.

**DESIGNED FOR THE WHOLE FAMILY**  
**SALISBURY HOUSE LTD.**  
**RESTAURANTS**

### **ROSES**

All the best and latest varieties.  
 Send for beautifully illustrated catalogue.

### **Lilies**

Featuring Jan de Graaff Hybrids and others.

**EDDIE'S NURSERIES**

4100 S. W. Marine Dr.

Vancouver 13, B.C.

## Lily Pools and Lily Culture

By W. W. RIOME, Moose Jaw, Saskatchewan.

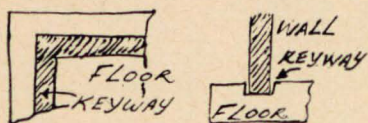
The subject of Lily Pools is perhaps the most fascinating of all subjects. Pools create a quiet, peaceful atmosphere. For beauty, fragrance and variety of color, no flower can surpass the water lily. All garden lovers enjoy the quiet tranquility and colorful reflections in the water. The day bloomers till sundown are replaced with new blooms and the colors of the night bloomers coming on night shift.

Shall we consider the location of the pool. I always feel the natural place for a pool is in a low spot in the garden. However, being limited to space, there are many other things to be considered. For instance, by arranging the pool in a higher place, it gives us a better opportunity to drain the pool and let the water run to a lower level, also the overflow. We must have the pool located in full sunshine and we do want the pool where we can feast on its beauty whilst relaxing in the outdoor sitting room. So let's arrange the pool with shrubs, a couple of silver birch and perhaps two or three spruce on the northeast side, then circling round to the west so as to get shade in the afternoon. An opening on the south side will give a grand view of the pool in all its grandeur. Having selected the site, we must decide on the size and shape, etc. If a formal pool is desired, it may be built on the lawn or at the end of a walk. A pool of this description must be of geometric shape perfectly formed and should be surrounded with flower beds laid out to match. An informal pool lends itself to the majority of western gardens, large or small, and of any irregular shape or pattern to suit the lay-out of the garden. Try to make it look as though it were a natural pond. I found it a good practice to lay out winding paths and pool with the garden hose. You can make many patterns.

Solicit the ideas and views of other members of the family before you finally decide on the shape and size of pool. Now you have a few days of interesting, healthy work ahead of you. When excavating, take care of the top soil. You can always use it. The sub-soil also may prove very useful for building up your rock garden. I would suggest you excavate to a depth of 36 to 38 inches. Take care to keep the wall upright for you can use this wall for the outside form for the cement if the soil is firm. When you are satisfied the shape is right, place six inches of rock, gravel or ashes in the bottom and



tamp well. This will prevent your cement floor from heaving and cracking. Be sure to reinforce floor and walls with rods or hog fencing to prevent cracking and checking.



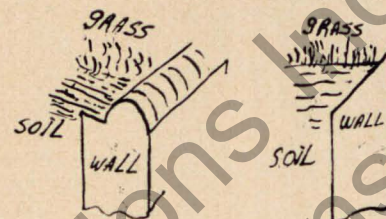
Probably the simplest way will be to lay your 4" floor first; leave a depression or keyway where the side wall will join the floor. This will

prevent leaks. Also arrange for the drain and overflow pipe and let the floor slope  $\frac{1}{2}$  to 1" to the drain end. It is also a good idea to make a hollow around the drainpipe to take the last of the water. It is so helpful when cleaning out in the fall. Do not delay in finishing the cement work; start next morning to put in the form for the walls. The walls should be poured the day after the floor was, while the cement is still green. If your pool is irregular in shape,  $\frac{1}{4}$ " three-ply veneer may be used, or you can usually obtain a discarded soft water tank from your plumber just for the hauling. Cut this galvanized iron or plywood in strips 26" in width, place pieces of 1 x 6 on edge for the thickness of side wall, now bend the iron or plywood to shape and hold in position with braces from side to side. Make sure it is solid.

Now you are ready to pour the cement. A word here about the mix will be in order. The mix should be four to one, four parts gravel to one of cement. The gravel should not be too coarse, one inch the maximum size for this work. It should be 60% coarse aggregate and 40% fine that will pass through a  $\frac{1}{4}$ " sieve. The gravel must be clean and free from clay. If in doubt, put 2 inches of the fine material (sifted through a  $\frac{1}{4}$ " sieve) in a pint sealer; fill the sealer up to the bend of the neck with clean water, shake well; then let settle. If after settling there is more than  $\frac{1}{8}$  of an inch of mud or silt, it would be better to discard the gravel or wash it. Dirty gravel may give you a leaky pool. Mix the cement to a nice working consistency, not too wet or too dry. When pouring the wall, fill about half way up all around; pull the 1 x 6 pieces up to the height of cement and with a piece of 2 x 4 tamp the cement in tight and solid, so as to leave no air pockets.

Now you are ready to complete the filling up of walls. When level with the top, take out all the pieces of 1 x 6 and again tamp in cement until you are satisfied you have a solid job. Level off on top if you are going to finish the top with flat lime stone. The lime stone can be made to look quite natural. Let the stones extend over the inside a couple of inches and a foot or more the other way. It should be laid or set on a bed made of two parts sharp sand to one of cement about 1" thick and the stone pressed down in cement forming a solid bed. If, however, your pool is surrounded by grass, the top edge of cement should be trowelled off to an angle of 45 degrees to

the outer edge or moulded. This level will give a place for soil and the grass will grow right to the inside top edge of the wall. Or a cement top can be made to suit your taste. Stepping stones, moulded in various shapes and colors if you wish, can be laid around the pool level with the grass so that the mower will run over them and keep the grass tidy.



After removing the forms from the inside in a couple of days, keep the cement work wet until cured. This will prevent checking and at the same time wash out all impurities leaving the pool ready to fill with water for the lilies and fish.

Selecting varieties and growing lilies will be our next consideration. We have a choice of many colors in both tropical and hardy varieties. Blue shade can only be obtained in tropical varieties. Tropical lilies are really very beautiful, the blooms standing up some 6" from the water. They come in day and night bloomers. The pads are also larger than those of the hardy varieties. They need more care as they are of tender habits. The water should be warm; say the end of June before it is safe to put tropical lilies in the pool, and they must be lifted with the first sign of frost. They are difficult to winter and are perhaps best treated as annuals but we must not lose sight of their extreme beauty and fragrance. The hardy lilies come in a variety of colors. They are profuse bloomers. They may be put in the pool in the latter part of May and will be well leafed out and in bloom by the end of June. They open their blooms as soon as the sun strikes the pool in the morning and close their petals late in the afternoon just before sundown. They stand a little frost and can be left in the pool until it is frozen over fairly solid.

The hardy varieties are easily wintered; just lift the boxes out of the pool and place in a root house or cool basement; keep slightly damp and in the spring the crowns will be sending out tiny leaves all ready to go back in the pool. (Don't keep them too dry). They thicken up and multiply and should be divided at least every three years. The plants may be grown in boxes or iron containers. A single plant will require a container about one foot square. An old galvanized wash tub will hold three plants. Rich garden soil is all that is needed. The plants placed with the crown level with the top of the soil. Over the soil place, say one inch, of gravel. This prevents the soil from floating and keeps the containers clean. It also keeps the fish from disturbing the soil and making the water muddy. Make sure you have wire handles on your containers, for in the fall they are heavy and slippery and difficult to get out unless you can get a good grip on them. Before placing the boxes in the



pool, give them a real soaking with water as the soil may wash out. In any case, unless heavy with water, the boxes will float and invariably turn upside down, spilling all the contents. That can be very provoking, even to a lover of lilies.

For some of your smaller aquatic plants, a cement shelf can be made and placed in the pool to keep the pots the right height to suit the plants. Quite a variety of aquatic plants can be purchased through catalogue, but I have found you can secure all the aquatic plants needed from any of our Saskatchewan rivers or creeks, some bearing very beautiful blooms. A couple of bulrushes planted in a box or pail make a good showing, or duck-weed trailing by the yard with white blooms. Take your long handled round nose shovel and dig the bulrush up with a chunk of the river bottom mud, and put in a box. The bulrush will not know it has been disturbed.

No pool is complete without a few fish, some gold and some variegated. They always form a centre of attraction. Frogs will visit the pool without an invitation. They are very interesting and will give you lots of music in the evening. A few snails will serve as scavengers. By keeping the water about five inches from the top of the pool will prevent pussy from having a fish supper. Build a lily pool and you will never regret it. I trust you will spend many pleasant hours sitting by your lily pool, the work of your own hand.

**TRUE TEMPER**

**Makes 'em stronger  
to last longer!**

True Temper tools cost much less in the long run, because they outlast ordinary garden tools many times. They're made from special steel, tempered for toughness! And they're shaped with the right "hang" to take the hard work out of yard work. You'll recognize them by their fire hardened ash handles. At your hardware dealer's.



**WELLAND VALE Manufacturing Company Ltd., St. Catharines, Ont.**

## Preparing Gladiolus for Exhibition

By WM. SINCLAIR,

President, Winnipeg Gladiolus Society,  
Winnipeg, Man.

Next time you see a nice looking spike of Gladiolus in your garden a couple of days before a flower show, be sure and plan to show it.

Once your mind is made up, timing is everything. Judges look for beauty, and symmetry and above all freshness. So any Glad you plan to enter must be timed right. This means generally cutting a spike with two florets open on Monday and having it judged on Wednesday — some varieties will be better on Thursday, but only experience will tell.

Cut the stem about twenty-one inches below the bottom floret (most shows specify a maximum "handle" of twenty inches so by showtime this is what you want.) Take a thin stake about five feet long and attach the spike to it by putting a "twistem" around it just below the bottom floret. Then apply one or two more twistems up the stem between the buds — but not tightly — and finally one very loose at the tip and one tight at the bottom of the stem. Then with a sharp knife cut a **thin** slanting slice off the stem. Fill a milk bottle with warm water and place the spike and stake in it.

Now you dress up the bloom. All the florets should be in such a position that when you look at the spike you can see into the throats of the florets. You can achieve this by gently placing a small wad of dampened tissue between each floret and the stem, and working the wad carefully in place until the floret is facing the way you want it. Some exhibitors then gently lace the petals with their fingers until each individual floret can be seen, with no obstruction from the petal of another floret, and no gaps visible through which you can see the stem.

When the spike is all set up, take it to a cool dark place and stand it in an upright position in deep cold water. Change the water daily and take a thin slice off the stem each time. On the day of the show dress the spike again, and try and keep it in water until show time. During transportation, a milk carton filled with water serves very well, when you lay the stake against the back seat of a car — but you may develop a better method. At the show, when you remove the stake, and the wadding from the florets, set the spike in the milk



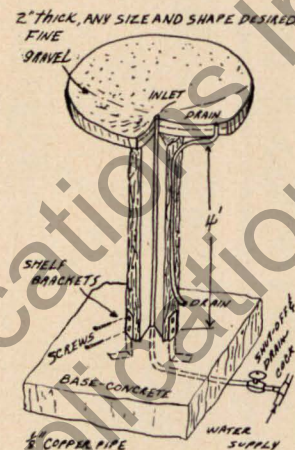
bottle and firm it in the neck of the bottle with a wad of paper. It is then ready.

A spike of a good variety which will hold eight florets open, should have about twenty-one buds with eight open, seven showing color and six green buds at judging time, and must be fresh looking.

If you have done all this, whether you win or not, you are well on your way to being a showman, because you've at least made the effort. Experience is the final great helper and we only learn by trying.

## How to Make a Bird Bath

By H. C. WINCH, Vancouver, B.C.



Take a piece of tree trunk 4 feet long by 4 inches in diameter. Saw it in half lengthwise.

Use a  $\frac{1}{4}$ -inch gouge and gouge a groove for the entire length and deep enough to accommodate a  $\frac{1}{8}$ -inch copper pipe.

Connect the pipe to your domestic water supply with a shutoff and drain cock so that the little pipe can be drained in cold weather.

Dig a slight depression in the ground to the required size of the bird bath, not more than 4 inches deep and with sloping sides.

Drive a piece of wood as big around as a pencil into the bottom, at one side of the depression; mix cement and cover the area of the depression with 1 inch of cement. Lay a piece of chicken wire on top of the cement (to act as reinforcing) and cover it with a second inch of cement. While the cement is still wet, sprinkle fine gravel over it so the inside will be rough and the birds will not slip.

Drive another pencil into the side up near the top for overflow, before cement has hardened. Remove both pencil plugs and let the cement harden for a few days.

Make a cement base 2 feet square by 3 inches thick, and whilst still wet, set two or three shelf brackets into it in a circle to act as solid braces for the 4-foot long tree trunk standing on end.

Run the copper pipe under the cement base and up the groove in the small tree trunk extending far enough above the top to lead into the bird bath.

Place the bird bath on top of the tree trunk with the hole through the bottom fitting over the projected pipe. Level the bird bath with a spirit level and fill in any space between bird bath and top of the tree trunk for a solid nest. Fasten the two halves together with bolts.

Take a 5-foot piece of  $\frac{1}{2}$ -inch copper pipe and fit it into the overflow hole and run it down the outside of the bird bath and tree trunk. This can be led into a smaller drinking bowl for dogs, etc.

Make a small flower garden around the base.

## Ransomes LAWN MOWERS

NEW — DIFFERENT — and So Much Better

### PREFABRICATED GREENHOUSES

THE HARTLEY 10 GLASSHOUSE ..... \$450.00

B.C. Cedar — Complete Kits —

Model 100 — 6 ft. by 8 ft. .... \$195.00

CALL FOR DETAILED INFORMATION

**HENDERSON POWER EQUIPMENT LTD.**

SALES AND SERVICE

560 PEMBINA HIGHWAY,  
WINNIPEG, MANITOBA.

PHONE  
GL 3-2813

**FOR SALE—HARDY GARDEN LILIES.** Shipment in Spring for early orders; in late Sept. for later orders. Prices Prepaid: 1 bulb 75c; 3 for \$2.00; 6 for \$3.00. **Lillian Cummings** (orange-red); **Edna Kean** (reddish-orange, spotted purple); **Jasper** (old rose); **Apricot Glow** (apricot); **Coronation** (golden); **The Duchess** (golden, early). The following 35c each: **Mosquito** (small orange); **Amabile** (small reddish); **Scottiae** (orange-outfacing). **ALMA PARK, MENAUK, ALBERTA.**



*Here's How to Attain*

**A Thick Beautiful Lawn  
Large Colorful Flowers**



**VIGORO**  
COMPLETE PLANT FOOD  
FAMILY OF  
GARDENING AIDS  
PLUS

**EndoPest**  
for  
Garden Control of  
INSECTS, FUNGUS  
DISEASES, Etc.  
EndoPest for Gardens  
EndoPest for Roses  
EndoPest for Rose Bushes  
and Flowers (Aerosol)  
EndoPest Lawn Insect Killer  
EndoPest for Trees  
EndoPest for Evergreens  
and Shrubs  
and

**EndoWeed**  
for control of  
LAWN WEEDS  
SWIFT CANADIAN CO. LTD.  
Agricultural Chemical Division

## The Green — In Nature

By P. J. PETERS,

Manitoba Department of Agriculture, Winnipeg, Man.

Green is a wonderful color — when it is found in nature. It comes in shades of soft allure and in the sombre dark of evergreen. It serves as the back drop of the beautiful and changing landscape that Mother Nature paints in spring and summer and fall. The greens of pines and spruce serve as the accent of the wintry snowbound scene. A sprig of green brings out the beauty of the flower arrangement, of the wedding bouquet. Green symbolizes the everlasting human spirit when it is used in wreaths decorating the caskets of our loved ones when they leave this earthly habitat.

Yes, nature has endowed our mother earth with more greens and blues than all other colors combined. But there are greens and blues that are not of mother nature's making. These blues and greens are negative attributes of our human society — especially of our human horticultural society and societies.

Let me explain. Let me take you by the hand and whisk you through the Winnipeg Auditorium to see the annual flower show. It will be best if, in the tradition of the play about old Scrooge, I touch you with my wand, make you invisible.

It is the month of August in Winnipeg. The Winnipeg Auditorium has its doors open to the mellow autumn air, open to the beauty-conscious people of the province. Inside, the sombre atmosphere of the large hall has given way to wonderful floral displays. The liberal sunshine of our prairie province, the richness of our soils and the discerning hands of our horticultural amateurs have combined to produce color and variety of shape and form of flowers second to none. A steady stream of visitors wanders admiringly through the aisles. Let's join them in our invisible garb. Let's impolitely eavesdrop on the conversation.

(This group of five seems to be very serious about all this beauty. You probably did not know that one could be so solemn about gladiolus. Just listen to them.)

Mrs. Pansy: "I can't see how that specimen is even half as good as mine. Must be a director who won the prize."

Mrs. Daisy: "Yes, I agree with you. Either these judges do not know their work or they just give prizes to their friends."



Mrs. Sweet Pea: "You must be right. You know I didn't get a ribbon for my African Violets. Mine is that perfect plant at the corner of that table. That scrawny looking thing beside my plant won the prize. These judges are boneheads".

Mr. Sweet William: "You're right. I lost in flower arrangements. The judges on arrangement know as little about beauty as I know about the moon."

(Notice that man with the ribbon approaching this group. He judged part of this show. He seems to know these five. Just listen now how honey-laden a voice can be).

Mrs. Sweet Pea: "Why hello Mr. Beebalm. You did a wonderful job at judging. This is positively the most wonderful display I've ever seen".

(Mr. Beebalm smiles and passes and the honey-laden voices become spicey once again). Listen now to the fifth:

Mr. Nightshade: "Why, Mrs. Sweet Pea, I thought you said the judges of this show were boneheads".

Mrs. Sweetpea: "They are. But maybe if I smile at them, I'll get an honorable mention next time".

(You're picking at my sleeve? You've heard enough? You want to drink in this beauty all around you without looking through glasses tinted by a shade called "Green-eyed envy"? Good! I'll release you now).

Green, as I said before, is a wonderful color when found in nature. Beauty is there to inspire. Petty jealousies bring out the worst in us. Honest competition and genuine appreciation of the efforts of others enoble us. Let nature supply the greens and blues. Remember, "Beauty is truth, truth beauty; that is all you know on earth; it's all you need to know".



#### SHASTA DAISY

The common single OX-EYE DAISY of the fields is often called Shasta Daisy, and may be a parent of some of the garden Shasta Daisies. While not completely hardy in all sections of the West Shastas merit a place in perennial borders for their profusion of bloom over a long period.

## The Year 1960 in the Dept. of Horticulture, University of Sask.

By C. F. PATTERSON, Head, Department of Horticulture, University of Saskatchewan, Saskatoon, Sask.

The writer is happy once again to make a slight contribution to the Prairie Garden. The book is evidently enjoying a popularity that few books of this character enjoy and this is a tribute to the efforts of the Prairie Garden Committee and more particularly to the chairman of that committee. It is to be hoped that the 1961 Yearbook will find its usual prominent place among the horticultural publications of the Canadian West.

One of the striking things about large sections of Saskatchewan in 1960 was the very light precipitation after June 16th. From then until winter set in the precipitation was almost negligible in large areas and the ground reached an unbelievable degree of dryness and hardness excepting in gardens and other areas where irrigation was possible. The result was the lack of normal development in most of the nonirrigated crops.

The precipitation in the fall of 1959 and in May and early June of 1960, however, helped a great deal and gave plants a good start that otherwise would have failed completely.

The naming and introduction of a considerable list of fruits was the greatest accomplishment during the year in the Department of Horticulture, University of Saskatchewan. While some of these were introduced a year ago the list was lengthened and more or less finalized in 1960. Observations have been made on these for some years and it is felt that sufficient information concerning them was available in 1960 to warrant their release.

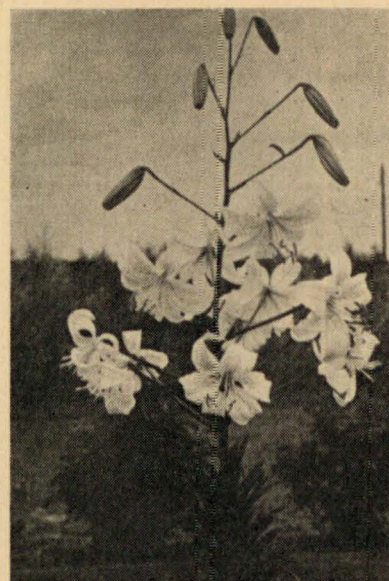
Apples named and introduced number 20. The fruits of 19 of these measure two inches in diameter or more. The smallest one which is a little under two inches in diameter, is a very early variety of apple quality ripening about ten days earlier than Silvia. The flesh is juicy and flavorful and the skin is of a beautiful crimson color. This seedling was introduced as Early Redbird. These are crosses between Saunder's hybrids and either Melba or Wealthy.

The other seedlings are of various seasons. In some, the fruits begin to ripen soon after mid-August and in others ripen-





DEAN W. J. RUTHERFORD



NEW LILY SEEDLING

ing does not take place until about mid-September. The skin color is from yellow to very deep crimson and the flesh color in nearly all is white. Marked juiciness of flesh is characteristic and all but one are very mildly acid or sub-acid.

The trees show drought resistance and hardiness in good degree at Saskatoon and appear to be well suited to prairie conditions.

An assortment of names has been used for the apples introduced. Some of these are named after persons who have made important contributions to horticulture in Saskatchewan, and others have been named after some characteristic of the plant or the fruit. These are Dean W. J. Rutherford, W. A. Munro, Geo. C. Chipman, J. E. Park, James McLean, Andrew Anderson, W. R. Abbott, James Barrie, Early Harvest, Harvest Special, Winter Queen, Kingscourt, Exeter, Advance, Early Redbird, Prolific, Yellow Beauty, Brightness, Beauty's Blush, and Lambton.

The list of plums released and named comprises sixteen varieties with fruits ranging in size from one and one-fourth inches to two inches in diameter grown under field conditions and without irrigation. All are open pollinated hybrids involving one of our native species, mainly *Prunus nigra*, and hybrids of the Japanese plum (*Prunus salicina*). These were selected

from large numbers of seedlings grown by the Department from pits of *P. salicina* hybrids, the trees of which were in close proximity to trees of varieties of *Prunus nigra*. It was assumed that the hybrid varieties were not only self-sterile but were inter-sterile among themselves as had been found by a number of researches and that pollen of native plums was necessary to give fruitfulness to the hybrids. Japanese plum hybrids such as Winona, Waneta, Pembina, Red Wing, La Crescent, Underwood, Tecumseh, Omaha and Fiebing were among those varieties from which the pits used were taken.

All sixteen named and introduced are quality plums obviously containing considerable percentage of Japanese plum blood. All but two of these have marked hardiness. One of the two that are somewhat lacking in hardiness is the largest fruited variety in the group and it should make an acceptable showing in well protected areas. It has been named Supreme. One of the varieties in the group has an unusual habit in making a low growing tree which reaches a height of not more than five or six feet. Its branches are marked by recurving. It is a medium late variety with a heavy bearing habit and with fruit one and one-half inches and upwards each way. The fruit is rich red in color and is of excellent quality. It has been designated Patterson's Pride. The latest ripening variety in the group and which has been given the name Perfection is of exceptional quality with an upright plant and with red fruit that is somewhat flattened and measures one and one-half inches each way under field conditions. Other varieties of plums named and introduced have been designated Elite, Eclipse, Excell, Climax, Delicious, Daniel Geddes, Elmore Gilman, Fred Robinson, Harry Ducie, H. R. Hinchliff, Superb, Hans Hoffman and Acme.

Eight plum-cherry hybrids have been named and introduced during the past year. These are selections from seedlings of open pollinations of Sapa, Opata, Tom Thumb and Oka grown in numbers at the University. These all have quality and are earlier maturing than most of the varieties being offered by nurserymen at the present time. Seven of these have red flesh and one has green flesh. The green-fleshed variety has the free-stone characteristic. The plants in all cases are of the bush type. Greek letters have been used are as follows: Alpha, Beta, Gamma, Delta, Zeta, Kappa, Sigma and Omega. The only green-fleshed variety named has been designated Beta.

Eight varieties of pears have been named and introduced. These are from University seedlings with the Ussurian or Siberian Pear as one parent and either Bartlett or Aspa as the other parent. These have been grown only under field condi-



**DIXON-REID PLANT FOOD**

**Over a Million Sold**

Makes the amateur gardener an expert!

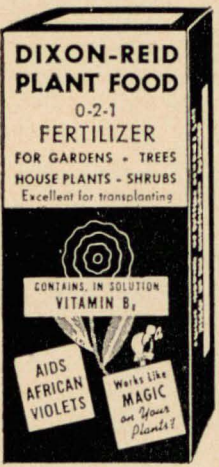
- Used indoors and outdoors by gardeners — for soil treatment, transplanting, nurseries, cut flowers, lawns, trees and shrubs.

Available in 25¢, 50¢, \$1 and \$1.79 bottles.

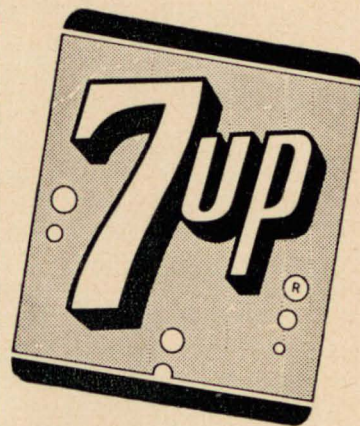
At Florists, Department, Hardware, Grocery, Drug, and 5 and 10c Stores throughout Canada.

**IMPROVED FERTILIZER FOR TRANSPLANTING**

**DIXON-REID CO. LTD., TORONTO**



## SEVEN-UP FOR ALL OF YOU!



*You like it ...  
it likes you!*

### REGGIE...THE HOST WITH THE MOST



No other  
Winnipeg  
Hotel offers  
so much . . .  
Banquet Rooms, Two  
Parking lots, Central  
location, Popular  
rates.



- Wedgewood Room  
for distinctive dining
- Open Kitchen  
for quick, tasty meals
- Forest Room  
for gracious relaxation
- Red River Room  
for historic refreshment

### ST. REGIS HOTEL

285 Smith Street Winnipeg  
Phone WHitehall 2-0171

Winnipeg's Leading Florist

## Broadway FLORISTS

E. Cholakis & Five Sons

"The House of Flowers"



Phone WH 3-0731  
277 Portage Avenue

Phone SP 5-8484  
Polo Park Shopping  
Centre

WINNIPEG CANADA

tions in a dry season at Saskatoon and sizes up to three inches by two and one-half inches have been obtained. How large the fruits of these are likely to become under more favorable conditions one can only speculate. Considerable variation in the season of maturing and in the tendency to break down quickly has been found. Biblical names have been used for the pears and these are Andrew, David, Philip, Peter, Simon, John, James and Thomas. Andrew is the earliest of the group, ripening early in September at Saskatoon and breaking down quickly, while John, James and Philip are among the latest, ripening toward the end of October. David, Philip, John and James hold up against breakdown fairly well and John and James color yellow beautifully before breaking down.

These pears all are juicy and the flesh is not dry like that of the fruits of Olia, Tioma and their type. The trees possess hardiness and some of them have grown to a height of sixteen feet.

Despite a statement made before a Service Club in Saskatoon by an "expert" who doesn't know all the answers, that there isn't a worthwhile pear sufficiently hardy to be grown on the Canadian Prairies, the writer has no hesitation in stating that these pears are well worthy of culture. Fruits of three or four of our seedlings are almost equal to those of Bartlett in quality. All are palatable and make good preserves. To the knowledge of the writer the "expert" has neither seen nor sampled these pears.

One variety of red raspberry was named and introduced. It was designated Abundance. It is a cross between Chief and Viking. It is a short-cane variety, growing little above three feet in height but very hardy and very productive. It is an excellent cane maker. The fruit is of good size, of good quality, very firm and flavorful. It is an outstanding variety.

Three gladiolus seedlings were named. One will be introduced this year and the other two as soon as sufficient stock has been built up to make this possible. The one to be introduced this year is Purple Lady.

One lily seedling was named and introduced this year. It is one of the lower growing seedlings reaching a height of about two and one-half feet with crimson flowers facing outwards and downwards. It is an early bloomer beginning in late June. It has been designated Crimson Beauty.

A potato seedling that was selected in 1950 has been tentatively named Saskatchewan Russett. It is a medium size potato grown under ordinary conditions in Saskatchewan, al-



most spherical in outline, with shallow eyes and a nicely russeted skin. It is one of our Netted Gem granddaughters that is doing well in Saskatchewan and gives promise of replacing some of the less desirable varieties now being grown.

Many young potato seedlings, all of Netted Gem ancestry, are undergoing tests and many beautiful seedlings are to be found among them. Something worthwhile is certain to come out of them.

With the close of the year 1960, the writer steps down from his position as Head of the Department of Horticulture, University of Saskatchewan, a position he has held since 1922 when the Department was organized, and becomes Professor Emeritus. He is being replaced by Dr. Stuart Harper Nelson, who has been with the Plant Research Institute, Dominion Experimental Farm, Ottawa. Dr. Nelson became Head of the Department on January 1st, 1961.

The writer joined the University staff in September 1921. He spent the first year teaching and making preparations for the new Department that was to be organized the following year. Those 39 years have been years of hard work but have been enjoyable years and have been years that have been productive in a measure at least. It is to be hoped that in the years to come Dr. Nelson will have the support that I have enjoyed down through the years that are past.

It is not my intention to lay down my tools and retire to some remote corner to end my days. If health permits, I hope to carry on in the development of new plants, particularly with lilies. There is plenty to do and I hope to have the privilege of making a contribution.

May horticulture continue to prosper in the Northern Great Plains Region!

## House Plants for Modern Living

By S. J. WESTAWAY

Plant Science Division,  
The University of Manitoba, Winnipeg, Manitoba

Change in architectural design is obvious throughout the years, and we are aware of this in the construction of the modern home as compared with the homes of twenty or thirty years ago. Lower spreading types of houses with larger living areas and much larger glass areas have been made possible due to the fact that modern structures can be economically heated because of improved techniques of insulation. The modern home is not only adapted for shelter it is designed for living.

Because of this we find a greater variety of plants available for home growing and decoration, and this is particularly true of the number of tropical and sub-tropical plants introduced and grown. The introduction of the planter in its various sizes and forms is adapted to the growth of such plants. The built-in planter which divides but does not separate rooms can be used for growing plants of moderate range. Larger specimens suitable for framing large glass areas, and preferably moveable, are better grown in tubs or other large containers. Small plants for varying effects can be grown in conventional containers, small ornamental dishes and planters.

Whatever the type of container used an essential in all cases is to provide adequate drainage. Preferably the containers should have some outlet so that excess water can drain away from the bottom of the receptacle. Place broken crockery, small stones and some coarse textured organic material in the bottom of the container. Any surplus water will drain away and you will avoid root decay due to lack of aeration in the soil. This is very important and particularly so in the case of small decorative planters which are not supplied with drainage holes. In this case supply plenty of drainage materials and carefully avoid adding more water than can be adequately absorbed by the soil. Surplus water and stagnating conditions are deadly to the roots of the plants. It is preferable in large planters to allow the plants to remain in their original containers and merely set them in or surround them with Zonolite

4,000 Winnipeg Homes Use . . .

**Central Heat**

The Ultimate In

COMFORT — CONVENIENCE — SAFETY

"NOTHING BEATS CENTRAL HEAT"

**WINNIPEG CENTRAL HEATING CO. LTD.**

1120 DORCHESTER AVENUE

WINNIPEG 9



or sand. In this way individual plants may be replaced without disturbing the other plants and variety easily arranged.

What type of plants may be grown or are preferable?

One needs to consider first the particular conditions under which the plants are to grow. During the season when artificial heat is necessary the temperature in the home is often too high for favorable plant development and humidity too low.

First of all greater use may be made of suitable types of cacti and succulents. They lend themselves to arrangements in planters and do favorable under modern house conditions. The jade tree, *crassula arborescens*, is an example. It is long living, spineless, having a certain artistic character well suited to indoor growing. There is a wide choice among the Sedums, Echeverias, Gasterias, Euphorbias and Mamillarias, to name a few. Their varying forms and characters provide an interesting variety. There are certain cacti well suited to growing indoors, the principal objection in many cases being the presence of spines.

Hanging plants fit in well lending character where they fall over the edge of the planter. Plants such as Grape Ivy, English Ivy, Philodendron, Strawberry Geranium, Fittonia, Creeping Fig, Wandering Jew, Pothos and Periwinkle to name a few may be grown. Even the lowly Sweet Potato can be grown as an attractive vine. Reasonable care and attention, control of insect pests, are necessary, but not difficult.

Serviceable and durable plants such as Aspidistra, Sansevieria, Peperomia, Dracaena, Crotons, Dieffenbachia and Box Plant all lend themselves to attractive culture.

Among the larger plants suitable for tub culture such familiar subjects as Rubber Plant, Oleander; Kentia, Cocos, and Fan Palms; Australia Silk-Oak, Japanese Laurel and Monstera may be grown, and may be particularly successful if a proper humidity is kept in the house. Many of them do best under good but not direct light, and when they are grown in tubs suitable positions can readily be found for them.

Flowering plants are the desire of most growers. We have Geraniums and African Violets in variety. Their attractiveness depends on how well they are grown. Their color adds a home-like charm. Fibrous rooted begonias lend color both because

of their attractive flowers and acceptable foliage. Good young plants can be grown in reserve from stem and leaf cuttings.

Cyclamen, Cineraria and Primulae are usually bought or acquired as presentation plants on special occasions but do not lend themselves to easy home culture. One might attempt their growth if an all-year-round greenhouse is maintained, or a very suitable sunroom is heated in connection with the house. Under winter house conditions their life is often far too short for satisfaction.

Flowering bulbs properly forced under cool conditions give satisfaction throughout the latter part of the winter season. Narcissus give the earliest response. Hyacinths, Daffodils and Tulips by the proper choice of varieties and their studied development can assure a long season of colorful bloom. Emphasis is always placed upon attempting to keep the surroundings somewhat cool for the benefit of the plants rather than for the occupants of the home. This may be accomplished by a choice of rooms.

For the purpose of tapering off the winter growing season indoors, Tuberous Begonias and Gloxinias should be started in mellow soil in a moderately warm room, early in the New Year. They will give handsome color in the home before the advent of flowers in the spring garden.

One can consider the use of artificial light to supplement the available light in the home. Fluorescent lighting may be used to advantage in a basement section to carry plants along in their early stages of development. Planters may be used in more remote locations where their effectiveness can be enhanced with supplementary lighting. The combined character of foliage and lighting is often very attractive.

Requirements for successful plants in the home are suitable subjects, a comprehension of the particular environmental needs of the plants, and assiduous care in carrying out those needs. The satisfaction will be commensurate with the effort expended.

---

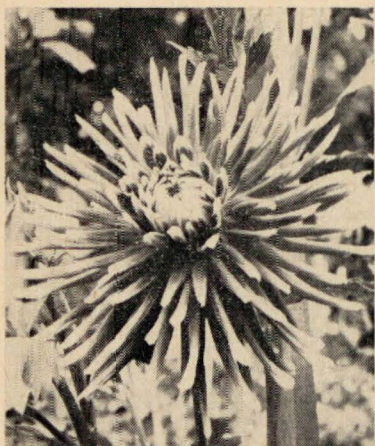
#### GARDEN HINT

To keep birds away from strawberries, etc., just scatter bits of tinsel on and around them. Any kind of tinfoil, cut in strips, will do.

Mrs. Martha Hoffman, Sinaluta, Sask.



## DAHLIA TYPES



**POINTILLE:** Straight cactus. Petals rolled and quill-like. Petals are straight, from centre of bloom. Bicolor, vermillion petals, the ends are tipped with yellow.

**SNOWSTORM:** Decorative, no rolling of petals. A good decorative. When fully open, should be nearly globular, with the petals evenly placed. Blooms may be from three inches in diameter up, according to variety.



**BORDER JEWEL:** Incurved cactus. The quilled petals curve inwards. Plant height, thirty inches. This is a typical example of the cut-flower and garden decoration-type developed in Europe since the war. Free flowering blooms carried on long wiry stems well above the foliage. Excellent as cut flowers.



## DAHLIA TYPES



**RENATA:** Fimbriated. This is a comparatively new type. Straight cactus with the ends of the petals notched or split. Blooms in this class are usually medium to large in size.

**YELLOW CHEER:** Dwarf bedding Dahlia. Plant height, eighteen inches. No pruning or staking required. Double yellow blooms cover the plant all season. One of the best plants for home gardens.



**KERSTER:** Dwarf single bedding Dahlia. Large showy flowers resembling a Poinsettia in shape, size and color. Plant height, eighteen inches.





No modern home is complete without a well maintained lawn, productive garden and beautiful flowers. It is the mark of a "green thumb" that will pay off in beauty and increased real-estate value.

### ELEPHANT BRAND FERTILIZER'S

concentrated plant food goes to work for you quickly and produces outstanding results.

## ELEPHANT BRAND HIGH ANALYSIS FERTILIZERS

Manufactured by:

**The Consolidated Mining & Smelting Co.  
of Canada Ltd.**



"WINNIPEG SUPPLY"  
Sphagnum

## PEAT MOSS

- Loosens and aerates heavy soils
- Provides humus for light, sandy soils
- Helps neutralize excessive alkalinity
- Absorbs and retains moisture
- Ideal base for spreading fertilizer
- Peat mulch protects against sudden changes in temperature
- Keeps bulbs warm and dry in storage

Handy bale contains sufficient peat to topdress up to 200 square feet of lawn or flower bed.

Available for convenient pickup at our Branch Offices:  
Logan Ave. at Reitta St.  
Portage Ave. at Madison Street

THE  
**WINNIPEG SUPPLY & FUEL CO.**  
LTD.

Head Office: 8th Floor, Boyd Bldg., Winnipeg 1 — Phone WH 3-0341

## Insect Control in Prairie Gardens

By **M. E. TAYLOR**, Entomologist,  
Research Station, Saskatoon, Sask.,  
Canada Department of Agriculture.

One of the most frequent problems with which the home gardener has to contend is the attack of insect pests, resulting in injury or total loss of plants in which we have invested considerable effort, and on which we have built our hopes. Most of us, at one time or another, have seen our peas mowed down by cutworms, onions and turnips infested with root maggots, potato tubers riddled with wireworm holes, or our trees and other ornamental plants disfigured by aphids, mites or scale insects. This is to mention but a few of the host of insect pests that infest our gardens from time to time.

Fortunately, today we are much better equipped to deal with insect pests than we were fifteen or twenty years ago. The production of many new and more effective insecticides in recent years has reduced greatly the threat of serious insect damage — provided, of course, that we use the chemicals at our disposal and use them promptly when the need arises. Timeliness of insect control is the key to keeping losses at a minimum.

The ideal control would prevent any damage whatever by a particular insect. Such complete protection can be achieved from very few of our pests. It is possible, however, for the soil insects such as wireworms and cutworms, which are present and vulnerable, to be killed by control measures before gardens are planted.

The next best we can hope for is to keep damage at a minimum by applying residual sprays or dusts to the plants **before** insects appear and start feeding. Such protective measures are used quite commonly by gardeners, especially against those insect pests that we have come to expect almost every year, for instance cabbage worms.

If the above preventive and protective measures are not practical, then the least we can do is apply control measures as soon as possible **after** the insects are seen. This requires frequent careful examination of plants, especially where small insects like aphids are concerned, and prompt application of control measures. Most of our present-day insecticides act quickly and, if pests are seen and treated in time, serious injury usually can be avoided.

It is not possible in this article to outline control measures for all the garden insects encountered here on the prairies.



## NEW . . . COMPITOX

**SAFE Weed Control in Seedling Grasses, Established Turfs and Bentgrasses.**

Controls

CHICKWEED

CLOVER

BLACK MEDICK

PLANTAIN

DANDELION

PROSTRATE KNOTWEED

SAFE — EFFECTIVE — THOROUGH

## Yellow Leaves?

Yellowing of foliage is typical of lack of iron or unavailability of iron termed "Chlorosis."

PREVENT OR CURE BY USING

**DOW'S VERSENOL IRON CHELATE**

(Pronounced Keylate)

## GRASS CONTROL DOWPON

**CONTROLS PERENNIAL AND ANNUAL GRASSES**  
(Twitch, Couch, Quack)

- EASY TO MIX
- EASY TO USE
- LOW COST

FOR FULL INFORMATION AND PRICES

WRITE OR PHONE

**THE GARDENERS SALES LTD.**

20 DERBY STREET

WINNIPEG 2, MAN.

Phone JUstice 6-2803 — JUstice 2-1696

However, with a view to illustrating the importance of timing of control measures, a few of our more common pests will be discussed below.

**Wireworms** are the slender, shiny, yellow worms that live in the soil and injure plants by burrowing into the roots and underground stems. They will attack almost any of the vegetables but are particularly injurious to potatoes, carrots, and corn. They will injure many ornamentals by tunnelling into bulbs and corms. Wireworms live for several years in the worm stage; therefore, if they are in your garden one year, you can depend on them being there the following year, unless you kill them.

Apply aldrin, chlordane, or heptachlor dust to the soil either in the fall or in the spring, a couple of weeks before planting the garden. If you use a 5 percent dust, you should apply 2.5 pounds of either aldrin or heptachlor, or 5 pounds of chlordane per 1,000 square feet of garden area. Distribute the dust uniformly on the soil surface and cultivate it in to a depth of 4 or 5 inches. This treatment will keep your garden free of wireworms for several years.

**Cutworms** are the dull colored, fleshy caterpillars which cut plants off at the soil level. They stay in the soil during the day but often come to the surface at night to crawl around and feed. Our common cutworms hatch from eggs first thing in the spring, and the worms are there waiting to feed on our transplants, or on our seedlings as soon as they emerge from the soil.

In districts where cutworm damage is experienced often, it is a good plan to treat the soil each spring before planting the garden. On each 1,000 square feet of garden area, apply 1 pound of aldrin 2½ percent dust or chlordane 5 percent dust; or spray with 4 tablespoonfuls of aldrin emulsion mixed in 2 gallons of water. The chemical can be raked into the surface soil but should not be worked in too deeply.

If the pre-planting treatment is not used, you can spray or dust after the garden is up, at the first signs of damage. Use care not to get the poison on edible foliage such as lettuce.

**Gladiolus thrips** are very tiny, slender insects that cause pitting of gladiolus corms in winter storage, silvery blotches on the leaves, and blasted blooms in the summer. The thrips cannot live outdoors in winter; only those that are taken into storage on the corms can survive.

In the fall, corms should be soaked for six hours in a Lysol solution, 4 teaspoonsful in a gallon of water, dried and stored; or they may be dusted with 1 ounce of 3 percent DDT dust per bushel of corms. In the summer it may be necessary to treat the gladiolus plants, because thrips may fly in from



other gardens. The plant treatment consists of four applications of DDT dust or spray at intervals of 10 days beginning when the plants are 10 inches high. The spray can be made by mixing 2 tablespoonsful of DDT 50 percent wettable powder in a gallon of water.

**Aphids** or plant lice probably are the most common garden insect pests we have. Various species of aphids attack a great variety of plants including peas and sweet peas, potatoes, currants, delphiniums, fruit trees, and shade trees.

Aphids have sucking mouthparts and they feed by piercing the plant tissue and sucking out the sap. As a result of their feeding the leaves become discolored and often deformed or curled. Once the leaves are curled the aphids inside the curled leaves are protected from any sprays that we may apply.

Plants should be watched carefully in late spring and summer for the first appearance of aphids. As soon as aphids appear, spray them with a contact insecticide such as malathion, nicotine sulphate, or pyrethrum. Apply the spray forcefully against the undersides of the leaves, where the aphids usually are found.

**Miscellaneous chewing insects**—Cabbages and cauliflower are attacked almost every year by cabbage worms. In order to avoid damage, plants should be dusted at regular intervals throughout the summer. You can use either pyrethrum, derris, or DDT dust on young plants, but DDT should not be used after the heads begin to form.

Several other kinds of chewing insects attack garden crops from time to time. These include potato beetles, blister beetles, flea beetles, red turnip beetles, currant caterpillars, tent caterpillars, cecropia caterpillars, cankerworms, and others. This group of pests can be controlled by dusting or spraying with derris or DDT. Derris can be used safely on fruits and vegetables right up to the time of picking; DDT should not be used on the edible parts of plants within 3 weeks of harvesting.

BE SURE YOU ASK FOR

**MALATHION**

ONE INSECTICIDE FOR YOUR HOME AND GARDEN  
ORNAMENTALS - FRUIT - VEGETABLES - FLIES  
HOUSEHOLD INSECTS

Malathion Is A Product Of Cyanamid

## Chromosomes Tell a Story

By Dr. B. Charles Jenkins,

Department of Plant Science,  
University of Manitoba, Winnipeg, Manitoba.

It has long been recognized that the crossing of varieties of plants is a useful way of bringing about new combinations for improvement. It is also well known that interspecific and intergeneric hybridization is one of the most important factors in the natural evolution of organisms whether they are plant or animal. The science which deals with inheritance, or the transfer of characteristics from one generation to another, is called GENETICS. It came into being as a science with the rediscovery and substantiation of Mendel's laws in 1900. Gregor Mendel, 1822-1884, was one of the great men of agriculture but ironically his contribution was completely ignored. In a period of eight years culminating with the publication of his results in 1865, this Augustinian monk conducted carefully controlled experiments with peas in his cramped section of the monastery garden. While the significance of these results was not immediately recognized, it is fair to say that with almost prophetic insight Mendel predicted the mechanism by which it was later discovered inheritance is accomplished.

This mechanism is now reasonably well understood. It has to do with cells and more precisely, in the majority of cases, with chromosomes which form the nucleus of cells. Chromosomes or "color bodies" were stained and named by Waldeyer in 1888, but it is only within recent years, owing to improved techniques and equipment, that chromosomes are being intensively studied. The reader may be interested to know that in an important world food crop like wheat, the correct chromosome number was not accurately determined until 1918 and some crop plants and ornamentals have not yet in this year 1961 had chromosome numbers determined completely. Some of the reasons for this are not too difficult to appreciate when it is realized that chromosomes vary greatly in their size and number in different organisms. There are the "Giant" chromosomes in salivary glands of *Drosophila*, the fruit fly, relatively large chromosomes in *Lilium*, the lilies, also wheat and its relatives, and small ones in *Gladiolus*, potatoes, chrysanthemums, to mention only a few and undoubtedly not the extremely small ones at that. Chromosomes are measured in microns and one micron is one-thousandth of a millimeter in length. Since there are approximately 25 millimeters in one inch, this means that a micron is equal to about one 25-thousandth of an inch. The chromosomes of wheat



which, as we have said, are comparatively quite large, vary from six to ten microns in length. This means that they would range in length from about one four-thousandth to one two-thousand five-hundredth of an inch. Obviously, it requires excellent magnification to see objects so small and this is why our knowledge of the chromosomes parallels to some extent the development of precise and often very costly scientific instruments. It is natural to do the easy things first and that is why some organisms have been studied much more extensively than others.

The science which has to do with the minute living units, the cells, of which plants and animals are constructed, is called **Cytology**. The intimate relationship between the sciences of genetics and cytology was not realized during their early development. Gradually, as more information became available in both fields of knowledge, a striking parallelism was apparent and it is now common to correlate the information from these separate approaches to the problems of heredity into one science called **Cytogenetics**. Since chromosomes are the bearers of genes which determine the inherited characteristics of the organism, their role in cytogenetic studies is of great importance.

The name chromosome is made up from two words, namely "chrome" for color and "some" for body, thus, as I have said, it means color body. Chromosomes can be stained and observed as color bodies only during the process of cell division and since there are two kinds of cell division in any organism, an intimate knowledge of the structure of the subject is required before the chromosomes can be seen with proper magnification. Illustrations of how the chromosomes appear in each of the two different types of cell division are shown in Figures 1 and 2.



FIGURE 1

FIGURE 2

In the body cells of a plant where cell division is taking place (root tips or shoot tips) the chromosomes, by dividing longitudinally, take on the appearance of doubleness and the two new chromosomes thus formed separate to different cells. Each new cell has the same number of chromosomes as the parent cell from which it came. This process is repeated throughout the growth of the plant or until flower bud formation is initiated. It is called "mitosis".

When the flower buds are still very young, the germ cells (pollen grains and egg cells) are about to be formed. This occurs in the very young stamens and in the ovules of the flower bud. Here a very different kind of chromosome behavior takes place. Instead of each chromosome dividing as in mitosis, "like" chromosomes come together in pairs. The members of each pair then disjoin and pass to different cells. This reduces the number of chromosomes in the new cells to half the number present in the original cell. The completion of this reduction process, which is called "meiosis", requires two nuclear divisions. When a pollen grain and egg cell unite at the time of fertilization, each carries a single set of chromosomes with a complete complement of genes. The total chromosome number is restored and the germ cells have completed their mission of transmitting to the next generation their unique heritage of genes.

The total chromosome number and some related information can be obtained by examining chromosomes in mitosis but far more information as well as the total number can be obtained by studying chromosomes in meiosis. The regularity with which chromosomes pair is usually taken as an indication of the relationship of parental species — the more regular the pairing, the closer the relationship. Figure 3 shows the pairing of chromosomes in a cross between bread wheat which has 21 pairs of chromosomes and durum wheat which has 14 pairs. The 14 durum chromosomes have paired with 14 of the bread wheat chromosomes indicating that they are similar in the two species but there are 7 extra chromosomes in bread wheat which are left unpaired. If the cross had been between wheat and rye, none of the chromosomes would have paired, with the result that the division process would be highly disorganized and the plant would remain completely sterile. This is what happens in the case of a mule which comes from a cross between a donkey and a horse. The donkey chromosomes will not pair with the chromosomes of the horse and thus the mule is sterile, but it is a useful beast of burden because of its vigor and the fact that it lives for many years. "Plant mules" on the other hand are useless to man unless they can be reproduced by vegetative means, or unless fertility can be restored by doubling the chromosome number.

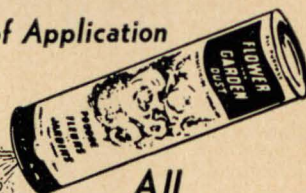
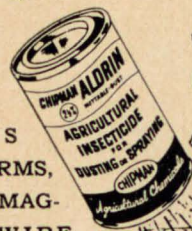


# CHIPMAN PESTICIDES

Conveniently Packaged for Ease of Application

**ALDRIN**  
2½%

**KILLS**  
CUTWORMS,  
ROOT MAG-  
GOTS, WIRE-  
WORMS, WHITE  
GRUBS and other soil  
insects. Use **BEFORE**  
planting.



**All Purpose  
FLOWER &  
GARDEN  
DUST**

Controls above-ground  
plant diseases and insects,  
including Aphids. Truly  
all-purpose — contains  
CAPTAN and two potent  
insecticides. Handy  
pumper-gun. Also avail-  
able, "FRUIT and GAR-  
DEN SPRAY."



**ATOX**

A non-toxic insecti-  
cide for potato  
bugs, caterpillars,  
cabbage worms,  
etc. Dust it on—  
leaves no poison-  
ous residue.



**Ridsect**  
AEROSOL BOMB

For HOUSEHOLD

Insects

Sure death to flies,  
mosquitoes, moths,  
ants, etc.

Also Available:

HERBATE AMINE 20 WEED KILLER—for lawns.

ROSE & GARDEN DUST AT HARDWARE, DEPARTMENT & SEED STORES

**CHIPMAN CHEMICALS LIMITED**

Montreal • Hamilton • Winnipeg • Saskatoon • Edmonton

**CHIPMAN**

*Agricultural Chemicals*

It has been known for a long time that certain environmental conditions such as heat shocks or cold shocks can cause accidents in cell division.

However, it was not until 1937 when Blakeslee and Nebel, working independently and approximately simultaneously, reported extremely valuable results with the drug colchicine, that man has been able to control the division process more or less at will. Colchicine, which acts as a cell poison, allows the chromosomes to divide but prevents cell wall formation thereby doubling the chromosome number. In using colchicine for this purpose, it is exceedingly important that its effects influence only one cell division, otherwise repeated doubling takes place and tumors develop which eventually cause death of the tissue. Therefore, chromosome doubling even with colchicine is still very much a hit-and-miss proposition and success depends to a large extent on proper manipulation of such variables as time, temperature and concentration of the solution. Horticulturists are well aware of the benefits derived from colchicine because many of the improved varieties of garden plants have been made tetraploid with this drug. It is common to see advertised such things as tetra snapdragons, tetra zinnias and tetra ageratum to mention only a few. It is less common but will undoubtedly become more so in the future to hear of the development of entirely new species by doubling the "plant mules" to which reference has already been made. In our laboratory at the University, we are developing many new kinds of grain by putting together wheat and its relatives such as rye, goat grasses and wheat grasses in various combinations. Quite often a combination involving a weedy species results in a new type that is extremely promising. I venture to predict that some of the agricultural plants of the future will be the result of deliberate combinations brought about by man and perhaps some of the lowly weeds today will be components of new species tomorrow.

Fig 3—A sex cell showing 14 chromosomes paired and 7 unpaired.



Chromosomes are sometimes called vehicles of heredity because they carry the genes (hereditary units) in their transmission from one generation to another. Since this intimate relationship exists between genes and chromosomes, it follows that if a chromosome carrying a particular gene is missing, the gene is also missing, and if there is an extra chromosome, the dosage of genes it carries is increased accordingly. Advantage of this fact is made use of in locating genes in specific



chromosomes. This mapping of genes, as it is called, can be of great value to the breeder because he is able to make combinations with greater assurance of success rather than depend on mere chance alone. Chromosomes can be broken with X-rays and other types of high energy irradiation and this leads to several different types of arrangements. A translocation is formed when a piece of one chromosome becomes attached to another. There is said to be a deletion when part of a chromosome is knocked out completely. An inversion occurs when the order of genes in a particular chromosome is changed. These facts and others too numerous to mention are determined by making detailed studies of the chromosomes. There is undoubtedly much more information yet to be revealed, thus it is fair to say that cytogenetics is only in its infancy. In this day when much attention is given to space research, one cannot help but feel that "space research in reverse" may also be rewarding. Chromosomes truly have a story to tell!

### Quality Seeds Make for Better Gardens

For Prize Winning

**FLOWERS and VEGETABLES**

Insist on

**STEELE BRIGGS SEEDS**

AVAILABLE AT YOUR LOCAL STORE

OR FROM

**STEELE BRIGGS SEEDS**  
LIMITED

REGINA

WINNIPEG

EDMONTON

#### THE PRAIRIE GARDEN FREE SEED OFFER STILL STANDS FOR 1962

For each short article submitted — up to 400 words — 3 pkgs. Free Seeds. New Giant Marigold, Super King, Mixed, Tetra Clarkia, Big Pink, Zinnia, Miss Universe, Mixed. To contributors of all articles published: 3 Begonia Bulbs or 1 Rose Bush. Mail your article to The Prairie Garden, 92 Queenston St., Winnipeg 9, Man.

## A Few Valuable Ornamental Shrubs

By JOHN S. KOSHA, Melville, Sask.

We have grown quite a number of ornamental shrubs in our gardens near Melville during the past 25 years. The following kinds are mentioned because they are not too well known or because they have special uses and could be grown more frequently in prairie gardens than they are today. The first five shrubs are suitable for hedges, the other kinds are attractive low shrubs.

**The Dwarf Arctic Willow**, *Salix purpurea nana*, makes a very charming low hedge. Little trimming is needed to keep it tidy at a height of three feet or less. I understand this willow is found north of the Arctic Circle, hence its extreme hardiness. It will tolerate wet soil where other shrubs would perish and is easily propagated from cuttings. Planted one and one-half feet apart, it makes a very dense hedge. The color is a delicate blue-green haze; and this remarkable plant is suitable for foundation planting and other uses. The **Sweet-berry Honeysuckle**, *Lonicera coerulea edulis*, is a compact shrub some three or four feet in height. It has pale yellow flowers toward the end of May, followed by dark blue berries. The plants are neat and symmetrical in form and the foliage is an attractive bluish-green color. At a spacing of two feet, this honeysuckle makes a very desirable dense hedge. **Cherry Prinsepia**, *Prinsepia sinensis*, is a spiny low-growing shrub which makes a good dense hedge with a little side and top clipping. It has bright green leaves and is one of the first to leaf out in the spring. The scarlet fruit makes a tasty jelly. The **Manchurian Elm**, *Ulmus pumila*, probably should not be grouped with the shrubs as it can be trained to make an attractive small tree with its fine leaves and free branching habit. This elm can also be trimmed to various forms or shapes by side clipping, and it will make a dense hedge anywhere from 4 to 14 feet in height. It can be interarched if desired for a gateway. Because of its ability to withstand dry condition, it is well suited to the prairies. Another low hedge plant which should be more popular is the **Red-leaved Japanese Barberry**, *Berberis Thunbergii atropurpurea*. Its foliage varies from a bright to a deep purplish red and it presents a wonderful appearance all summer. It should be planted in full sun for best color effects. If the plants are placed from one foot to 18 inches apart, and with a little side clipping, this barberry will make a beautiful low hedge along driveways, walks and pathways.

The **Rose Daphne**, *Daphne Cneorum*, is a low-spreading evergreen shrub which makes a good ground cover and is



suitable alongside walks and rockeries. It has sweet scented, tubular, pink blossoms. These are borne in terminal heads about the end of May and again in mid-August. Another good ground cover is **Pachystima Canbyi**. This plant is an evergreen with small, linear, dark green leaves. The flowers are inconspicuous. The branches of this shrub root readily. It prefers a sunny location and is suitable for rockeries. One of our most drought resistant shrubs is the **Shrubby Cinquefoil**, *Potentilla fruticosa*. It grows to a height of from two to three and one-half feet and has compound leaves, usually with five leaflets. The clear yellow flowers are in terminal cymes or solitary and are produced from mid-June until late autumn. With a little trimming this cinquefoil can be trained to a suitable shape and form. There is a related variety with white flowers.

Compliments of

## THIESSEN BUS LINES LIMITED

CHARTERED TRIPS

Phone GLOBE 3-0179

380 OSBORNE ST.

WINNIPEG 13, MAN.

COMPLIMENTS OF

**Manitoba Sausage Mfg. Co. Ltd.**

BRUNSWICK BRAND

SMOKED MEATS

691 Dufferin Ave., Winnipeg 4

Phone JU 9-8331

## Let's Talk About Evergreens

By C. STUART FRANCIS,  
Spruce Dale Farm, Torch River, Sask.

Wherever you walk at Spruce Dale Farm you will not be able to avoid seeing an evergreen tree. It might be a tiny seedling from the far off Himalayas in central Asia, or it may be a giant White Spruce towering a full 115 feet or more into the sky. Yes, we have evergreens, many thousands of them; our native White and Black Spruce, our native Balsam Fir, or our native Jack Pine, as well as our only deciduous conifer, the Tamarack, or American Larch. These are all to be found growing in our farm woodlot, or Tree Farm.

We will now leave our natives to keep on growing undisturbed for a few more years, and will turn our attention to the newcomers from east and west, and from over the oceans, which now call Spruce Dale Farm home. We will start with the Norway Spruce. With us it is a very fine tree, perfectly hardy, straight growing, very symmetrical, and a fine windbreak tree, not quite so fast growing as our White Spruce, but does not take up as much room. Then next comes the Colorado Spruce, a beautiful tree, especially if it happens to be a rather rare blue seedling, a fast grower with widespread branches, and very sharp needles, a fine tree for specimen planting around the home; then the Siberian Spruce, a dense growing tree with short, very dense needles of a dark green. It should make a dandy shelterbelt tree. This is followed by the Finnish Spruce, which seems to grow more openly with ascending, very dark green foliage. It is quite a rapid grower, and should make a good tree for forestry purposes. And lastly in the spruces we have a few Engelmann Spruce from the mountains of British Columbia. They are small, little fellows as yet, but we have noticed that the needles are very fine indeed, and of a medium green color.

Now let's visit with the Pines, which I am sure everyone loves. They always look so warm and friendly and so fragrant too. We have already mentioned our native Jack Pine, a tree which deserves a lot more bouquets than it has so far received. Keep it away from bad alkali spots, and it will grow and thrive in many places where you will have a hard time getting any other evergreen to grow. Beware of one thing, Jack Pines don't get along with Manitoba Maple at all. An open grown Jack Pine usually makes a very beautiful tree and can stand any kind of climate, be it cold or hot, wet or dry. Now we will meet the Pines from east and west and overseas, and see how they like living up here in Northern Saskatchewan; well, the Scots Pine seems to be undecided as to the climate it likes.



We have Scots Pine that are a beauty to behold, very hardy, nicely shaped, fast growing, and varying from deep blue to light green, and again we have Scots Pine that is a waste of time even to plant, as these will kill to the snowline every winter. If you are sure you have perfectly **hardy stock** the Scots Pine makes a beautiful specimen tree and also a fine windbreak.

The Lodgepole Pine, which is native to the extreme south-west of Saskatchewan, does quite well up here in the north. It is very fast growing, varies from very dense habit of growth to very open habit. It is very dark green with longer needles than Scots Pine, usually producing seed at an early age. Individual specimens can make extremely beautiful specimens for home planting, while the general run appear to have much promise for forestry purposes. Red Pine is not quite so much at home up here in the north, possibly not quite hardy enough, but an odd seedling will grow quite well. They have very long six-inch needles of a very dark green and are really suitable only for specimen planting.

Swiss Stone Pine is a really lovely tree, although ours are as yet quite small. They appear quite hardy, quite slow growing, but very beautiful, with quite long bright silver and green needles, and well worth waiting for to see grow into a lovely specimen for around the house. The Swiss Stone Pine is the aristocrat of the pines in the same way that the Blue Colorado Spruce is to the spruce family.

Oh yes, we have other pines: Eastern White Pine, Timber Pine, Ponderosa Pine, Austrian Pine, and Himalayan Pine; however none of these have as yet really proved themselves, but we have hopes that some will live with us for a long time and be reasonably happy.

Lastly, there are the lovely firs and semi-firs, such as the Blue Douglas Fir from British Columbia, which if planted with shelter from the late winter sun will grow into a nice broad conical specimen of dark green, with shiny pointed needles. This tree is suitable only for specimen planting in a carefully chosen location.

In the true firs, our native Balsam Fir makes a very fine tree for around the house or lawn, although if grown in the open it does not seem to grow as wide as if grown in its natural setting in dense forest. It appears quite hardy, while an added interest is its large seed cones which stand upright on the upper part of the branches until ripened, when they disintegrate in all directions. A small Siberian Fir does not seem too hardy here, as late spring frosts seem to injure the early new growth, while a tiny seedling of Alpine Fir from the mountains of Alberta is still safely covered with snow in winter, and therefore living a comfortable life so far.

## A PAGE OF ROSES

MRS. W. M. MacDONALD

Chairman, Rose Section, Winnipeg Horticultural Society

At this time of year most of us are browsing, bright-eyed and ambitious, through the rose catalogues, so perhaps we should talk now of the best varieties for our prairie climate.

Among the Hybrid Teas there are a number of proven favorites. For fragrance we recommend Crimson Glory, Ena Harkness, Mirandy (all reds), Sutter's Gold (soft yellow), Eden Rose (pink). Some of the best Exhibition roses include Peace (yellow, edged pink), and Burnaby (creamy yellow). Crimson Glory and Ena Harkness are also popular as exhibits. For all-round performance let us not forget the old favorite Frau Karl Druschki.

In the Floribunda group we would place Orange Triumph (orange/scarlet), Frensham (dark red), Fashion (salmon/peach), Vogue (cherry/coral), Masquerade (yellow to deep red), and Independence (cinnabar red). For those who like white roses there are Dagmar Spath and Irene of Denmark.

The classification "Grandiflora", much used in the States, is not generally accepted elsewhere; such roses are often included in Floribunda lists. However, in this group we have the lovely Queen Elizabeth (orchid pink), Carrousel (dark red), Buccaneer (yellow) and Montezuma (orange/salmon).

We hope that you protected your roses by hilling them up well with dry material last Fall. Use discretion in uncovering them in the Spring; watch the weather, not the calendar. We'll hope for 100% survival, but we can surely find a spot for a few more roses; we need a "lift" after the long winter so — back to the Catalogues! ,

FLORIBUNDA — FASHION



"GRANDIFLORA" —  
QUEEN ELIZABETH





# ENRICH THE SOIL

WITH

**Burns** 



**PRESTO**

9-7-4

**FERTILIZER**

CONTAINS ALL THE  
INGREDIENTS  
REQUIRED FOR  
RAPID STURDY  
GROWTH

AVAILABLE IN  
5-LB. CARTONS  
25 & 50-LB. SACKS

at

**FLORIST, HARDWARE and FOOD STORES**

The application of this Organic Base Fertilizer may be aptly described as a natural method of restoring depleted soil elements.

## GUARANTEED ANALYSIS

|                                 |        |
|---------------------------------|--------|
| Total Nitrogen .....            | 9.00 % |
| Water insoluble Nitrogen .....  | 7.00 % |
| Available Phosphoric Acid ..... | 7.00 % |
| Water Soluble Potash .....      | 4.00 % |

Registration No. 93

Manufactured and Distributed by

**BURNS & CO. LIMITED**

Winnipeg - Regina - Prince Albert - Edmonton - Calgary

# The Value of Windbreaks

By **DR. F. J. GREANEY,**

Director, Line Elevators Farm Service, Winnipeg, Manitoba.

Windbreaks or shelterbelts are trees and shrubs planted to act as barriers against strong winds and drifting snows. In Western Canada, particularly on the generally treeless prairie plains, windbreaks are grown to protect crops, livestock, farm buildings, and homes. They have been instrumental in raising crop yields through decreasing soil blowing and reducing the severity of other harmful effects of high winds, and also in controlling snow-drifting and conserving soil moisture. There is little doubt that the planting of more windbreaks in Western Canada would not only make an important contribution toward a more permanent prairie agriculture, but would improve the prairie landscape.

**Specific benefits.** Windbreaks offer these specific benefits to the prairie farmer or rancher: (1) by reducing wind velocities. In many parts of the prairies dry winds are prevalent during the summer, while during much of the growing season rainfall occurs as light showers of less than one-quarter inch each. Shelterbelts effectively reduce the evaporation rates, allowing more moisture to become available to crops during the growing season. Experiments at Conquest and Aneroid, Sask., have shown that field shelterbelt planting increased grain yield by as much as 25 percent on a field scale. They also permit greater moisture storage by summerfallow as well as hold snow on the land for increased moisture. (2) They provide winter protection to livestock and feeding grounds. (3) Windbreaks protect the farm home and buildings from hot and cold winds. Besides, trees and shrubs make the farmstead more attractive and add to its value. (4) Properly located trees and shrubs act as living snow fences which prevent snow from blocking roads and accumulating around farm buildings. (5) Windbreaks make valuable cover for game and song birds, and other wildlife.

**Planning Important.** Research has shown that windbreaks can be grown successfully in most districts of the prairies. The growing of windbreaks, or shelterbelts is, however, a long-range improvement program. The requirements for success are: (1) Planning in complete detail ahead of planting. (2) Selecting the right trees and shrubs. (3) Planting them the right way. (4) Maintaining them in good condition. As a soil and moisture conservation measure, windbreaks are not, of course, cure-alls. They merely supplement and aid other



conservation measures. Most of the disadvantages associated with windbreaks can be overcome by careful planning and proper maintenance, and by planting the species of trees that are officially recommended for your particular district.

**Seek Advice.** Plan now for a program of windbreak planting in 1962. Get advice on a program that best meets your needs. It is also wise to obtain help in preparing a detailed planting plan from your local agricultural representative, extension horticulturist or soil conservation specialist; or from the Horticultural Department of your University of nearest Forest Nursery Station. Ask them about the financial help that may be available through your provincial tree-planting program.

Thousands of prairie farmers, ranchers and horticulturists are finding windbreaks a good investment — good for the home and garden, for crops, and for livestock. Well-planned windbreaks will benefit you and also increase the value of your farm.

### Dr. F. C. PATTERSON

We have just been advised of the death of Dr. Patterson in Saskatoon, Sask., February 20, 1961, after an illness of several months. Dr. Patterson's full and fruitful life is published in the front of this publication.

His death will be mourned by thousands of friends who have known him over his 40 years of service to western horticulture as head of the Dept. of Horticulture, University of Saskatchewan, Saskatoon, Sask.

### NOW . . . You Can RENT an ELECTRIC WATER HEATER!

**CITY HYDRO** is offering Winnipeg homeowners the opportunity to install or replace an electric water heating unit without the expense of purchasing one. No worry about repairs or service. Various sizes at low monthly rentals. Enquire at

*City Hydro*

SHOWROOMS:  
405 Portage Ave.

PHONE:  
WH 6-8201

## IRIS — Tall Bearded

By E. A. MORGAN,

Secretary, Saskatoon Horticultural Society, Saskatoon, Sask.

The growing of Iris in Saskatchewan does not appear to have made the progress that it should have, seeing that they are quite simple to grow, and certainly one of the most beautiful of flowers. They are obtainable in almost every color and shade from white to a near black, except green, and hybridizers are even now working to produce that color.

The reason for the slow progress appears to be a question of soil rather than climate. The soil should be medium light but contain plenty of humus: the most important point is that it should be well drained. With regard to the chemical reaction of the soil, neutral or slightly acid gives good results. It is not necessary that they have sun for all day, but if you expect to get flowers, give them all the sun possible.

Bearded iris are not water-loving plants. While the feeding roots on the underside of the rhizome (the large fleshy root) need to be in moist soil, the rhizome itself prefers to be warm and dry. The time to plant or reset iris is just after they have finished blooming; at this time they begin to grow a new root system and this system must get set before the winter. If the top of the rhizome is level with the top of the soil, and the feeding roots reach moist soil, give a fair watering to settle the soil, but no more until the plants show definite signs of growth. To water dormant or near dormant iris is to invite bacterial soft rot and to lose the plant.

Manure must be completely decomposed and together with any other humus-producing material worked down into the soil where the feeder roots can make use of it, not left around on the surface to come into contact with the rhizomes. Unless any definite substance is known to be lacking in the soil, use a complete fertilizer. Too much nitrogen will give leaves but no flowers. Before planting, a good application of bone meal is advantageous.

For winter covering I use good quality coarse hay to the depth of about nine inches, placed in position when the heavy frosts set in. This covering lessens the alternate freezing and thawing in fall and spring. The slow thawing of the snow with its usual excessive moisture is not good for dormant irises.

Five years ago, I started with 20 plants of various varieties. I now have 175 made up of natural increase and a few pur-



chases of more varieties. During this time I have lost 11, 2 by borers and 9 by rot.

For rot, clean off all affected parts, soak rhizomes in medium solution of potassium permanganate, and replant. For borers, dust with 50% D.D.T. around the roots once a week for about two months from the beginning of spring.

Some varieties that I have grown with success: white — New Snow, Winter Carnival; cream — Pinnacle, Desert Song; yellow — Ola Kala, Solid Gold, Misty Gold; brown — Argus Pheasant; tan and buff — Cascade Splendour, Prairie Sunset; blue — Blue Rhythm, Danube Wave, Chivalry; near black — Sable.

## Contemporary Perennials

Contemporary Perennials, by authors R. W. Cumming and R. E. Lee, is a useful addition to a gardener's library for its practical information both on the plants themselves and on their culture.

Their book is divided into Parts 1 and 2. Part 1 on planning, planting and care of a perennial garden, includes a chapter on propagation by seeds, division, stem and leaf cuttings and root cuttings, and on insects and diseases.

Plant materials, in Part 2, are in alphabetical order of the botanical name, followed by the popular name and the family name; thus, gaillardia, blanket flower, Compositae. Each again is further broken down into species and cultivars (see The Prairie Garden 1960 for an article on the term cultivar). These are followed by notes on soil and exposure, care and propagation, and a final comment on suitable and judicious use.

About 140 genera and more than fifty species are covered in the book and while it was written for the United States market, the information given is applicable equally to Canadian conditions. There is a list of common names in alphabetical order with their botanical names, and an alphabetical list of plant families and their common names. Also included are a glossary and full index.

Brett-Macmillan Limited are the Canadian publishers from whom the book may be procured through any bookseller.

—J.D.W.

## Native Fruit Research

*The following are excerpts from an article by D. W. Smith, Assistant in Fruit Breeding Division of Horticulture, University of Alberta, Edmonton, outlining this Division's experimental research findings during recent years. These experiments are being conducted to investigate the possibilities of increasing the productivity and value of our native species, particularly to the people living in the areas where such plants are found.*

Many people living on the prairies soon become familiar with our native blueberries and cranberries. These fruits, well known for their dessert and culinary attributes, are found prairie-wide in the marginal agriculture areas. Probably the three most common and best known in Alberta are: the Canada blueberry, the dwarf bilberry, the lowbush blueberries, and the upland cranberry. Similar species in eastern Canada and the northeastern United States have become important fruit crops.

Studies concerning the relationship of the three species to their environment showed their requirement for shade from tall-growing trees and shrubs. Apparently, high sunlight intensity has a deleterious effect on growth, while heavy shading results in poor growth and fruiting of all three. Open conditions also reduce the available surface moisture which is important to such shallow rooted plants.

The surface organic layer on the soil is a favorable medium for the shallow rhizome growth, which is characteristic of these species. This was indicated by an increase in abundance of the two blueberries and the cranberry at locations where the organic layer was of greater depth, although the rhizomes under these conditions were still found at a shallow depth.

It is common knowledge that blueberries and cranberries require an acid soil. Neutral or alkaline soils simply will not support growth of these plants. And acid growing medium of pH 5.5-5.6 is required.

Attempts to propagate both the Canada blueberry and the upland cranberry using rhizome cuttings were successful. Cuttings 6 inches in length were taken from terminal and mid-rhizome locations. These were set horizontally in trenches approximately 1 inch in depth in the propagation plot, covered with soil and firmed in place. This operation was carried out in the early spring before resumption of growth. Cuttings of the blueberry which had an above ground shoot removed gave the best growth response.

In those regions where the lowbush blueberries are important commercially, a regular program of pruning is followed. Pruning increases the stand, that is, it increases the



number of shoots per unit area and as a consequence increases the potential yield of fruit. One technique involves burning off the above ground shoot growth during the early spring. This, of course, involves considerable fire hazard under Alberta conditions. The result is the destruction of the dominance of the original shoots. With renewed growth you have two or three shoots rather than just one from the site of the original shoot.

## GERANIUM CUTTINGS

This year, I tried a new way to me. About September the first, I took off about a dozen tender slips from a healthy plant, planted them in the open garden in good soil with a sunny exposure. After a month's time, I took them up and put them in pots. Every one of the slips had good roots started and are now strong, healthy plants.

This method may not be new to a lot of you old gardeners, but it was a first for me and it worked, so thought I would pass along the result of the experiment.

DAVE CAMPBELL, Winnipeg, Man.

### **ALBERTA NURSERIES and GARDEN SEEDS** BOWDEN, ALBERTA

**Where Hardy, Selected Seeds and Plants Are Produced**

#### **WE OFFER THE FOLLOWING TO THOSE WHO DISCRIMINATE**

- Selected, Hardy garden seeds for quick growing, especially in short-season districts.
- Selected flower seed that will give you finer form and more beautiful colors, plus suitability to our climate.
- Hardy nursery stock especially adapted to our rigorous climate. Developed for rapid growing and ease of transplanting.

CATALOGUE ON REQUEST

## **Mr. and Mrs. M. A. Johnson** Minnedosa, Manitoba

**By F. STAN GUGIN, Pres., Minnedosa Horticultural Society**

I would like to tell Prairie Garden readers about two of the most enthusiastic horticulturists in our area. They are Mr. and Mrs. M. A. Johnson of Minnedosa, both around 80 years of age.

Mr. and Mrs. Johnson have been ardent gardeners for many years. There is never a lack of bloom at the Johnson place, from the time of the violets, squills, daffodils and early tulip species in the spring until the chrysanthemums in the fall.

One can hardly name a type of plant that they have not grown or even specialized in at some time or another. They have many varieties of roses ranging from Peace and the latest Tea and Floribunda roses to numerous varieties of hardy shrub roses. They have specialized in Sweet Peas for many decades, winning countless prizes including the Provincial Championship.

Mr. Johnson has also grown many outstanding dahlias and has won many awards for his efforts. They also have many varieties of peonies, lilies, climbing plants, fruit trees, raspberries, etc.

Mr. and Mrs. Johnson grow all types of annual, biennial and perennial flowers including prize winning pansies and the newer varieties like Gloriosa daisies and Monarda Croftway Pink.

They maintain a collection of native plants and have a large vegetable garden a short distance from their home. They also have an outstanding rock garden containing many plants including a large collection of sedums and sempervivums.

Mrs. Johnson is an outstanding flower arranger, often being called upon to make floral arrangements for local teas, weddings and other events.

Mr. Johnson is a former president of the Minnedosa Horticultural Society, while both he and Mrs. Johnson are presently directors as well as Life Members of this Society.

Mr. and Mrs. Johnson have demonstrated the happiness and satisfaction that can be achieved from horticulture and gardening, especially during retirement years. They are greatly admired by all who have shared their horticultural experiences, their enthusiasm and their beautiful flowers and plants.





## SELF-SERVICE NURSERY AND GARDEN STORE

CORNER CORYDON & OSBORNE

- WESTERN ADAPTED GARDEN SEEDS
- HARDY TREES AND SHRUBS
- FLOWERING BULBS AND PERENNIALS
- BEDDING PLANTS
- FERTILIZERS AND PEAT MOSS
- INSECTICIDES AND WEEDICIDES
- GARDEN TOOLS AND MOWERS

**FREE CATALOGUE ON REQUEST**

**BRETT-YOUNG SEEDS LTD.**

416 Corydon Ave.

Winnipeg 13

Phone GL 2-4413

## THEODORE E. HOWARD

On Sept. 20th, Mr. T. E. Howard, well-known amateur horticulturist and naturalist, passed away in Misericordia Hospital, Winnipeg.

The late Mr. Howard was born 80 years ago at Whitby, Ontario, and moved to Winnipeg in 1887. For 33 years he was employed by a large wholesale dry goods firm, and was one of the first members of the Canadian Credit Men's Trust Association.

"Ted" or "Theo" as he was called by his many friends, was president of the Manitoba Museum Association from 1946 to 1954, and was given an Honorary Life Membership in the Association when he retired. He was always interested in all fields of natural history, and had an excellent museum of his own, stocked with collections of coins, stamps, rocks, birds' eggs, Indian relics and many other items which he collected in trips over Canada and abroad.

Ted was an ardent horticulturist, always interested in horticultural activities and anxious to assist in the promotion of horticulture. He was an active member of the Winnipeg Horticultural Society and became president of it in 1942, and president of the Manitoba Horticultural Association for two years, 1944 and 1945. He was given an Honorary Life Membership in the M.H.A. in 1955, and in 1959 was made honorary president.

Mr. Howard had a very attractive home on Palmerston Avenue, where his grounds were well planted with shrubs and flowers. Although his garden area was limited, he always grew vegetables and strawberries on the riverbank. He had a few fruit trees, and one of them in particular was almost as famous as Winnipeg's Wolseley tree. It was a Siberian Crab Apple on which he had top worked over 40 different varieties of apples and crabapples. Other exhibitors at horticultural shows often wondered how Mr. Howard could take so many prizes in the fruit classes, when he had only a few fruit trees in his yard.

Mr. Howard's many friends in the province extend to Mrs. Howard and their two daughters sincere appreciation for the interest and help given by the late Mr. Howard, and wish them to know that they are being remembered at this time.



## INDEX OF ADVERTISERS

|                                                           | Page               |
|-----------------------------------------------------------|--------------------|
| AAA Pets and Aquarium Fish, Winnipeg 3                    | 86                 |
| Aubin Nurseries, Carman, Man.                             | 48                 |
| A. S. Bardal Ltd., Winnipeg 2                             | 78                 |
| Alberta Nurseries, Bowden, Alta.                          | 160                |
| Blackwoods Beverages Ltd., Winnipeg 12                    | 130                |
| Broadway Florists, Winnipeg 2                             | 130                |
| Blossom Florists, Winnipeg 12                             | 94                 |
| Brett-Young Seeds Ltd., Winnipeg 13                       | 162                |
| Burns & Co. Ltd., Winnipeg, Regina, Prince Albert         | 154                |
| Canadian Johns-Manville Co. Ltd., Winnipeg 3              | 12                 |
| Canadian Publishers Ltd., Winnipeg 2                      | 40                 |
| Chipman Chemicals Limited, Winnipeg                       | 146                |
| City Hydro, Winnipeg                                      | 156                |
| Connery, D., St. Vital, Man.                              | 48                 |
| Connery, J. & Son., St. Vital, Man.                       | 64                 |
| Consolidated Mining & Smelting Co. Ltd., Trail, B.C.      | 138                |
| Cropp's Reliable Seeds, Winnipeg 2                        | 24                 |
| Crown Cleaners & Launderers, Winnipeg 9                   | 86                 |
| Cyanamid of Canada Ltd., Toronto 5                        | 142                |
| Dixon-Reid Co. Ltd., Toronto 10                           | 130                |
| Dominion Carbon & Stencil Supply, Winnipeg 2              | 38                 |
| Dutch Growers Garden Centre, Saskatoon, Sask.             | 28                 |
| Eaton, T. Co. of Canada Ltd.                              | Inside Front Cover |
| Eddie's Nurseries, Vancouver 13, B.C.                     | 116                |
| Elmwood Cemetery Co. Ltd., Winnipeg 5                     | 94                 |
| Florists Supply Co. Ltd., Winnipeg 3                      | 110                |
| Fluorescent Sales & Service Ltd., Winnipeg 10             | 80                 |
| From, J. H., Winnipeg 3                                   | 38                 |
| Gardeners Sales Limited, Winnipeg 4                       | 140                |
| Glenorchie Nursery, Old Kildonan, Man.                    | 26                 |
| Green Cross Products, Winnipeg 2                          | 100                |
| Henderson Power Equipment Ltd., Winnipeg 9                | 122                |
| Holland Bulb Gardens Reg'd., Toronto 9                    | 60                 |
| Honeywood Nursery, Parkside, Sask.                        | 28                 |
| Ibbott & Leonard, Winnipeg 2                              | 110                |
| International Flower Show, Winnipeg                       | 6                  |
| Investors Syndicate of Canada Ltd., Winnipeg 1            | 70                 |
| King & Company Ltd., C. C., Winnipeg 3                    | 20                 |
| Kresge Co. Ltd., S. S., Winnipeg 1                        | 110                |
| Lake Shore Nurseries, Saskatoon, Sask.                    | 44                 |
| Line Elevators Farm Service, Winnipeg 2                   | 32                 |
| MacDonald & Wilson Ltd., Vancouver 3, B.C.                | 96-97              |
| Maison St. Joseph Nursery, Otterburne, Man.               | 88                 |
| Manitoba Co-operative Honey Producers Ltd., Winnipeg 12   | 102                |
| Manitoba Farmers Union, Winnipeg 2                        | 74                 |
| Manitoba Sausage Mfg. Co. Ltd., Winnipeg 4                | 150                |
| Manitoba Telephone System                                 | 72                 |
| McCabe Grain Co. Ltd., Winnipeg 2                         | 112                |
| McConnell Nursery Co. Ltd., Port Burwell, Ont.            | 106                |
| McKenzie, A. E., Co. Ltd., Brandon, Man.                  | 92                 |
| McLean Electric Ltd., C., Winnipeg 10                     | 78                 |
| Melady, Sellers Securities & Grain Corp. Ltd., Winnipeg 2 | 48                 |
| Mestery's Radio & Electronic Service, Winnipeg 1          | 36                 |
| Morton Chemical of Canada Limited, Winnipeg 2             | 90                 |
| Mountain's Nursery, Lloydminster, Sask.                   | 28                 |
| Niagara Brand Chemicals, Burlington, Ont.; Regina, Sask.  | 18                 |
| Patmore Nurseries Ltd., Brandon, Man.                     | 24                 |
| Paulin Chambers Co. Ltd., Winnipeg 2                      | 30                 |
| Perlite Products Ltd., Winnipeg 5                         | 38                 |
| Perron & Co. Limited, W. H., Montreal 40                  | 48                 |
| Polyethelene Bag Mfg. Co. Ltd., Winnipeg 5                | 54                 |
| Poole & Son, Reg., Nursery, Brandon, Man.                 | 36                 |
| Portage Plains Nursery, Portage la Prairie, Man.          | 36                 |
| Powell (Canada) Ltd., K. C., Winnipeg 2                   | 78                 |
| Prairie Nurseries Limited, Estevan, Sask.                 | 44                 |
| Quinton's Limited, Winnipeg 13                            | 112                |
| Red River Exhibition, Winnipeg 10                         | 8                  |
| Robinson-Alamo Distributors Ltd., Winnipeg 3              | Inside Back Cover  |
| Rosecroft Nurseries Ltd., Langley, B.C.                   | 58                 |
| Salisbury House Ltd., Winnipeg                            | 116                |
| Sargent Florists, Winnipeg 3                              | 86                 |
| Searle Grain Company Ltd., Winnipeg 2                     | 30                 |
| Shelmerdine Nursery, Charleswood, Man.                    | 72                 |
| Skinner's Nursery Ltd., Dropmore, Man.                    | 76                 |
| Steele Briggs Seeds Ltd., Winnipeg, Regina, Edmonton      | 148                |
| St. Regis Hotel, Winnipeg 1                               | 130                |
| Swift Canadian Co. Ltd., St. Boniface, Man.               | 124                |
| Thiessen Bus Lines Limited, Winnipeg 13                   | 150                |
| Thompson Garden Supplies, Winnipeg 3                      | 54                 |
| Thomson Chapels, Winnipeg 1                               | 110                |
| United Grain Growers Ltd., Winnipeg 2                     | 26                 |
| Van Dungen's Nurseries, Tod P.O., Man.                    | 60                 |
| Wallace Nurseries Ltd., Portage la Prairie, Man.          | 36                 |
| Welland Vale Mfg. Co. Ltd., St. Catharines, Ont.          | 120                |
| Western Peat Company Ltd., New Westminster, B.C.          | 52                 |
| Winnipeg Board of Parks & Recreation                      | 16                 |
| Winnipeg Central Heating Co. Ltd., Winnipeg 9             | 132                |
| Winnipeg Supply & Fuel Co. Ltd., Winnipeg 1               | 138                |
| Yetman's Ltd., Winnipeg 3                                 | 114                |
| Hardy Garden Lilies for Sale                              | 122                |

**Credits:** Front Cover color photos supplied by Public Press; Black and White photos by Angus Shortt and J. Jordon.

# CHORE MASTER

the finest tiller  
you can buy!

FOR ANY SIZE  
FLOWER OR  
VEGETABLE GARDEN



Available in 2 Models;  
The "Heavy Duty" (illustrated)  
and the "Commercial"

**ROBINSON-ALAMO DISTRIBUTORS LTD.**

1425 ERIN STREET

WINNIPEG 3, MANITOBA



# T&T's'

Adventures in  
Good Gardening  
for '61



**FREE**  
Two of These  
New, Early  
Cut-Flower  
Dahlias  
See Page 6