A
GARDEN
FOR
EVERY
HOME

The

FLOWER GARDEN

1956

PUBLISHED BY

WINNIPEG HORTICULTURAL SOCIETY

PRESENTED BY

WEST KILDONAN HORTICULTURAL SOCIETY

FOREWORD

D. Campbell - President

Your Directors again present "The Flower Garden." This 1956 edition, they believe, will be interesting reading and give horticultural information over an ever widening area reaching the three prairie provinces and as far away as Spain and Sweden.

This book is made possible through the efforts of your Directors who got together the material found therein. Special credit must be given to the "Flower Garden" committee who worked hard under the chairmanship of Mr. Reycraft.

We take this opportunity of thanking our contributors for their helpful articles, also the firms who advertised in this book and any donors of funds, and all who helped in any way.

Arrangements are being worked out for a combined Flower and Vegetable Show August next, between the Canadian Gladiolus Society and the Winnipeg Horticultural Society.

We hope to make this Show the biggest and best held so far. Your help and assistance will be necessary to put this over.

We welcome suggestions and articles from our readers, also any constructive criticism that may be helpful in making a better book.

Our best wishes to all members and friends for a Happy Year of gardening in this, the Silver Anniversary Year of the Winnipeg Horticultural Society. "Let us make this year the best yet."

WINNIPEG HORTICULTURAL SOCIETY

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INDEX

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Green Grows My Garden

by A. R. BROWN, CBC's Prairie Gardener

Out of the common everyday activities of ordinary men and women there is a flow of friendly ideas at the highest cultural level. Culture must have its roots in the good earth and the daily tasks of everyday living.

The things of the spirit which you and I harvest in our gardens is the most important crop we grow, and it isn't something marauding insects, devastating hail or cruel drought can destroy. It's a crop we shelter in our bosoms and share with our neighbours. It makes gardening a joy and inspiration. It lightens our burdens and lifts us to higher planes of living.

Everyone associates flowers with ideas of beauty, and every gardener knows the story of how that beauty develops. First, there's the seed tucked into its earthy bed along with rotting compost and barnyard manure. Then, there's the magic of germination and growth — stems pushing upward and leaves unfurling in the sunlight. And finally, the crowning miracle, the flowers open to display their soft texture, their alluring form and their attractive colouring.

Thus, out of the dark earth, out of filth, water and air, beauty emerges to enchant and inspire us. That's the great gift of the flowers we grow. They purify the earth and out of the dross of the commonplace they refine the essence of beauty and loveliness.

And that's the function of mothers too. They turn even the dullest homes into shrines where beauty dwells. They bear children and rear them in the ways of order, truth, beauty and good living. Like the plants in our gardens, out of the dross of the commonplace, they refine the essence of the beautiful and the good.

The strength of any nation rests in the final analysis on the strength of family and community life. Here's where good gardening becomes an important and effective force, creating attractive, interesting and orderly home surroundings and building the fabric of friendly communities.

Good gardening and good citizenship are inseparable.

I learned much about flowers from my father . . . He has long since passed to his reward, but I like to think of him as just around a bend in the trail ahead, still searching out the loveliest flower to place by mother's breakfast plate, a token of love and faith that "God's in His heaven, and all's right with the world."

* * *

Faith and hope are the twin foundation stones of progress, but they must be cemented together with the mortar of wise planning and hard work.

The gardener dreams of trees reaching towards the sky and shrubs nestling in beauty at their feet . . . a dream aimed not at this summer or the next but for years ahead. He's planning for beauty and utility, five, ten, twenty years or more from now. That calls for faith and hope on a grand scale, and calls too, for wise planning and skilful tending.

* * *

In attaining skill and knowledge which make him a master of the gardening art, the gardener gains something infinitely more valuable than choice vegetables and prize-winning flowers. For he finds that he lives in a world governed by law, that nothing happens by chance, that there is design and meaning in the realm of Nature, and that he is approaching very near to the shrine of that Master Craftsman who controls our destinies.

The great scientist Linnaeus who laid the foundations of botany stated this very simply. Watching a flower unfolding its petals, he remarked, "I saw God in His glory passing near me and bowed my head in worship."

* * *

Gardening gives us the inspiration and the opportunity to pursue our search for the beautiful, the good and the true. It's a grand thing to be a gardener and a grand thing to have gardening friends.

In our gardening activities and our gardening associations we're laying the foundations for a friendlier world — a world in which family life is enriched and neighbourly living is encouraged. Good gardeners are good citizens.

The good gardener is a trustee discharging important responsibilities — to manage the good earth so that it produces high quality products to meet man's needs, and to do this in ways that conserve and preserve the productivity of our soils for future generations.

* * *

My father was a master in the art of hoeing. He was an early riser, and the first job he did each morning was to take his hoe in hand and visit his garden.

It was a pleasure to watch him hoeing. You could see he enjoyed stroking the earth and developing just the right stance and swing so that power flowed down the hoe handle. And when he got to the end of a row and looked back, there was always a smile of appreciation for the well tilled earth and the clean look of his garden.

I'm sure that if any gardener will practise the art of hoeing and conscientiously endeavour to build up his skill, eventually he'll discover there's a lot of fun in it, as much at least as in swinging a golf club, or in any game requiring similar effort. But he has to reach that point where he feels the pride of a craftsman before he gets full value out of this delightful form of exercise.

* * *

The good gardener is never satisfied with past accomplishments; he's always dreaming up a better garden and striving to make his dream come true.

We can't change the past, that's history; but we can remember it, study it and be taught by it. We can make our mistakes guide posts on the road to success.

* * *

Sometimes we're inclined to kick about the weather and to blame it for our failures and frustrations, forgetting that success and happiness are largely of our own making, regardless of the difficulties placed in our way. If we're well trained in facing up to problems, no adversity can defeat us. We can't change the weather outdoors, but we can create a good climate within ourselves.

As I look back over the years and recall the gardens I have visited, the gardeners I have met, and the inspiration I have received from them, I am deeply grateful. The list of those I have met is a very long one, but I don't remember a single case when I did not feel the friendly warmth of comradeship flowing out of our association.

Since you're a gardener you'll know what I am trying to say — that the garden is a wonderful setting for the sharing of interests and ideas. And that is how friendships are built . . . around common understanding of common thoughts and ideals.

If you want to make more friends, just make yourself a lovely garden and then invite other gardeners to visit you. As a matter of fact, you won't have to invite them, they'll come anyway. Then you'll visit their gardens, and soon you'll have many new friends. After which you'd better organize yourselves into a garden club or horticultural society so you can share your skills with everyone in the neighborhood.

* * *

I can't help thinking that tree planting does something important to the spirit and character of those who plant them. You may argue that it isn't tree planting that creates the character, that it's the character of the man that finds natural expression in creative service; but I cling to the idea that tree planting inspires thoughts and feelings which build good citizenship. I think trees and men influence one another for good as they grow up together.

I wish that every boy and girl could be imbued with a love for trees and tree planting so that they and their trees might grow up together as comrades of that which is beautiful and good.

* * *

The foundation of gardening success lies in how skilfully and how faithfully we tend our garden soils. It's a privilege and a duty we shouldn't regard too lightly.

Our rich prairie soils are the greatest of our natural resources and, unlike our oil, coal, gold and uranium which can be used but once, our soils can be kept in tilth and production indefinitely.

POTTED PLANTS placed in planter boxes and changed at intervals will provide a change of scenery in the living room.

* * *

HOUSE PLANTS FOR SHADY PLACES: Aucuba, English Ivy, Ferns, Vinca, Chinese Evergreen, Dracaena, Fiddle Leaf Fig, Peperomia, Philodendron.

"Out on a limb is where the fruit is"

by I. W. STUDER, M.P.
Swift Current, Maple Creek

The original settlers did not come to Southwest Saskatchewan with the intention of growing fruit, or establishing gardens of Eden. However, after finally deciding that this was to be their home and the homes of their children, the first indication of permanency was the establishment of trees and gardens.

Those venturesome enough to endeavour to grow fruit trees were certainly going out on a limb, because it was considered a foolhardy adventure, a waste of time and energy, being this dry area within the Paliser Triangle was considered unsuitable and the climate too severe for fruit growing.

The pioneers of fruit growing in the Southwest found, to their astonishment, that when planting fruit trees they indeed went out on a limb, but in doing so were rewarded by the limbs bearing fruit. Now, many farmers grow their fruit supply in their own orchards and gardens to the delight and enjoyment of all members of the family.

Tremendous development and progress has been made by individuals and experimental stations in fruit quality, now comparable and actually superior to imported varieties, in many instances, for the Southwest.

Many varieties of apples are producing in our orchards at Lac Pelletier, situated 30 miles south of Swift Current. Our altitude is 2,880 feet. Our soil is light sandy loam. Our location is a southern slope and the rainfall is limited to the extreme. No irrigation is possible. Water table is 200 feet.

We specialize in apples, as the soil and climate is not adaptable to plums to the same degree.

The regular Heyer No. 12, No. 18, No. 22 and Heyer Crab No. 7 have been with us since the establishment of our orchards in 1940. Most of the Rosthern apples and crabs are happy here also. The original better varieties from Morden — Manan, Breakey, Godfrey, Manitoba Spy, Mantet, Morris, Mount, and others — are producing regularly. Crabs and apple crabs like Rescue, Reward, Rosilda, Florence, Jewell Rideau, Robin, Dolga, Osman, Trail, Silvia, Scugog and Toba are among the

reliables. Kerr-M-347, Chestnut from Minnesota, Young America from Geneva, N.Y., and a number of others, all have superior quality. The Minnesota late apple Haralson is one of the best. Melba, Battleford, Firesides, Victory, Prairie Spy, Wealthy, Patten, Toba, Crimson Beauty, Duchess, Beacon, Anoka, Beverley Hills, and a great number of others are with us. Many MacIntosh seedlings are bearing and enjoying their surroundings.

Pears bear well with us including Tait-Dropmore, Finland, Bantam and the Minnesota hardier pears. Apricots are not reliable and have to be discarded. All small fruits are in abundance. Among 20 varieties of raspberries — Chief is the preference.

We now have some 25 acres in orchard and shortly expect to be producing 5,000 bushels of apples annually.

Practically all of the fruit is absorbed locally. People come and pick their own fruit and it is sold by the pound.

Late spring frosts have been our greatest obstacle to reliable annual production. The directions for success in fruit growing is to plant fruit trees and continue planting them. Let no defeat discourage you. By planting fruit trees you may be going out on a limb, but remember, that is where the fruit is.

Versatile Concrete Block

Only the Limits of One's Imagination Can Limit Its Use in Landscaping

The realization that concrete masonry is particularly well-suited to any number of outdoor home projects and trim detail has caused home owners, builders and landscape gardeners alike to make increasing use of this versatile material.

For planter boxes, garden and retaining walls, walks, steps, driveways, terraces, patios, barbecues and fireplaces it offers natural beauty and permanence.

Its color and rugged texture enhance the home, flowers and shrubs, and add charm and individuality to property.

From a practical standpoint, too, concrete masonry is the ideal material for outdoor home projects. It is durable, easy to work with and economical.

Designs can be modest or elaborate. Unusual effects and patterns can be created. Colored mortar joints can even be employed to add extra beauty. It is the imaginative mind that brings out the potential in concrete block. There are as many ideas for its use and adaptability in landscaping as there are people with the desires and tastes to design them!

The "Outdoor Living Room"*

Call it patio, terrace or what you like, the outdoor living room is here to stay . . . especially with family living and entertaining habits becoming more and more informal. An outdoor living area makes any home appear larger; it gives extra living space at little extra cost. Any home can have an outdoor living room. The points to remember when planning of the site is done, is that privacy and shelter from sun and wind come first.

The "Outdoor Dining Room"*

It's literally a picnic every night of the summer when a family has a modern patio-fireplace-grill combination built with concrete masonry. Outdoor cook-nook styles range in complexity from a simple grill set on four concrete blocks to complete patio-fireplace-grill arrangements.

* Available FREE upon request from Supercrete, is the booklet "IDEAS FOR YOUR OUTDOOR LIVING ROOM." Fully illustrated in color and containing dozens of design ideas, this booklet will assist the "Do-It-Yourself" man in carrying out any plans he may have for outdoor living areas. Other How-To-Do-It plans as well as advice, costs, block size, etc., are also available at no obligation. Simply write or phone Supercrete Ltd., 790 St. Joseph Street, St. Boniface, Man.

What are the concrete units that are commonly used in the various outdoor home projects?

The standard 8" x 16" building block can be used for a great number of projects: walls, fireplaces, etc. Special units such as the modern SPLIT-ROCK UNITS make designing of beautiful planters, fences, etc., easy and most rewarding.

The growing popularity of special pre-cast concrete sidewalk slabs for steps and walks is due mainly to the ease with which slabs can be used, but the potential beauty of design and long-lasting qualities of steps or a walk made of concrete slabs are also important factors. It does not take a mason or skilled tradesman to do the work. One can enjoy the pride of doing the work oneself and the results will be most gratifying.

Some Herbaceous Perennials Recommended For Prairie Gardens

Introductions from Morden Experimental Farm
Morden, Man.

LYTHRUMS:

Morden Pink — Originated as a bud sport of Lythrum virgatum (Wand Lythrum) 1934. Introduced in 1937, and has been grown by the hundreds of thousands by the nurserymen of Canada and the United States.

Morden Rose — A Morden Pink crossed Lythrum alatum hybrid. Height of plant 3-4 feet. Shapely with abundant dark green foliage. Flowers are rich rosy-red. Produces seed with moderate freedom. Introduced in 1953.

Morden Gleam — From the same breeding as Morden Rose. Height 3-4 feet. Graceful plant with medium green foliage. Flowers are deep rosy-red. Produces seed freely. Introduced in 1954.

ASTERS:

Sunup — An open pollinated seedling of Pink Nymph. Height of plant 3½ feet. Flowers are freely produced on graceful stems. Sunup is earlier than Pink Nymph by 10 days. Introduced in 1951.

Morden Lavender — A Novi-Belgi x dumosus cross. Height of plant 1½ feet. Good foliage with masses of lavender blue flowers. Season mid-September until severe frost. Introduced in 1953.

Morden Crimson — A hybrid New England Aster originating as a cross between Lil Fardell and Pink Beauty. Height of plant 5 feet. Flowers are produced in dense heads; the colour is a deep non-fading crimson. Season of bloom is earlier by a week than Lil Fardell.

Morden Purple — A seedling of Ryecroft Purple. Height of plant 5 feet. Healthy foliage and large rich purple flowers with bright orange centres. Earlier by two weeks than Ryecroft Purple. Introduced in 1953.

HARDY CHRYSANTHEMUMS:

Morden Gold — Selected from a large population of open pollinated seedlings. Height of plant 1½ feet; foliage dark green and glossy. The flowers are rich golden yellow fully double, about two inches in diameter and freely produced in early September. Morden Gold has been tested at Sutherland, Sask., with favourable results.

Morden Skyline — From a cross between Deanna Durbin and an unnamed seedling. Height of plant about 2 feet. Flowers are fully double, 2 ins. across, pale lavender mauve. Good for cutting — hardy and reliable.

Other Worthwhile Varieties

ASTERS or Michaelmas Daisies — Janet McMullen, Plenty, Peace, Eventide, and Winston Churchill from Great Britain; and Prairie Eventide, a rich pink on short plants from F. L. Skinner, Dropmore.

DELPHINIUM — Pink Sensation, a D. Mudicaule hybrid received by way of Holland. Flowers are a distinctive soft pink, produced from July into October. The plants, about 2½ feet tall, are fully hardy.

CARNATION — The hybrid variety, Shadow Valley, with bright crimson, perfumed flowers, is showy from late June until heavy frost.

MONARDA or **Beebalm** — Croftway Pink and Sunset are improved varieties.

HELIANTHUS or **Sunflower** — Loddon Gold, received from Holland, is esteemed for its large very double, zinnia-like, blooms in late summer.

CHRYSANTHEMUM MAXIMUM — Three superior introductions, Cobham Gold, Wirral Supreme, and Mount Shasta are choice double forms of Shasta Daisy. These usually need mulching for winter protection.

ARTEMISIA STELLARIANA — The Beach Wormwood, is a silvery-gray foliage plant, to about 1 foot in height which brings a bright silvery touch to the border throughout summer. Being a wormwood, it is adapted to dry soil.

PENTSTEMON — The variety Rose Elf, a glaber x barbatus hybrid bears bright pink flowers during July and August.

HEMEROCALLIS or Daylily — Esteemed varieties are Minnie, dark crimson; Sachem, carmine with pale throat; and Stygian, mahogany.

PHLOX — Three introductions of the very hardy pyramidal or Summer Phlox type which arose on the prairies are:

Ada Blackjack, a pinky mauve by Alex Ashby, Neepawa; Boughen, a pale mauvy pink, on shorter plant by W. J. Boughen, Valley River; and Moose Jaw, a taller plant with lilac-mauve flowers.

Among the higher quality but more exacting phloxes are: Elizabeth Campbell, salmon-pink; Eva Forester, salmon with white eye; B. Symonds-Jeune, clear pink with red eye in large trusses; Prunella, rich purple; and Charles H. Curtis, scarlet.

MACLEAYA MICROCARPA — A plumepoppy, introduced by seed sent from China by Dr. J. F. Rock, in 1927. This imposing tall plant is more showy than the well-known Pink Plumepoppy, Bocconia cordata.

MECONOPSIS baileyi: The Tibetan Bluepoppy, was received in the same form in 1927. The woolly blue flowers are unusual among plants of the dry prairies.

Can Manitoba Become Roselandia?

by HARVEY D. SPARLING, Portage la Prairie, Man.
District Representative, The Canadian Rose Society

As a novice and in all humility I answer "yes," and our rose gardens may be large and luxuriant in proportion to the effort we are willing to make.

Perhaps in the bygone ages, when Chinese native roses were transported over the Himalayas into India, there to accept a warmer home, there was some doubt of successful production. Perhaps when these roses found their way to England and France to compete and mix with the Gallicas, Damasks, Centifolias and Bourbons there was again doubt. Perhaps after the resultant Tea Rose had been multiplied by England and France into many beautiful colours, and crossed the Atlantic, there was more doubt. But when in 1870, as a result of the combining of the Tea Rose with the Hybrid Perpetual, credit for which is still disputed in England and France, the new Hybrid Teas left no room for doubt, and now exhibit their beauty in thousands of varieties in all rose-growing countries of the world. The later introduction of the Pernetianas or Hybrid Austrian Briars into the already conglomerately mixed blood stream of the Hybrid Teas produced a tantalizing result, evidenced in apricot, copper and orange blooms in infinite variations and greatly accentuated the position of the Hybrid Teas in public affection. Each season produces hundreds of new Hybrid Tea varieties, and most of these can be successfully grown and maintained in Manitoba with a reasonable amount of effort.

While various types of roses have held the spotlight of popularity and public favour throughout rose history, the only threat to the standing of the Hybrid Teas appears to be the recent rapid acceptance of the Floribundas. These, too, found their origin in an Asiatic rose, and in the course of development, experimental work has been continuous among hybridists directed toward improvement of size and quality of bloom, extension of colour range and the introduction of fragrance which was absent or nearly so in the early varieties. Many of these objectives have been accomplished through liberal infusion of Hybrid Tea blood. Although the Floribundas rate high for their exceptional decorative garden value, they

will never take the place of the Hybrid Tea in the fancy of the rose perfectionist who looks for the charm and beauty of the individual bloom. However, I find them most desirable because they do not require the same amount of cultural effort as the Hybrid Teas, and their bloom production provides almost continuous colour in the garden in periods when the Hybrid Teas are resting.

Despite a keen interest in experimenting with all types of bloom from trees, shrubs, roots, bulbs, seeds, etc., whether considered hardy on the prairies or not, there is is nothing which gives me more satisfaction and more return for effort expended than my rose garden and its continuous bloom from June to freeze up. Each summer morning, I find 140 bushes sending out their pure, fragrant and exotic bloom in 90 different varieties to offer inspiration at the beginning of the new day. And when, around the end of June, they all seem to vie with each other in showing off their beauty in profusion, a bit of California truly seems to have been transplanted into the heart of Manitoba. But these are only my own observations and distinctly those of a novice. An expert would find much to be critical about and a sad lack of perfection. However, I am not writing this article as a perfectionist, but only to assure my readers that just as much success can be attained with your rose garden in Manitoba as may be enjoyed by residents of Vancouver, Los Angeles or Miami, providing a limited amount of effort is available.

Many years ago, I casually experimented with one or two Hybrid Tea Roses each year, and if the winter was good to me they lived, and if not, they died and I bought new ones. They were expendable each season. Then I came upon an excellent treatise on rose culture by a very eminent authority and my enthusiasm was awakened not only by the expert advice, but by the beautiful colored photographs and my vision of duplicating them in reality outside the kitchen door. So I proceeded to excavate in the approved manner, to a depth of three shovel diggings, a plot sufficiently large to accommodate 24 rose bushes in a site giving full sunlight and some shelter from hot summer winds. The reason for the excavation rather than an ordinary digging was to assure good drainage, and to allow the mixing of an ample quantity of cow manure below the position where the roots would make their home. This entailed a complicated system of digging which I was just beginning to master when the job was finished. That was the first and last excavation. For all of the added territory which I have been creeping into year after year for new plantings, I have simply dug in well an ample amount of well rotted cow manure in an ordinary digging operation. Roses are very

fond of cow manure, in fact, it is their ideal repast, and rosarians in some districts treat it as black gold, but unless it is well rotted, it must not come in direct contact with the roots; otherwise it may be used in all ages or stages with great benefit. Good drainage is most essential, for while roses welcome copious quantities of water, they will not stand for permanent "wet feet."

Space will not permit a complete narrative on all of the operations of rose culture in Manitoba, so I will only refer briefly to a few observations on the following subjects:—

Stock — Do not plant anything but good healthy bushes, and be certain that the roots have not been exposed or dried. To be assured of this, deal with a well-reputed nursery or supply house.

Planting — In Manitoba, planting should be done in the spring after frost danger is past. Do not plant in wet ground. Protect the roots from the sun and wind during the planting operation. If the roots get dry, you may as well discard the plant. The hole should be wide enough so that the roots may be well spread, and deep enough so that the graft or bud will sit about 2 inches below soil level. Fill in the hole with the top soil first. When the roots are well covered and no danger of bruising them, step in to the hole and tramp the earth firm to eliminate air pockets. Leave a few inches of the hole open at the top and give it a thorough soaking. Then mound each newly planted bush with soil to a height of 6 to 8 inches to protect from possible frost, and shriveling and drying in the wind and sun. As soon as growth starts, remove the mound.

Insects and Disease — A definite spray program is required. I have had inroads by most of the known rose pests and some of the diseases, but this is common to rosarians everywhere and counter measures are necessary. The use of insecticides and fungicides, which are improving each year, will, if used at the proper time for insects and in a regular programme for disease, take care of these handicaps.

Fertilizer — The good old cow manure takes top place, and may be dug in lightly during the growing season. Commercial fertilizers may be used to advantage.

Winter Protection — This is an important phase of maintaining a rose garden almost anywhere, for some winter protection is required wherever peaches can not be grown commercially. In Manitoba, however, considerable protection is required, to be assured of having a rose garden the following year. Until a few years ago, I went through the operation of

digging a trench five feet deep, taking up all of the roses, laying them in the bottom of the trench and filling it in, only to have to mark the spot, dig it up in the spring, recover my bushes from the bottom and replant them. This system worked well with very little loss, but what a chore with over 100 bushes. What a setback to the poor little rose factories. How many hundreds of damaged little feeder roots in the process. How much time lost in again becoming familiar with a new home. It was my good fortune to visit a beautiful rose garden at Treesbank, Manitoba, a few years ago, and there on his farm, I met an expert rosarian, Mr. Harry Vane, a very fine elderly English gentleman, in fact, an octogenarian. He had over 100 Hybrid Teas and some Floribundas, many of which had been planted 20 years before and never moved. From him I learned his mode of winter protection. Having experimented successfully the following winter with a dozen bushes, I immediately adopted his method with slight variation, for all of my roses, and I have had no winter losses since.

To prepare the rose for winter dormancy, the wood should be well matured before frost. This can be accomplished by withholding water and discontinuing plant food and cultivation in September. Any extensive cutting of roses should be discontinued, and the flowers simply pinched off. Late growth which is likely to be very tender is discouraged. Just before frost, the bed should be given a good soaking to insure a sufficient water supply in the ground and in the tissues of the plants. After frost has set in, prune the bush down to the height of a butter box, then having removed the top and bottom of the box, set it over the canes, resting it securely on the ground. The box is then packed with dry sawdust or peat moss, and a cover of tar paper or oil cloth is securely nailed over it to keep out the moisture. Squares of tin or iron would be good, if available. At this point, the rose bed takes on the appearance of an apiary. After the ground has frozen, fill in the bed between the boxes with dry leaves, or if heavy snow comes soon enough that will eliminate the leaves. Much loss attributed to the cold of winter really happens in the spring, due to alternate thawing and freezing, and dampness causes the canes to mold and rot. The box method forms a perfect insulation against these changing features. When danger of severe frosts in the spring is over, the box may be up ended with care, retaining as much of the sawdust as possible in it, and cleaning the remainder from the ground, as too much of it will have a tendency to sour the soil. If peat moss is used, whatever is left may be worked into the soil to great advantage. In some cases, the canes may be frozen almost to the ground, but this need cause no worry, as rapid new growth will soon repair the damage.

Pruning — The pruning which took place to provide for winter protection will have reduced the bush to 11 or 12 inches, so that the spring pruning operation is not severe. All dead, injured, bruised and canker canes should be removed. The base should be free of decayed ends or stubs. The purpose of pruning, of course, is to direct the growth and shape of the plant, using only the healthy branches for production and directing the energy of the plant into the quantity of bloom it can develop most perfectly. Generally speaking, it should be light with a strong variety of rose, and severe with a weak variety to produce perfect specimen flowers, but for abundance of bloom I prune moderately, leaving four or five healthy canes, if they exist, with five or six eyes to the cane, and sometimes more. In the case of the Floribundas, I only thin them out and lightly shorten the remaining shoots. Skillful pruning will result in more perfect blooms or more abundant bloom or both, but regardless of the pruning you cannot prevent production of beautiful bloom.

I have often been asked what varieties are preferable for Manitoba. That question is debatable, as they are all beautiful, and it is only a matter of choice. But some varieties are stronger in production than others, and seem to thrive better. The outstanding Hybrid Tea, which has held first place in America and Canada for some years now, is "the Peace Rose," developed from "Michelle Meilland." It is interesting to note that the creator of this great rose, Monsieur Francois Meilland, has recently visited the United States. He was frank is admitting that nature rather than the skill of the breeder, played the dominant role in its development. From the Peace Rose he has recently developed "Grand'mere Jenny" which is more delicate in its shading, but not quite so vigorous. My Grand'mere Jenny varieties have been outstanding. Perhaps the 1955 selection of the Canadian Rose Society for general garden cultivation coincides pretty well with my observations. The first ten Hybrid Teas and Floribundas in order of preference are as follows:

HYBRID TEAS	FLORIBUNDAS
1. Peace	1. Frensham
2. Crimson Glory	2. Fashion
3. Ena Harkness	3. Vogue
4. McGreedy's Yellow	4. Donald Prior
5. Grand Duchess Charlotte	5. Else Poulsen
6. Michelle Meilland	6. Rosenelfe
7. Picture	7. Masquerade
8. Countess Vandal	8. Pinnochio
9. Mrs. Sam McGreedy	9. Goldilocks
10. Charlotte Armstrong	10. Independence

Some of the new roses which have given me great satisfaction are:— the Eden Rose, Mojave, Helen Traubel, Fred Howard, Confidence, Siren, Queen Elizabeth and Carrousel.

I hope that my remarks may not tend to discourage a potential rosarian from making a start. I can say frankly that the effort indicated by this article is not nearly as weighty, when it is put into operation, as it appears. If you plant your rose bush reasonably well and give it water when the season is dry, it will grow. A little insecticide when insects are bad will dispose of them. You are not likely to be bothered with too many diseases until you have a fair sized rose garden, and after having the thrill of one summer's bloom, you will want to protect over winter the bushes which performed so well for you. In other words, the hobby will likely grip you, and your effort will become a pleasure, and your rose garden will increase in size and beauty from year to year.

"May your roses be as carefree as a street song — telling fibs to the butterflies."

✚ ✚ ✚

Merion Bluegrass

by G. S. REYCRAFT
Winnipeg, Manitoba

The new strain of Kentucky Bluegrass, called Merion 217, has received much attention in home and garden magazines in recent years. It was first discovered at the Merion Golf Club, Ardmore, Pennsylvania, a few years ago and has since been widely tested throughout the United States and Canada.

While Merion bluegrass is outstanding, it is not a "miracle" grass. Its chief advantages over ordinary bluegrass are its greater disease resistance, drought tolerance and ability to withstand close mowing. However, unless its nature is understood and good seeding methods are followed, a home owner is likely to be disappointed.

Merion bluegrass is slow to germinate, normally slower than Kentucky bluegrass. Depending upon the weather, the age of the seed, and other minor factors, it will be from two to three weeks after planting before Merion bluegrass seedling emerge. After emerging, seedlings do not make rapid growth, particularly if not heavily fertilized. A seeding made in late August or early September will still look rather thin by freeze-up. If properly seeded and fertilized, however, it will make a nice lawn the following spring.

Merion bluegrass needs liberal quantities of plant food applied to the seed bed if the seeding is to be successful. The only way it differs from Kentucky bluegrass in this respect is that it can benefit from more nitrogen. Liberal quantities of a complete plant food plus additional applications of ammonium sulphate or ammonium nitrate are recommended.

Seeding Directions: As with other lawn grasses, the best time to seed Merion bluegrass is late summer or very early fall. It appears to be a little better adapted to spring seeding than common Kentucky bluegrass. One pound per 1,000 square feet of Merion bluegrass seed is entirely adequate for a pure seeding, whereas three or four pounds of Kentucky bluegrass is required. Its high price is consequently offset by the low seeding required.

Pure Seeding Best. In general, a pure seeding of Merion bluegrass should make the most satisfactory lawn. It is not adapted to shade any more than Kentucky bluegrass. Merion bluegrass, however, might logically be mixed with red fescue for partially shaded areas. Where it is necessary to make a

little seed cover a large area, common Kentucky bluegrass might be mixed with Merion bluegrass. It has been reported from one of the United States experimental stations that a mixture of 40% Merion plus 60% Kentucky bluegrass, was almost entirely "Merion" after being down for two years.

Kill Old Sod. The question always arises, "Can I seed Merion bluegrass in my old lawn and convert it to a Merion bluegrass lawn?" All the answers to this question are certainly not known, but the indications are that Merion bluegrass has little chance of establishing itself unless the old sod is completely killed. This conclusion is based on the fact that Merion bluegrass is slow starting.

Has Shorter Leaf: Merion bluegrass has a shorter and wider leaf than common Kentucky bluegrass. This is one of the reasons it will withstand closer mowing. It will thrive under mowing at ¾ inch high, while common bluegrass should be mowed 1½ inches high or higher in the hot weather for best results. It forms a much denser sod than Kentucky bluegrass and should be cut more frequently so that a discoloration at the base of the plant, thought to be due simply to the absence of light, does not show up. Because of its denseness, it is also more resistant to weeds.

Drought Resistant: It will hold its green color during a dry period much better than common bluegrass and most other turf grasses. It is suggested that Merion bluegrass never be watered more than once every two weeks and then the soil soaked thoroughly to a depth of six inches.

Until recently, very limited stocks of this new grass has been available in Canada, but it is now becoming more plentiful and may be obtained from quite a number of Canadian seedhouses.

European Gardening Innovations

by C. WALKOF, Agricultural Research Officer
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Morden, Man.

The art of the green thumb is highly specialized in England and Holland. Many home gardeners as well as the professional growers are masters at the job of propagating plants and encouraging them to flower and fruit to capacity. We are at times, inclined to credit some of this success to a favorable climate. However, anyone visiting European gardens, as I was privileged to do in 1955, is impressed with the fact that the climate is not all important but other things such as thorough soil preparation, proper fertilization, timely watering, etc., and an inherent knack for gardening contribute much to good plant development.

European gardeners often start with a poor soil and by uncanny means of soil building develop marked fertility. In many instances, the gardeners also develop their own microclimates with special and usually cheap glass covered equipment. Most impressive to the Canadian visitor is the casualness and extended Old Country patience which appears to be an integral part of good gardening and of which people in North America seem so devoid at times.

Organic matter is all important for most horticultural plants. It may be difficult to obtain adequate amounts and the proper material because farmyard manure, at one time the best source, is no longer available in quantity. Accordingly, compost heaps are quite popular in Europe. Weeds, tree leaves, grass or hay, grain straw, seaweed, etc., are commonly used for compost. In Holland, the scummy growth and weeds on canal water is collected for compost. The Danish gardeners prefer barley straw treated with 2½ pounds of chemical nitrogen fertilizer, such as ammonium sulphate, for 60 pounds of straw. In England, the composting action is facilitated by special soil amendments. Some gardeners make sure that certain weeds are included in the compost heap because of their important living constituents such as enzymes and hormones which micro-organisms use in breaking down raw fibrous material. Weak sugar solutions and at times, honey, in which hormones also occur, are used to water the compost heap. Furthermore, soaking the compost heap thoroughly when it

is first made up is essential even under conditions of considerable rainfall.

Gardeners in Europe use large quantities of glass to facilitate plant growth. In England, cloches or miniature greenhouses are used in which the glass is held in place with wires. The common glass protector in most countries is the unheated double-span Dutch lite frame. This frame consists essentially of two cold frames attached to one back or center support. The Dutch lite or windows, measuring 28½ x 51 inches, have only one glass pane. Adequate ventilation is most important with this equipment, especially in bright weather. If adapted to Manitoba conditions, it should be possible to grow vegetables and flowers in the frames early in the spring and late in the fall. Installing electric lamps in the frames for extra heat should further increase their usefulness in cool weather.

The rototiller type of cultivator known by various names, such as the Ro-Lo cultivator, is highly popular in England. It is described as bridging the gap between manpower and horsepower. This machine is equipped not only with the digging tines which stir up the soil to a depth of 5 and 6 inches but also with attachments such as hoes, ridger and plough. The digging tines are probably the most popular attachment because they mix compost and other fibrous material into the soil as they destroy the weeds, and mulch crusty soil. As a result of a tillage experiment conducted at the vegetable research station at Luddington, near Stratford-on-Avon, it was found that rototilling the soil provides an excellent seed bed for weeds. In comparison, ploughing and hand digging encourage less weed seed germination, probably because the seeds were buried deeper than with rototillage.

It was of interest to note the extensive use that is being made of the cut flower type dahlia in most north European countries. Many home gardens had a great variety of colors and types. No one type was more popular than another and the range of material grown was fairly equally divided among the cactus, decorative, bicolor, solid color, etc., types. The flower markets in Holland had on sale a predominance of dahlias. Nurseries and seed firms marketing this type of flower carefully check their stocks for virus diseases, especially mosaic, by a system of tuber indexing much like the one used for potatoes.

Hardy chrysanthemums are highly popular in northern Europe. A cool climate such as is found in Scotland, Norway and Sweden is especially favorable for these perennials. In the important flower growing areas of Holland, chrysanthemums are grown in the coolest soil available and one Dutch innova-

tion is to cool the greenhouse for flower production during the summer, by pumping underground water which is only 2 feet below the surface, through pipes normally used for heating.

The use of vegetables in the Scandinavian countries is rather different from that in Canada. Cooked vegetables are most popular and parsley is used in large quantities to provide vitamin C, especially in communities where citrus fruits are not commonly found on the market. Celeriac, or knob celery, is used extensively as a cooked vegetable. It is possible that this may also serve as a substitute for celery hearts which are popular in Canada, providing a high quality celeriac variety is available. The leek is enjoyed as a cooked vegetable in many European countries. Horse-radish is also grown in large quantities for table use. In Denmark, plant breeders are developing a long oval garden beet in preference to the round varieties and for greater ease in slicing. Large cucumbers are especially popular in Denmark. They are preserved soon after harvest for winter use by pealing, coring, slicing, and finally, placing in brine solution. They are used as desired, either raw or cooked. It is possible that Canadians who are not familiar with some of these uses for vegetables may find new sources for enjoying more of the products from their garden. The apparent ease with which European gardeners grow vegetables, flowers and fruits, and the marked success of their endeavours implies that there are innovations in plant growing that may have value for the Canadian gardener.

Controlled Light

by J. S. MULLAN
Winnipeg, Manitoba

Every garden book on the market contains many references to whether this plant should be planted in full sun or that plant planted in partial shade. Chrysanthemum growers have learned how to induce earlier flowering by artificially shortening the length of time that light is allowed to reach their plants. Greenhouse operators have many devices for shading or diffusing the light reaching their benches. However, these attempts at controlling nature's light have been largely by rule of thumb, mainly because of the difficulty in establishing a standard by which to evaluate light. The sunlight that the author of a gardening book mentions may be that light from the sun that has been filtered through the haze of a coastal area, and very different from the sunlight that scorches a prairie garden. A summer day in the Southern states may be less than 14 hours, while the same date on the calendar may see the sun above the horizon for as much as eighteen hours on the northern plains. About the only form of light that can be standardized from one area to another is artificial light, and until the advent of fluorescent light this meant little or nothing to the grower of plants.

Fluorescent lighting has these advantages from a horticultural viewpoint: they throw their light from a large area, similar to natural daylight; they have a color temperature very near to actual skylight; and they are comparatively inexpensive to operate. Their main disadvantages are the fairly high cost to buy and the fact that though they can simulate the light from the sky, they do not have near the intensity of sunlight. With regard to the latter, there is little we can do, so that growing sun loving plants such as zinnias under fluorescent light is impractical. However, we CAN grow almost any plant that does well in open shade; and we can "start" many of our plants that later will demand sunny locations completely indoors without the heating problems incident to small greenhouse culture here on the prairies. With respect to the initial cost, it is not so high when we compare the cost per square foot of usable bench space in a greenhouse, and add to that the heating and ventilating costs over a period of time. Growing under fluorescent, in a basement or spare room, the normal heating of the home takes care of the needs of the plants. And for such items as Gloxinias, Begonias, and African

Violets, fluorescent growing is not only more convenient, it results in better plants in far less time!

How are fluorescent fixtures used? For the beginner, the best arrangement is to suspend a two-tube forty watt fixture from the basement ceiling over an old table. With a reflector, two forty-watt tubes will effectively light an area about two feet wide by five feet long, when hung 14" to 20" above the foliage of the plants. If your floor space is limited, and you need more shelf space, simply build one shelf above the other, spaced about 24" apart, with the upper shelf supporting the light fixture for the lower shelf. Our plant room now has three rows of shelves stacked one above the other, thus allowing many more square feet of shelf space than could be possible in a greenhouse of the same size.

We have found that "daylight" bulbs give excellent results for growing the plants, but that some colours do not look natural under this light because it is too blue. So we GROW our plants under daylight fluorescent tubes, but SHOW them under warm white tubes. Sometimes, when we want to enhance the red or pink tones of a particular flower, we cheat a little by displaying them under what is known as a "de luxe warm white," a tube especially made for displaying things such as meat. It enriches red tones. (That's why your butcher has one in his meat case.) Scientifically controlled tests have established that the optimum light conditions for growing tropical shade plants such as African Violets can be created by installing two 25-watt incandescent bulbs in the same fixture as the two forty-watt fluorescent bulbs. We haven't tried this set-up as yet, but given time and a little space, we intend to experiment with this, and maybe by next year we will know the results.

The length of time that the lights should be left burning is up to the grower. Certainly about 10 hours a day is about the minimum for effective results. Flower bud formation is accelerated on an 18 hour per day schedule, but we have found that this causes African Violets to grow bunchy, losing their gracefulness. We have settled at 14 hours a day as an effective compromise. The cost of operating fluorescent fixtures is very low, certainly not more than a penny or two per day per fixture. The heat generated is slight, and spread out over quite a large area. If your basement is quite chilly, and the plants need extra heat, it is a simple matter to box in the sides of your unit with beaverboard, thus heating and lighting your plants with the one fixture. However, most plants do not require high temperatures, and all do require fresh air, so don't

make a light coffin for your plants by sealing your plant box from all ventilation.

With fluorescent light over indoor shelves, seasons lose much of their meaning for the gardener. He can simulate summer in winter, or vice versa, for the varieties of plants that can be brought to flower in open shade. It opens up possibilities for anyone willing to experiment a little of having plants come into bloom, or better still, staying in bloom, all year round!

Now, if only the electrical engineers will come out with a practical simulation of sunlight that can be plugged into the 120 volt circuit, we can have controlled light for all our plants.

Flowers In Sunlight And Shadow

by ANGUS H. SHORTT
Winnipeg, Manitoba

Flowers are ideal subjects for color photography; they offer a limitless range of color, form and texture — each in itself a challenge to the camera, the film and the photographer. In this article, we will discuss some of the effects of sunlight and shadow on pictorial composition in flower portraiture.

All varieties of flowers — both wild and cultivated — can be treated similarly. Among the cultivated types, the dahlias are particularly photogenic; these glorious flowers have few rivals in the flower world. The wide range of sizes, colors and types make them excellent for portrait studies. The 35 mm. reflex camera is admirably suited for this work and some striking results can be obtained with a little study and patience. It is a simple matter to set up camera, center the subject in the viewer and snap the picture. This will result in a perfectly good photo but many such pictures can be made much more attractive by a little thought and study of the surrounding material.

Look closely not only at the subject in your view finder but also the relative background material. Ask yourself, "Can this setting be improved? Are other flowers nearby causing a clash in color balance? Do the leaves strike a rather discordant note by their harsh greens or coarse texture? Or, do they cause bothersome reflections from their shiny surfaces?" What should be done to solve these problems? We could, in some cases, cut the flower and remove it to a more suitable location, but taken on the spot as they grow, they are, in my estimation, much more attractive.

Good sunlight is essential and this gives you another valuable aid in your picture composition — the shadow. Used properly, shadows are of great value and the following hints on how they can be utilized to good advantage may be of interest.

If a natural shadow is not present where required, have someone stand in such a manner that his or her shadow falls in the desired way, say to the right of the subject. This shadow

will reduce the overall brilliance of the immediate surroundings and subdue colors so that your subject becomes the dominant feature in the picture. A solid shadow background is to be avoided except in exceptional close-up studies; let a shaft of sunlight show in one side or upper corner where no bright colors appear — this will add to the beauty of the setting and give a three-dimensional touch!

To achieve the best setting for each picture, it is a good plan to study the background from all angles, walking around the plant and taking note of the coloring on shrubs, etc., which will come into the field of the photograph. Tall blue spruce or weeping birch can offer unrivalled backdrop settings, especially when distant enough to be out of focus. This imparts a soft veil-like texture to their graceful foliage: they are quite striking as a background for tall spikes of delphiniums, hollyhocks or gladioli.

Back or side lighting is another way of bringing out form and texture in flower close-ups. Be sure the camera lens is shaded when making pictures of this kind and for most pleasing results, the camera level is best either at the same height as the flower or slightly below; in this way all the depth and beauty of the filtered light through the petals is caught. Here again, the use of a shadow as an accessory to the strong light will enrich the effects.

Back lighting is a tricky problem, your subject must lend itself to this type of lighting, that is, the flowers should be those with clear warm colors and a translucent quality in the petals. Some of the large yellow, mauve, deep pink or red dahlias are good subjects and the results can be remarkable. While we have been concerned with the material close at hand for our backgrounds, do not overlook the sky — white fleecy clouds and the wonderful clear blues of summer can be used with equal success.

Select blooms at the top of the plant and set your camera below level with your subject, taking care that this position does not distort the perspective by being too low or too far from the flower. Have the sunlight coming from directly behind you or from the side so that you have the benefit of good definition and color in your subject with all the brilliance of the blue sky behind it.

Clouds add wonderfully to the pictorial interest: you will have to watch carefully for just the type and size of clouds which you want — they should be the soft fluffy white summer "floaters" which occur on a warm day. In your picture, try to get about equal areas of cloud and blue sky and make sure

at the moment of snapping the shutter, that the flower is silhouetted against one or the other — whichever gives the best contrast to the color of the bloom.

Low angle views are effective for tall flowers, when taken against a clear blue sky — even the blues and purples of delphiniums lose nothing when photographed in this manner. And speaking of tall flowers, when in a clump and of one shade, they too can make a colorful setting for other flowers. On one occasion while photographing some centifolium lilies, we were studying the surroundings for a picture of one of the lovely yellow varieties. Checking the composition in the viewfinder, we noticed a group of the tall mauve-pink lythrum; its warm tones complimented the delicate yellow in the graceful petals of the lily. The lythrum was far enough distant so that it showed blurred and indistinct to just the right degree; it made an unusually attractive picture. Lilies lend themselves admirably to low angle picture taking. Some of the stenographer varieties, such as Grace Marshall or the Maxwell lily with their delicately curving petals and intricate spotting, offer you a splendid opportunity for something a little different in flower portraiture. Try setting your camera at a very low level so that the undersurface of the lilies will be seen to full advantage with all the beauty of color and form accented by the blue of the sky. Single blooms taken in this manner with sunlight shining through them have a quality all their own. Where the plant is large and has many flowers, the above technique can be used with very pleasing results; set the camera low and far enough away so that you get half a dozen or more blooms in the viewfinder, include several of the long tapering buds — these combined with the leaves and network of stems, will give your picture an "oriental artistry" set against the blue backdrop of the sky.

Deep-bodied flowers such as the new dahlia varieties and many of the roses, give the photographer wide scope for the use of "profile" studies. Some of the new dahlias have gracefully curved and spiral petal formations which, when seen from a side angle, are every bit as lovely as when viewed from the front. The pale pinks, mauves, yellows and other light shades of these dahlias demand a careful treatment of background, and soft greens with a shadow are best.

Roses are naturals when it comes to pictorial beauty and their range of warm reds and pinks with the many subtle shadings in individual flowers, need very close study of lighting to bring out the very best in the flowers. One or two blooms set a little off center in your viewfinder, with the sunlight from the side, can be most effective: here again, a shadow may help and an added touch can be obtained by selecting

flowers with a bud or two. The buds need not be in the same plane but should be beyond the roses and in sunlight, this way they are easily identified but do not detract but rather increase the pictorial value of the composition.

The use of a sturdy tripod for all work is recommended — one that will telescope down to within a foot of the ground. This and a tilt-top head unit will permit critical adjustments with a minimum of movement. A good light meter is also an invaluable aid; used carefully, it will enable you to capture faithfully many of the most delicate tones as well as deepest hues. Meter readings should be taken from about a foot distant and checked very closely. Study the foliage and texture and determine just what you want to emphasize most in your picture. For general studies of a plant or a medium-close shot, a reading covering the flower and foliage will suffice, but for real close-up work, a more critical reading is required. The speeds I have found most satisfactory under good sunlight conditions range from 1/25 to 1/50 sec. and stops from f6.3 to f11. These are for standard daylight kodachrome and, from experience, give the most satisfactory results.

This is but the briefest outline of some of the intriguing results to be had in flower photography in color. It can be one of the most interesting and rewarding of hobbies, not only for the thrill and zest of trying new settings but you can keep your garden and its flowers in a priceless color record which grows more valuable when the flowers wither and the snows of winter come.

ORIENTAL POPPIES

Oriental poppies make for bright gaiety in the flower border. They transplant best during the lull in their summer growth in late August but may be successfully moved throughout September. If set when their summer rest period is on, the new plants will have a long period in which to develop sturdy new roots. The soil should be well drained and dug to the full depth of the shovel or digging fork. The incorporation of some rotted manure or other humus and a light dressing of plant food encourages free growth. The planting should thrive for four years without need of dividing the clumps. These plants enjoy a sunny position. If aphids and bugs invade the plants, spray or dust with a good insecticide. Malathion is very effective.

As well as the old orange and red types, cross-breeding has developed a considerable variety in coloring including mahogany rose and plum shades.

Don't "Butcher" Your Shrubs!

by G. S. REYCRAFT
Winnipeg, Manitoba

The gardener with pruning shears might be considered a terrible monster by a shrub if it could suddenly be personified. This feeling would be entirely justified by the mutilated condition some shrubs are left in after pruning has been done by amateur operators.

In order to prune intelligently, it is essential to know something of the growth habits of shrubs. They may be divided roughly into two groups. The larger group includes the early spring bloomers. In this type, the flower buds were formed last fall and are ready to burst into bloom as warm weather approaches. Careless pruning in the Spring is likely to remove many of the flower buds and thus destroy the floral display which might have been had.

Spring flowering shrubs renew themselves from new shoots arising at the base. One of the essential operations is to remove each year enough of the older growth in order for the proper development of the younger growth. In this way, strong, vigorous blooming wood will always make up the larger proportion of branches. If the body of the shrubs becomes crowded with old wood, it loses its ability to flower and its vitality.

The second group of shrubs are the late bloomers. In this type, the flower buds are produced on shoots of the present season's growth. Pruning back these shrubs in early spring does not, therefore, remove the flower buds because they have not yet formed.

The art of pruning is one of the gardening practices which many of us find most difficult to understand, yet, when the principles are once fully grasped, it is one of the most interesting of gardening operations. The objects and systems of pruning are varied, but there is one which is applicable to all trees and shrubs, and this consists of the removal of any weak and superfluous growths which are likely to overcrowd the center of the tree or shrub and shut out light and air.

An unpruned shrub, of a fair age, will usually provide an object lesson in the necessity of such pruning, since the center

of the bush will probably be a mass of dead growth which has perished because it has been overshadowed by more favorably placed branches and so has been unable to obtain the necessary sunlight for the leaves to perform their natural functions. It can be readily understood that this dead wood may harbor disease, and if we can prevent this dangerous condition by a timely thinning of the growths, we are materially assisting in keeping our trees and shrubs healthy. Thus, the pruning of established shrubs during the winter will chiefly consist of removing dead wood, thinning the branches which have become too dense and are likely to shut out the sunlight, and the removal of crossing branches which are likely to rub their neighbors. This latter is very important, for rubbing branches will wear away the bark and leave an open wound which is highly susceptible to fungoid infection.

Another point which we must bear in mind is that when we remove a number of growths or branches we divert the sap into other parts of the plant, thus setting up an increased sap pressure in the growths which are left and so strengthening them. It thus follows that a comparatively hard pruning may be beneficial to a weakly plant by inducing it to grow more strongly. On the other hand, the severe pruning of an already strong growing plant is likely to aggravate the tendency to produce over luxuriant growth; it is therefore necessary to prune strong shrubs with caution and avoid removing too much growth at one time.

If a shrub has outgrown its space and it is desired to reduce it in size, do not cut off the ends of the shoots as this will spoil the natural contour of the plant. The best method is to shorten back the longer branches to a fork so that no unsightly stumps are left, and by careful cutting in this way, it is possible to substantially reduce the size of a shrub or tree and yet preserve its natural shape.

The flowers produced on well pruned shrubs will be larger and finer than if they are neglected and the foliage will be more luxurious and attractive.

Canning in Manitoba

by E. J. GREEN
Canadian Canners Ltd., Aylmer Products
Morden, Manitoba

In Canada, the first commercial canning of food was done in 1880, and by 1882, there were a few canning factories started in Picton, Belleville and Niagara Arcas. The last available report states there were 445 licensed plants employing 15,000 Canadians for processing of fruits and vegetables. The total commercial value of canned fruits and vegetables produced in Canada during 1954 is placed at over $200,000,000.00.

Aylmer Products, canned by Canadian Canners Limited, Morden, Manitoba, with head office in Hamilton, Ontario, are, at present, confined to peas, green and yellow wax beans, corn, carrots and tomatoes, which grow well in this area. But we, in Manitoba, have a long way to go to get our equal share of the $200,000,000.00 returns from commercial canning.

What does this kind of industry mean to suitable sections of this province? An opportunity for farmers to diversify their crops by producing cash crops of varieties most suitable to their soil. It also gives the small farm holdings a selection of crops so that they can get increased production from smaller acreages, which is not always possible by growing grain.

The locations where factories of this kind establish must be well served with good water, sewage disposal, available employees, churches, schools, places of recreation, and all things which make a good town such as we have in Morden, and suitable soil as well as good farmers which are most essential. All these points are considered by a company before decisions are made to locations.

To make this industry a success in Manitoba we must produce quality in order to pack the highest grade of canned goods at the lowest possible cost. Therefore, it is of prime importance that the acreage and the management of the acreage on which the produce is to be grown be given careful selection. In selecting the fields for certain canning crops, it is the duty, first of the grower and then of the company fieldman, to see that the preparation of the land and the planting and care of the crop is carried on in such a manner as to ensure maximum production and first quality, keeping in mind the necessity of efficiency both in production in the field and in the processing at the factory.

We put particular emphasis on quality because, in our industry, the consumer is the basic foundation for a successful enterprise. The person who buys the processed goods must have the best quality. So, whether it is the farmer who is producing the raw products, or the canner who is processing them, the family who is eating our finished products must be our first concern if we are going to be successful in our operations.

The locations where factories of this kind are operating provide the grower with an outlet for cash crops and fit in very well with the production of grain to supplement the rural income in addition to providing employees of the factory with steady employment during the canning season.

We would like to mention that in the location of a factory for fruit and vegetable canning, weather is of prime importance. It affects production, transportation and processing. Before any location is decided upon, records of sunshine, frost free days, prevailing winds, humidity, rainfall, etc., all have a bearing as to the suitability of any particular area for the location of a canning factory.

We are of the opinion that the possibilities of growing various fruits and vegetables in Southern Manitoba in this area have a great future which can be seen during the summer at our Dominion Experimental Farm, such as small fruits and every kind of vegetable — cucumbers, tomatoes, peppers, egg plant, cabbage, carrots, table beets, corn, peas, beans, spinach, squash and pumpkin. We believe that anything grown in Canada between the late spring frost and early fall frost can be grown in Southern Manitoba in the Pembina Triangle.

TULIPA TARDA
(Courtesy of F. T. Skinner)

Perennials — New and Noteworthy

by H. F. HARP, Head Gardener
Dominion Experimental Farm, Morden, Man.

While new varieties of perennial plants are not so numerous as the annuals pictured so attractively and described in such glowing terms in the catalogues, there are, nonetheless, many new kinds offered for sale each year. Not all are suitable for the prairie garden, some lack hardiness or find the hot dry summers not at all to their liking.

The varieties reported on, here, are not in every case new but they are not as yet in general use, nor are they all found listed in local nurserymen's catalogues.

For the basis of a good perennial border we have come to rely on Peonies, Iris, Delphinium, Scarlet Lightning, Lilies and a few others all of which are finished blooming by midsummer, leaving a drab border unless provision is made to sustain the interest through late summer and until severe frost destroys all bloom.

A few gray leaved plants can be distinctive in the border. One of the best is Artemisia stillariana, Beach Wormwood, Old Woman, and Dusty Miller are common names for this plant. It makes a spreading mat a foot high, woody at the base with blunt-lobed pinnate leaves. It appears to be root hardy in southern Manitoba if planted in lean soil. Increase is readily made by dividing the plants in the spring.

Anthemis Moonlight is a sulphur-yellow counterpart of Anthemis Kelwayi. It is equally hardy, more refined and may be used effectively in bouquets. Thora Perry is an English variety with pale yellow flowers two inches across.

Anchusa myosotidiflora is so unlike the more widely grown A. italica as to be scarcely recognized as one of the same family. It bears masses of forget-me-not-like flowers against a background of handsome, heart-shaped leaves. The plants grow to a height of two feet and are tolerant of shade.

Boltonia asteroides (False Starwart) is a similar plant to the well known Michaelmas Daisies but more graceful in plant habit and somewhat less hardy. B. asteroides has white daisy-like flowers on arching sprays. B. latisquama has pale pink starry flowers. Both, are about five feet high.

The Sneezeweeds (Heleniums) are not so well known as they deserve to be. H. rubrum is one of the most showy, bearing masses of coppery-red flowers in September. Chipperfield Orange and Pelegrina are choice. The latter is chestnut-red. Heleniums flower in mid-September and until severe frost. A light covering of flax straw ensures winter survival.

Sunflowers are usually rather coarse plants, not worthy of consideration in home garden perennial borders. Two newcomers of refinement are Helianthus Lodden Gold and Heliopsis Gold Greenheart, the former has large, very double, Zinnia-like blooms in September, Gold Greenheart is deep yellow, fully double with a decided greenish cast. Here are two excellent tall plants for the back of the border.

There are now double forms of the Balloon flower and also a pink variety. Not all flower lovers are ready to accept any flower in double form and a double Balloon flower might well be rejected. A well drained spot in full sun leaving the plants undisturbed for several years give best results. They are completely hardy in prairie gardens. The Monkshoods Aconitum are shade and moisture loving plants. Spark's Variety and Bicolor are esteemed. A. wilsoni is a very late sort coming into bloom in October. It grows to a height of five feet with glossy, dark-green foliage and medium blue flowers.

Delphinium Pink Sensation — We have come to associate delphiniums with shades of blue so that a pink form has to be a worthwhile plant to gain favor, such a one is Pink Sensation. In spite of the tenderness of one of its parents (D. nudicaule) it appears to be fully hardy. Plants are about three feet high with flowers of a pleasing pink shade from July until September. The plant is self sterile which partly accounts for its remontant habit.

The Michaelmas Daisies and the Hardy Chrysanthemums warrant special attention as they provide most of the color in the perennial border in September and October. Many choice varieties of the former have come to us from England. They are large flowered and embrace some of the loveliest colors yet seen in perennial asters. A few are reported on here as the most reliable of those tested at Morden. **Janet McMullen** has huge, soft lilac-pink flowers like china asters. **Eventide** is rich purple with golden centers. **Peace, Plenty** and **Prosperity** make a trio of choice asters. Plenty is the earliest, the color is lavender blue. Prosperity is rosy pink, Peace is pale lilac pink. All three are large flowered, of good substance and about three feet high.

Winston Churchill — Three-year tests have shown this variety to be one of the latest to flower. Frosts usually mar the

blooms before they are fully developed. The color is a sparkling crimson.

Prairie Eventide should not be confused with the English variety named Eventide. Prairie Eventide was raised by Dr. Frank L. Skinner. It grows about 2 feet high and has flowers of a clean shade of pink. The Erigerons or Fleabanes are aster-like plants which bloom in midsummer. The varieties Mesa-grande and Quakeress are showy; the former has lavender blue flowers and the latter is lilac pink.

The Hardy Chrysanthemums have been a disappointment to many prairie gardeners; the chief reason being the late blooming habit of many of the commercial varieties especially those offered for sale by Eastern nurserymen. However, there are suitable varieties now obtainable through the efforts of several Great Plains plant breeders in the United States as well as in our own country. A leader in this field is Dr. Frank L. Skinner, of Dropmore, Manitoba, who has developed many fine varieties including:— Pigmy Pink, Richelieu, September Morn, and Dropmore Rose. Several varieties from the University of Minnesota are well adapted. Among the best are Maroon and Gold, Purple Star, Glacier, Harmony and Harvest Bronze. From the North Platte Station, Nebraska, Professor Glenn Viehmeyer has sent for trial W. H. Snyder, Plainsman, and Pathfinder. These are a bit late but can be relied upon to flower satisfactorily in most seasons.

The two Morden introductions, Morden Gold and Morden Skyline, continue to find favor. Morden Gold is a compact plant about a foot and a half high with masses of double bright yellow flowers in September. Reporting from the Forrest Nursery Station at Sutherland, Saskatchewan, Superintendent W. L. Kerr rates Morden Gold very high. Skyline is a double lavender mauve almost two feet in height and is useful as a cut flower.

Water Garden

by MRS. E. SLIPETZ
West Kildonan, Manitoba

There are few garden features more generally desired than a pool for water lilies, other plants and gold fish. The pool provides interest and a spot where one can gather around with family and friends to chat and admire. Many people who wish to have a pool over-estimate the difficulties and expense involved and resign themselves to do without it.

The pool may be made of reinforced concrete 6" or more in thickness, resting on a layer of cinders or coarse gravel. Provide an overfow pipe so that when the season comes to an end it may be unscrewed to allow the pool to drain completely. A pool made of stone or brick cemented together is not recommended in this part of the country on account of winter heaving.

A pool may be formal or informal, depending on the owner's taste. The formal pool does not require the same constant care as an informal one. The plants you place in the water require the same care but the surrounding area is treated differently.

A formal pool is usually placed in the centre of the lawn or close to some garden feature such as a patio or summer-house. The shape is geometric, to blend in with the shape of the buildings or walks. The edge may be of cement, brick or stone. You may allow the grass to grow to the edge or plant annuals to follow the contour of the pool.

The informal pool may be level with the ground or a little higher but has to be made to appear naturalistic. With small children around, the higher pool is safer, but to make it look natural it is necessary to build a rock garden on the large size.

The first essential to success is the careful selection of the site. This should be a sunny location since but few plants suitable for a rock garden thrive in shade. If no slope is available, a low mound may be constructed against a wall in the corner or edge of the garden grounds.

An informal pool, level with the ground, is more appealing and can be made by shaping it like the old fashioned soup plate with the rim saucer-like and this ledge need only be a few inches deep and need not be all around. This shallow part

can play two parts, one for preventing the young guests from drowning and the other for planting boggy plants, such as marsh marigolds. Keep in mind the contour should be irregular and the middle section of the pool should be 18" to 24" deep.

Let the pool side plants come down so close to the water that the man-made part of the pool is completely hidden.

Plant the water lilies in the spring in treated wooden boxes about 2' square and 1' deep, in clay soil with cow manure placed in bottom of box. Each spring, invert box to remove contents, remove some of the corner soil, add fresh fertilizer and earth and replace plant. Crown of bulb should be at soil level. This work is best done in late April. Cover soil with 1" of coarse gravel to prevent the fish from stirring up the soil.

Now place boxes in half filled pool of water, of atmosphere temperature, on stones high enough for the fish to hide under in case of danger from cats or certain birds. Their natural instinct tells them to seek shelter. Now fill pool and allow at least 8" of water above the boxes.

Some chemical fertilizer may be added during the plant growing season by lowering the water to the top of the boxes, making holes with a piece of pipe, inserting the fertilizer and covering these holes with sand.

Hardy water lilies may be kept from year to year while the tropical water lilies will not tolerate the cold and must be treated as annuals. They are not to be planted out until June. Give them the same soil as the Hardies but more of it. Some of the Tropicals are fragrant and grow very large flowers and some are night bloomers.

In the fall, the pool should be drained and scrubbed immediately while still wet to remove the algae and scum. A little detergent added to your cleaning water and a good stiff bristled brush makes the work easier. Remove the boxes by sliding them up on a board and then down a board. Scrub boxes and cover with sacking and leave outside to drain for a few days. Then store in basement in a very cool place. This is where a strong man is needed to carry them down. If storing on cement, remember to place some boards on the floor. Water once in a while, but increase water supply from February on.

A pool lacks something if it does not contain a few gold fish. The pool attracts flying insect life, the chief offender being the mosquito. The eggs hatch into the wiggler stage and then become choice food morsels for the fish. So plentiful does this become in the summer that feeding the fish oftener then twice weekly is not recommended.

A precautionary measure must be taken before placing the fish into a new pool. Concrete releases much free lime which dissolves in the water injuring fish and stunning plant growth. Therefore, the pool should be soaked and emptied at least three times. The soaking requires several days between each drain and refill.

Planters in the Home

by S. J. WESTAWAY
Division of Plant Science, University of Manitoba

Changes in the architectural design of homes have modified many of our ideas of landscaping the grounds and altered the possibilities of growing plants in the house. The larger windows, better lighting, more spacious rooms, and the general convenience throughout have all made the work more interesting and much more varied. One aspect of this change is the popular use of planters in the home.

Planters are of many types and their use depends upon the particular surroundings in the home. The larger and perhaps more elaborate type may be a fundamental part of the interior stonework of a house, built in association with the chimney and fireplace; built as a part of the entrance vestibule; or again, built as an interior window box beneath and flanking a large picture window. The feature of this is that the planter is fixed in position and the light conditions and environment are static for any particular period of time so that the type of plant grown in it must be considered in relationship to these conditions. This type of planter, built of waterproof material, lends itself to very effective ornamentation.

It should be built, however, in such a way that some means of draining the surplus water is provided. The bottom of the planter should be slightly sloped to one end where a drainage hole is provided and this, preferably, connected to some over-flow outlet through the floor with a basement receptacle. If this is not done, there is a possibility the soil will become saturated, the plants will suffer from lack of aeration of the roots and consequently, become unthrifty and unsatisfactory for home decoration.

With provision made for drainage in this way, the bottom of the planter must then have a covering of broken crockery or gravel to facilitate the movement of excess water. On top of the gravel should be placed some coarse material such as vermiculate or coarse peat moss to prevent particles of soil, when wet, from settling and blocking the prepared drainage. The planter can then be filled with prepared soil to within an inch or so of the top of the planter. Three parts of good loamy soil, to which has been added one part of coarse sand and one part of peat moss, is a good mixture. Clayey soil should be avoided. A porous sandy soil is preferable and is more easily

kept sanitary under house conditions. This, in turn, is better and healthier for the plants grown.

There are other types of planters. Wooden boxes, the window box type used outside during the summer, may be used but should be lined with metal to avoid damage to floors and coverings from water leakage. The boxes should be provided with proper drainage facilities as stated above. The same general rules apply.

Table type planters of varying types and sizes may be considered. They are available as crockery pieces or even in various metal types and designs. They may be of porcelain and held in a decorative metal stand. Most of them have one thing in common — no provision is made for adequate drainage. Particular care needs to be taken to provide for the health of the plant in case of too generous watering. The bottom of the planter should be liberally supplied with broken crockery or other coarse material. When planted, great care will need to be exercised to see that the plants are adequately watered, but that no surplus water is supplied resulting in a waterlogged condition throughout. Most of the water supplied will have to be used and transpired by the plant itself. The rate of utilization will depend upon the size of the plant.

Consideration, then, has been given to planters in which the plants themselves are placed directly in the soil. This more or less determines the type of plant used because conditions of watering will be uniform throughout. Another and perhaps more satisfactory method of planting is to allow the plants to remain in their individual containers. These are placed in the planter and the area around the pots filled with vermiculite, gravel or peat moss. This, no doubt, will be more sanitary than a large mass of soil. It will make possible the individual watering of plants according to their needs and permit a wider variation in the type of plants grown. It will allow for the changing of plants and rearrangement of the planter at will, without much disturbance, and the surface of the media can be kept sufficiently moist and conveniently sprayed to provide a much more satisfactory environment for the growth and welfare of the plants.

Certain plants, because of their particular adaptability to house culture, are used in planters. To name a few, these are:— Sanseveria, Aspidistra, Rubber Plant, Grape Ivy, Philodendron varieties, Peperomia varieties, Ivy varieties, Fern varieties, Wandering Jew, Asparagus plumosus, and Asparagus sprengeri. But, by using the method of individual containers within the planter, the available list of plants expands to the limits of those plants otherwise successful in home culture.

Your Vegetable Garden

by H. R. HIKIDA
Agricultural Research Officer

Your vegetable garden is an asset to your family for inexpensive food, for health and for recreation. A garden may be a place of pleasure or profit whether one lives on a farm or in a rural village, or has a small lot or backyard in a suburban town or city. The fresh vegetables produced not only represent an important saving in the cost of feeding the family, but form a most palatable and healthful part of a well-balanced diet. To the suburban or the city dweller, the garden is a place of pleasant recreation. In quality and flavor, the fresh products picked from the garden and served within a short time are often far superior to food which may be purchased at a store or market. Vegetables are essential to supply the body with minerals, vitamins, acids, cellulose, and other elements. The mineral substances build and maintain the bones and teeth; likewise they keep the blood and other body fluids in good condition. Vitamins promote growth and because some are easily destroyed by heat, the use of one uncooked fruit or vegetable each day is advised. Cellulose adds bulk to the diet and stimulates digestion. Acids add flavor to food, stimulating the appetite and the flow of digestive juices.

The home garden should be located as near the house as possible so that it will be but a few steps away from the kitchen. This will allow for ready access of the produce and also enable the person to do garden work at odd times. The garden should be located so as to get as much sunshine as possible and away from large trees or hedges whose roots may be robbing nutrients and moisture so necessary to your garden plants. A level location with a gentle slope to the south is desirable. A windbreak of fence or wall on the north side will hasten warming of soil in the spring and consequently increase earliness of the crops.

The soil, prepared to a full depth of a fork or a spade, should be rich, mellow and friable. Under the prairie conditions, the garden should be plowed or forked over in the fall. Frost action on the large soil lumps will crumble them to perfect condition for early spring seeding or transplanting. Soils which are heavy with clays may be loosened by the addition of organic matter in the form of well rotted barnyard manure, leaf mold, or peat moss. Shavings or sawdust may also be added, but extra nitrogen fertilizers must be added with these raw organic matter. Soils which are higher in

organic matter or which are of sandy loam nature permit earlier seeding and transplanting in the spring. No soils should be worked while still too wet in the spring. A good test is to take a handful of soil and squeeze it. The soil should feel moist but not wet. When the hand is opened and the soil lump is tapped it should crumble. If it does not crumble, then the soil is too wet and working it at this time will result in hard lumps of soil in the garden for the summer.

The home garden vegetable crops may be divided into classes according to their temperature preferences. Seeding and transplanting dates can then be worked out. As soon as heavy frosts are over and as soon as one can get onto the land, peas, onions, spinach, lettuce, radish and turnips can be sown. If lettuce and sweet spanish onion transplants are available, they may be planted. Depending on the season and on location this date may be late in April or early in May. As the weather settles, late peas, sweet corn, carrots, beets, cabbage, cauliflower, may be sown. At this time, cabbages and cauliflower may also be transplanted. When all frost danger is over, beans, cucumber, squash, pumpkins and melons may be sown. As the soil warms up, tomato, eggplants and peppers may be transplanted. This last date would cover the first ten days in June. Certain fall crops may be sown at this time — late turnips, carrots and beets for fall storage, fall spinach, peas, beans and lettuce. A well planned project will provide a family with fresh produce over a very long season.

Cultivation of the garden is of importance in controlling the weeds and in providing a good mulch on the soil surface. Weed seedlings are most easily killed while they are very young. At this stage, the weed seedlings have not taken up much nutrient or moisture from the soil — thus decreasing competition for the crop. The spacing of the rows should be such that cultivation may be carried out most easily.

In a small garden, intercropping and succession cropping can be utilized to advantage. Later growing crops may be alternated with early maturing crops. Thus, lettuce and cucumbers may be sown in alternative rows. By the time cucumber vines have taken over the ground, the lettuce crop would have been harvested. Late planted crops may follow an early crop. Thus, tomatoes may be planted after an early crop of radishes have been harvested. It must be kept in mind, however, that this practice requires attention in maintaining fertility levels in the soil. Moisture requirements also needs attention when such concentration of crops is grown.

Roots of most vegetable crops go quite deeply into the soil. It is, therefore, necessary that any watering or irrigation

that is practiced is done properly and thoroughly. Wetting only the surface of the soil is unsatisfactory and even harmful to the plants. Deep penetration of water ensures deep penetration of the roots and the plants will not suffer during the hot dry periods that frequently occur in the growing season.

Fertilizers are very often a mysterious product to a layman. When one considers that all fertilizers are rated according to the plant nutrients available, then one can properly compare the different brands and types of fertilizers. The main ingredients or elements stated in an analysis of a fertilizer are Nitrogen, Phosphorous and Potash. These elements are abbreviated as N, P, K, and always appear in that order. Thus, a fertilizer with an analysis of 11-48-0 contains 11% nitrogen, 48% phosphorous, and no potash. The balance of 41% of the fertilizer is inert carrier. Nitrogen is the element so necessary to give greenness and succulence to plants. High nitrogen fertilizers are required for leafy vegetables. Phosphorus is the element so necessary for strong root growth and for the formation of plant cells. It is also necessary for flower, fruit and seed production. Thus, tomatoes would require a high available supply of phosphorous. Potash is the element necessary for root crops such as potatoes and turnips. It also is important in affecting quality of growth. With these factors in mind, many general purpose fertilizers are available. A complete fertilizer, one carrying all three elements, with a high phosphorous analysis would be completely satisfactory for the home garden.

For most prairie gardens no liming is necessary. The soil in this area is already high in lime and any further addition of lime would aggravate the situation.

Insect and disease control are necessary. A watchful eye should be kept on the crops and the necessary insecticide and fungicide should always be handy to ward off the troubles before they have done irreparable damage. Control of insects and disease is so much easier and far less costly when treatments are carried out before the pests have taken a firm foothold.

Most vegetables are best for eating when they are harvested while they are still young and tender. The right time for harvesting varies with the kind of vegetable. It is necessary to keep a close watch when the crops are nearly ready so that they may be picked before they are over-ripe or tough. Many vegetables may be stored for late fall and winter use. Cool, moist storage is suitable for most root vegetables. This condition can be provided in a corner of a basement. It is

important that clean sound product be placed in storage. Bruised and otherwise damaged product deteriorate in storage.

It is a wise gardener who can remember that answers to many gardening problems can be found at the provincial extension service of the Department of Agriculture or Faculty of Agriculture of the provincial university.

Home Grounds

by N. C. MacKAY

The beauty and design of our homes show the culture, permanence, and prosperity of our communities. Many of our Western people have developed theirs to a great extent but there are many others who have entirely neglected the beautification of their home surroundings.

Horticultural and other organized groups are doing much to encourage their members to give attention to home improvement. This is being brought about by the encouragement and help given individuals with their planning and planting and they have also encouraged them to compete in Home Grounds Competitions sponsored by these organizations.

The Manitoba Horticultural Association, for years, has encouraged the Horticultural Societies to include a competition in their year's programme and then have them enter the winners in the Provincial contest, which is sponsored by the Horticultural Association.

The interest in Home Grounds has steadily increased and the number of farm and urban grounds entered in the various local and Provincial competitions each year has been growing. There is great room for the expansion of improvement of Home Grounds and it is for the purpose of offering some suggestions, particularly for rural people, although the same general principles apply to all, that this article is prepared.

Changes in older or well established home grounds and contemplated plantings around new homes and locations all call for the same general ideas. Some of these are here indicated.

A PLAN

In the construction of a house, a plan is first prepared. This is also necessary for the home grounds. There must be a clear idea of the size of the grounds and the relationship of each part with respect to all other parts of the surroundings.

A plan drawn to scale should be prepared indicating the size and location of the several parts. When this has been done, it may reveal a number of practical problems that require changes to be made. These can be made on paper, whereas these changes, when laying out and planting, are difficult and costly to make. Whether you are considering changing or im-

proving the present grounds or planting a new site, a well thought out plan on paper is the first step that should be taken.

SHELTER BELTS

Next in importance to a plan is the providing of a shelter belt. This reduces the velocity of the wind, moderates extremes of heat and cold, holds snow, conserves moisture, encourages birds and affords beauty and comfort during the whole year. We now have many suitable trees and shrubs that have proved satisfactory when planted even on the bare prairie. Follow your plan once the work is begun. The actual planting can be made over several years if desired until all is completed.

Avoid too close planting and allow ample space for the trees when they reach maturity. The shelter belt should be adequate and arranged in such a manner that the home presents a pleasing view and that the view from the house is an attractive one.

BACKGROUND

Trees should be planted far enough apart to allow them to fully mature. They may, in time, tower above the house. Evergreens appear warmer in winter, but these, as well as the deciduous ones should be used. Carefully selected shrubs in front of the trees will help to blend them into the surroundings. The home appears more sheltered and snug if well supported with an attractive background of same size. Undesirable views can also be screened out.

HEDGES

The cheapest and best fence for the home grounds is a leafy hedge. It is ornamental, does not require painting, and each spring takes on a new green. It will also hide undesirable objects, shut out trespassers and provide privacy for an outside living room.

On large grounds, hedges are used rather sparingly and for special features such as adding variety to the landscape, for the beauty of their foliage or bark or left untrimmed as a flowering hedge. Do not hide the grounds from the highway or street with a hedge. Avoid planting them along walks or close to driveways. When this is done they accumulate snow in winter and are difficult to keep clear of weeds.

Plenty of light is needed for proper growth and trees should not be included in the hedge. The hedge should not come to a blind end but rather lead from one object to another and end in some bold mass of shrubbery. In selecting

the plants to be used decide on the height you want, whether the hedge is to be trimmed or left untrimmed. Fast growing plants require excessive labor in trimming.

FOUNDATION PLANTING

Foundation planting around the base of the house blends the upright lines of the house with the horizontal ones of the lawn surface. Allow a strip, depending on the size of the grounds, around the house for the planting of this material. Walks should not be too close to the house. The plantings are more attractive when the plants vary in height and form. The larger and more massive plants are best located at the corners with lower ones under the windows. It is desirable to leave part of the house foundation exposed to view between some of the shrubs. Flowering plants may be planted among and in front of the shrubs. Plants should be selected for the various locations keeping in mind their ability to withstand the different conditions of exposure to wind and adverse weather during the whole year.

FLOWERS

Flowers may be planted among and in front of the shrub border thus completing the desired design. Herbaceous perennials require less care than annuals and, after they reach maturity, they may be divided for planting in other locations. A selection of kinds and varieties will provide continuous bloom in the border from early spring to late fall. Plant in bold irregular masses along the border of the lawn.

LAWN

No part of the surroundings contribute more to the beauty than the lawn. It should fit into the plan with a natural, graceful curving outline. If the house is on an elevation avoid steep banks. A gradual slope is more attractive and easier to mow. Keep the centre of the lawn open and free from all obstructions such as trees, shrubs, or flowers. This makes for ease in cutting. Use a recommended seed mixture and, in general, avoid short grasses which require great care in watering and cutting.

VEGETABLES AND FRUIT

An abundant supply of vegetables and fruit is desirable for all homes. Where provision can be made for growing these, special areas should be planned. The vegetable garden should not be too far removed from the house and of a size sufficient for the needs of the family. Rows should be as long

as possible in order to afford ease in cultivation. One-half of the area may be summerfallowed every year and planted the next year. If a fruit plantation is decided on, this should only be of a size sufficient to provide an adequate supply for the family. If fruit growing on a large scale is contemplated, a separate location should be chosen.

BALANCE

A balance between all parts of the grounds should be maintained at all times. This same principle should be adhered to irrespective of whether the grounds are large or small. Windbreaks, hedges, foundation planting, lawn, flowers, a space for outdoor living, vegetables and fruit areas should each occupy a certain definite part of the whole area.

SUMMARY

Prepare a plan drawn to scale before attempting changes in surroundings, newly established or planning new ones.

Avoid too close planting.

Keep a proper balance between the several parts that comprise the whole.

Use material suitable for your location. Lists of all material suitable for the various zones in the Province are available and may be obtained from Horticultural Societies and Federal and Provincial Departments of Agriculture.

Well planted and kept home surroundings enhance the value of your property, afford unlimited pleasure throughout the whole year, serve as an example to others to make our homes and communities a happy place to live in as well as an inspiration to succeeding generations in Western Canada.

Garden Tractors And Their Equipment

by J. J. PATERSON

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A wide variety of types and sizes of garden tractors have been developed during the past fifteen years. Upwards of 350 makes and models appeared immediately following the war. Some were not too well designed and have largely dropped out of the picture. Those being sold at present should be fairly reliable if sold by a reputable dealer.

Garden tractors as a class include three sizes and types, falling roughly within the following classification.

1. **Large Tractors:**
   - (a) Riding models with 5 to 12 H.P. motors and usually two cylinder.
   - (b) Fuel consumption approximately 4-6 gals. per day.
   - (c) Under favourable conditions could:
     - (1) Pull on 12″ plow 7″ deep and do about 2 acres per day.
     - (2) Operate 3 30″ lawn mowers.
     - (3) Operate 5-ft. sickle bar mower.
     - (4) Operate 5-ft. single disc.
2. **General Purpose Garden Tractors:**
   - (a) Mostly walking models with 3-4 H.P. motors.
   - (b) Fuel consumption 2-3 gallons per day.
   - (c) Could pull:
     - (1) An 8″ plow and do about 1 acre per day.
     - (2) Operate a 30-36″ lawn mower, or 3½′ sickle bar.
3. **Small Power Cultivators:**
   - (a) Walking models with 1-2 H.P. motors.
   - (b) Fuel consumption 1½-2 gallons per day.
   - (c) Could pull:
     - (1) A 4-6″ plow for hilling up.
     - (2) A 22″-30″ lawn mower.
     - (3) Three feet of harrow.

The prospective buyer should consider carefully the uses to which such a unit may be put and then choose a reputable

machine which has the attachments necessary. Those who contemplate doing any amount of field work should consider a riding type tractor. Guiding a 3-5 H.P. engine with two handles while it is pulling a plow or cultivator is heavy work, especially at the corners, for there is often no differential on the axle, only dogs in the wheel hubs. A further problem comes if implements must be moved backwards, for most of these two-wheel models have no reverse. There are a number of satisfactory riding types on the market. Unfortunately, they are fairly expensive.

The homeowner with a lawn and garden will probably choose one of the small machines which may consist of a cultivator, a lawn mower and possibly a snow plow.

Now, a word or two about engines. There are two types on the market — 4 stroke cycle and 2 stroke cycle. The former is the more reliable of the two. Two stroke engines, though more powerful for their size than four stroke engines, will likely have more starting trouble in later years, and need somewhat more care in lubrication as oil and fuel are mixed. The speed of the two-cycle engine cannot be controlled as well as with the 4 cycle.

It will pay the owner well to become thoroughly familiar with the operation, maintenance and adjustment of his engine, for it is little things that make for a smoothly operating unit and helps offset more expensive repairs later.

Proper fuel and oil are two of the most important needs of any engine. Air cooled engines, because they run hotter, need consideration accordingly.

There are three grades of gasoline available to the general public.

1. Red gasoline, a premium fuel with an octane number of about 90 for higher compression cars.
2. Bronze or regular gasoline of about 85 octane for most cars and tractors.
3. Tractor gasoline of 60-70 octane. The 70 octane fuels contain a small amount of lead while those of the lower octane number usually do not contain any lead. (Octane number is a measure of the knocking tendency of the fuel.)

Leaded fuel has been associated with increased valve trouble in air-cooled engines. Therefore, the most satisfactory fuel will be one with as little lead as possible.

Within the past year or two, a new lubricant classification has appeared. Crankcase oils are now classified for 3 types of service as well as by S.A.E. number so as to indicate weight.

Service M.L. — for light duty service, moderate speeds, and no extremely low or high temperature operation.

Service M.M. — for moderate operating conditions, some high temperature, but no very low temperature operations. This oil corresponds to Premium oil in the older classification.

Service M.S. — for engines operating in either low temperatures, as in winter, or with much idling; or in very high temperatures.

Recent research work with oils and fuels for air cooled engines has shown very definitely that least combustion chamber deposits have occurred when a M.S. oil and non-leaded fuel was used. As to the proper weight of oil by S.A.E. number, the operator should consult the instruction book.

Equipment: The prospective buyer should see that the various attachments needed for any set of operations are well built and easily attached and detached, otherwise, much of their value is lost. Mowers probably merit more attention than some other attachments. There are three types.

The reel type mower will, of course, make the best job of cutting on a lawn which is mown regularly. However, they require more maintenance than other types. The reel and bed plate need to be adjusted for clearance and a level cut. Frequent and systematic lubrication is necessary. Sharpening is an operation which usually needs special equipment for a good job.

For an all-purpose mower, the rotary type is very popular. It will do a good job of mowing whether the grass is short or long or if weeds are to be cut. The operator must be careful, however, that it does not "scalp" the lawn if the ground is uneven. Sharpening of the mower blade is quickly and easily done on a power grinder. Care must be taken to keep the blade in balance, and to clean out the cut material which often collects in the blade housing. This type of mower is more dangerous than other types and also takes more power for its size than others.

The sickle bar mower is meant for cutting hay or tall weeds. It has no place on a lawn. The various parts of the cutter bar need a periodic inspection for worn parts and the knife requires frequent sharpening.

So far as all equipment is concerned, some general suggestions may be made, which, if carried out when the equipment

is laid up for the winter, will save much lost time the following spring.

1. Make a note of or tag all parts needing repair and order repairs as soon as possible as they may take considerable time to obtain. When buying new equipment, it should be obtained, if possible, from a company which carries a good stock of repairs close at hand.

2. Drain all fuel systems in the fall. Gum in fuel tanks and carburetors is very troublesome with present day gasolines if machines stand idle over long periods. Alcohol or acetone can be used to dissolve it if necessary.

3. Storage batteries should be taken to a safe place to prevent freezing and to be charged at intervals.

4. Rubber tires which are not to be used should be blocked up and preferably covered if outside.

5. Grease all bearings not to be changed.

6. All gasoline engines which are to stand for some time should have the crankcase drained while hot and fresh oil put in. This will help prevent rusting from sludge which may be present.

7. Last, but not least, the writer feels that far greater use could be made of one of the good rust preventatives on the market on polished surfaces of mowers and hand tools both before being stored for the winter, and to prevent rust if stored wet at night. Winnipeg soil, at least, is very bad for corrosion of iron.

Any maintenance programme is not complete without a coat of paint at intervals. The machine or tool looks better, it seems to work better, the operator has more respect for it, and it is easier to keep clean.

Some Interesting Facts About Nursery Stock

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Recently, a housewife purchased five evergreens from a man who was "working her street" in an unidentified truck, offering evergreens for sale at what appeared to be bargain prices. In spite of the fact they were lying on the truck bare-root and fully exposed to the sun, they were represented to her as a new type of Juniper grown by a well known nursery. A month later, when five bright green evergreens turned a dull brown, the twenty-five dollars paid did not appear to be such a bargain.

Better Business Bureaus conducted a 14 city study of mail order tulip bulbs advertised by a northern firm in the United States. Although the advertising offered 100 bulbs for $1.69, those received turned out to be bulblets. Test plantings were made by horticultural authorities. Of 1,000 bulblets planted, only 360 developed leaves. None produced blooms in the spring. Diameter, not circumference, is the important measure to watch in bulb advertisements.

An itinerant fake "tree doctor" frightened a homeowner into paying him ten dollars a tree to save them from dying. Treatment consisted of boring holes in the tree trunks and injecting "medicine." Before accepting the advice of the so-called tree doctor, consult a professional horticulturist.

NURSERY INDUSTRY

The present growth and development of the nursery industry, brought about by an increased public interest in and demand for nursery stock, unfortunately has been accompanied by the development of fly-by-night operators, firms of questionable reputation and integrity, and transient fakers who use gyp advertising and sales methods to foist inferior and, in many cases, worthless plants and horticultural services off on unsuspecting buyers.

In Canada, hundreds of people lose thousands of dollars yearly through the careless purchase of nursery stock and services from unscrupulous sellers.

It was Ruskin who said: "There is hardly anything in the world that some men can not make a little worse and sell a

little cheaper, and the people who consider price only, are such men's lawful prey."

And this applies also to the unscrupulous "nurseryman," some of whose activities have been cited here.

WISE BUYING INCREASES BUYING POWER

Most of us have only a limited number of dollars to spend on the things we want over and above the necessities of life. The net effect of careless buying of nursery stock and services from unscrupulous operators is to deny us altogether what we wanted or to force us to pay several times for what we buy. Wise buying increases our buying power and the productivity of our income.

The purpose of this article is to aid in the wise purchase of nursery stock and services and thus help increase our ability to acquire the things we want with the funds available to us.

ORDER CONTRACTS

When making purchases of nursery stock through an agent, an important thing to watch is the order contract. It is necessary to read all the terms of the sale to be fully conversant with the terms of the contract before signing. In the case of purchase through a catalogue, it is also important to read carefully before signing and returning the order contract.

All legitimate nursery companies have specific terms of sale which differ slightly according to the operating practices. Some companies require a deposit, and in such cases, the customer should make sure that the deposit goes to the correct source and that a proper receipt is given at the time the deposit is made. Sometimes, salesmen make many promises, which, of course, should all be recorded on each copy of the contract.

COST OF PRODUCING NURSERY STOCK

It is always possible to buy for less, but cheapness is certainly no guarantee of satisfaction. To produce first class nursery stock in a wide range of varieties frequently requires difficult propagation and much spraying, cultivation, transplanting, pruning and staking, over a period of many years. Nursery stock production is a long term proposition. As a general rule, flowering shrubs and most fruit trees are three years old. Ornamental and shade trees may run as high as five or six years of age, depending on the size and the rate of growth. Evergreens average from seven to ten years of age before they are sold by most nursery companies. The length

of time required to produce an evergreen of high quality together with the difficulty of propagation are the chief reasons for its higher price.

"Why is there a variation in price between different nursery companies?" is a question which is frequently asked by customers. There are reasons for this variation in price. Basically, there are three types of nursery companies, namely: catalogue, sales station, and sales agency. Each type of company has a different type of service to offer. Some may operate on a cash and carry self-serve basis; other firms may take the trouble to send a representative to visit the site, make suggestions with sketches for the planting, offer a guaranteed full replacement for a stated period, all of which affect the price.

CARE OF NURSERY STOCK

It is impossible for any nursery company to make its stock grow after it has been sold. The company can only give the proper instructions on the care of the stock and whether the stock grows or not is a matter entirely in the hands of the purchaser. Some companies, however, do offer replacement insurance of some kind.

It is essential that planting instructions be followed carefully keeping in mind that the stock purchased from the nursery company is a living thing that has just left the nursery, and the term nursery is used in its exact sense. There are many reasons why nursery stock dies; excessive exposure, dogs, cats, children, disease, insects, poor soil, lack of preparation, unfavorable weather conditions, etc., over which the nursery company has no control whatever.

A reputable nursery company offers transplanting instructions as part of their service, and it is also essential that these instructions should be followed exactly.

LANDSCAPE ARCHITECTURE

A real landscape architect is a person who has spent a great deal of time and study learning his profession, and it is a very exacting one. Landscape architects are the only people fully qualified to plan elaborate ornate gardens as well as to plan simple ones.

There are, however, many topnotch nurseries who supply a landscape service run by men who are not fully trained landscape architects in every sense of the word, but who have considerable talent as horticulturists enabling them to do a competent planting job for the average house or industry.

It is wise to investigate thoroughly before employing anyone claiming they have landscaping experience and ability.

The work that a landscape gardener or architect will do should not only last but satisfy for many years.

HORTICULTURAL ADVERTISING

Note in any advertisement, newspaper, magazine or mail whether when price is mentioned the size and age or the grade is stated. Beware of coined names and exaggerated claims as to the productivity of plants. When the common name is not well known the botanical name should also be specified.

YOUR INVESTMENT

It is important that an investment in nursery stock is worthwhile. Plant material well chosen for a special purpose is one of the few investments which do not depreciate. Its value increases with the years and a few dollars well spent in beautifying the home and the garden will not only bring enjoyment and beauty to the home, but will increase the value of the property tremendously.

If in doubt about the reliability of a seller, the records of the Better Business Bureau usually indicate whether or not the experience of other customers of the firm have been satisfactory. Enquiry may be made of the Better Business Bureau without charge or obligation. Better Business Bureaux are situated in most principal cities of Canada.

Care of African Violets in the Home

MRS. GWEN JACKSON
Winnipeg, Manitoba

The African Violet is the most rewarding house plant we can grow if we known when to stop, it's so easy to have "just one more." Today, the Violet holds undisputed title to first place on the list of popular house plants, they are really quite simple to care for, if you follow a few simple rules and a little common sense. Do not crowd your plants, a few well grown healthy plants are so much better than a mass of poor ones crowded too close.

Good light is absolutely essential, they love the winter sun, of course it should be shaded in the summer, in fact, conditions that suit you, do the same for your plants, growing them under fluorescent light is a great help.

They need good soil, rather coarse, a fine soil packs and does not allow for good root development. They do need food, and there are many good fertilizers on the market today, but don't overdo it, a regular time is better than hit and miss methods.

Watering is most important, warm water at all times please, I don't think it matters whether you water your plants top or bottom just so long as you don't overdo it, Violets just can't stand wet feet. If you have forgotten to water for a day or two, don't drown them, give a little at a time till they are moist again. There can be no given rule for watering as the temperature varies in each home, all they ask is to be kept comfortable, they love fresh air but dislike drafts.

A well-grown African Violet is a joy to everyone. The pleasure it gives, when given as a gift more than repays one for the trouble. There are so many lovely shades that it is difficult to pick the best, each and every one has an appeal all its own, doubles or singles, light or dark, frilly or plain, each one is tops in the African Violet lover's home.

WINNIPEG AFRICAN VIOLET SOCIETY

Any and all African Violet fanciers living in or near Winnipeg are welcome to the monthly meetings of this Society. Meetings are usually held the first Wednesday of each month, in Theatre "A", Government Bldgs., Osborne and Broadway. For confirmation of time and place, phone Mrs. Roy Munt, 40-4791, or Mrs. J. Mullin, 83-2751.

Let's Grow Indoors

by J. S. MULLAN
Winnipeg, Manitoba

Any plant — grown indoors or outdoors — is, to some extent, a barometer indicating the gardening potential of the individual who grew it. Just by looking at the individual plants in a person's garden one ought to be able to assess just how green is the thumb of that gardener. However, some plants are comparatively poor barometers, for example: almost anyone who starts off right in planting a tulip bulb will have a beautiful tulip next spring, the quality is already in the bulb that's planted. Sometimes, too, in outdoor gardening, Mother Nature has a way of taking things into her own hands and by providing the right or wrong amounts of rain, heat, etc., at the right or wrong time, make a chump gardener look like a champ; or vice versa. In indoor gardening, however, all factors are, or should be, under the control of the one who tends the plants and any good gardener will be revealed in the condition of his or her plants, and no chump will have good plants for very long. There are so many variables to contend with in indoor gardening that it is virtually impossible to guess correctly every time, just what to do under this or that circumstance. Since guesswork isn't good enough, it means that in growing plants indoors one either has to learn how or have an instinct for doing the right thing, and a good gardener is just that — one who knows what to do by study or by instinct.

As with outdoor plants, some specie of indoor plants are much more accurate indicators of gardening ability than others. Some, like cactus or ivy, are relatively insensitive; others, like orchids are so delicate that only a few can handle them. About the best all around barometer for duffer and experts alike is the Saintpanllia, more commonly called African Violets. Here we have a plant you can entrust to anyone, and within three months, you'll know whether they have what it takes to grow plants. Almost impossible to kill outright under normal home temperature, nevertheless it is capable of recording with revealing accuracy the goof who trusts to luck when gardening, or the person whose thumb is green all the way to his elbow. Being tough, the African Violet lets a fellow learn from his mistakes if he has sense enough to learn. It responds readily to good management. It can be manipulated, as with gladiolas or Dahlia, to grow this way or that way to suit the person growing it; it can face in one direction

only, or be as symmetrical all around as grandma's best dinner plate. It can sulk for years with not one bloom or it can bloom continuously for eighteen months or more. The leaves can shine as though they were waxed and polished, or they can look like the rag the old man keeps in the glove compartment of the car. And all of these factors are entirely up to the one who grows the plant.

Right about now, I'm sure almost every person reading this expects to have revealed the techniques of growing good African Violets. Sorry folks, that is not the purpose of this article. Elsewhere in this book and in last year's as well, are articles giving hints on how to grow Saintpanllia. These other articles will help the good gardener, because the good get better by learning from books such as this. Not being instructive, I hope to be stimulating — and here is the point.

The African Violet, being as it is an excellent item for indicating gardening ability, makes a good show item. We all love competitive shows. (Who ever heard of a horticultural society without a show?) For at least six months of each year, if we garden at all, it must be indoor gardening due to our long winter. Why not then a spring show of our winter indoor gardening activities featuring African Violets? Last year, the Winnipeg African Violet Society, a subsidiary of the Winnipeg Horticultural Society, felt that it could be done, and although the "violet" group had been in existence for only one year, the spring "Violets in Variety" show had over five hundred plants on exhibit in the T. Eaton Co. Annex, and attracted an estimated seven thousand spectators during its three-day run. The people who exhibited enjoyed it immensely. The general public, flower hungry at that time of year, lapped it up.

Now that we have proven it can be done, a spring flower show, in Winnipeg, we want everybody to climb on the bandwagon. We want more plants from more growers in more shows, until every garden club or horticultural society looks forward to their semi annual shows — the late summer show which will feature garden flowers, but include African Violets; and the spring show, featuring African Violets but including other items such as are available. Let's garden twelve months of the year and you'll spot the good gardeners, winter or summer, by the quality of the plants they grow!

P.S.—The author will be glad to answer any inquiries on shaping, etc., of Saintpanllia. The address is Roblin Park P.O., Manitoba.

Some Newer Fruit Varieties

by C. R. URE, Horticulturist, Fruit Crops
Dominion Experimental Farm, Morden, Man.

The word "newer" is relative in terms of the reader's knowledge or familiarity with fruit varieties. Any variety not previously encountered by a grower may be considered as a newer variety, or it may refer to varieties of recent origin and those which have just entered the local scene. Our discussion will center around the latter, and be confined to tree fruits only.

Apple and crabapple: The variety picture in crabapple has changed little in the last 15 years or more. Dolgo is still considered tops as a jelly crab and is truly ornamental besides. Bedford, Kerr and Osman are very good for jelly or as preserved crabapple. Four yellow colored varieties, Elsa, Magnus, Pioneer and Quality, are among the best for canning. Addition of a little red food coloring gives a most attractive product. In the applecrab class (defined as fruits of crabapple size, but with flesh texture and quality of an apple), Rescue, Kerr and Trail are superior. Rescue and Trail are well known and require no comment. Kerr, from the Experimental Farm, Morden, matures later than the others and has better storage ability, keeping to mid-winter. The tree appears to be wonderfully hardy and structurally strong. As already noted, the fruit has many uses, jelly, preserves and very acceptable as a fresh fruit.

Renown, introduced by the Experimental Farm, Indian Head, Sask., resembles Trail very closely in size and coloring, lacks somewhat in dessert quality of Trail and matures between Rescue and Trail. Its value is mainly as a dessert fruit to eat out of hand and as a substitute where Trail lacks sufficient hardiness. **Chestnut,** formerly Minn No. 240, was named in 1946 by the University of Minnesota. The fruits averaged around 2″ in diameter, resemble Trail in fruit shape, and coloring is suggestive of a very highly colored Trail. A firm, crisp, sweet, nut-like flavor is very pleasing from early September to the end of the year; a delightful small dessert apple. **Melbac** and **Echo** from the Glenorchie Nursery, Miami, Man., are newcomers to the applecrab class and are mentioned as trial subjects.

Many new apples have advanced to the trial stage in recent years, and several seem worthy of mention. We will start the list with Goodland, named by the Morden Station in February, 1955. Its durability is evident from the fact that selection occurred in 1925, and present trees have continued to thrive and be annually productive for 24 seasons. This full commercial sized apple is rated very good as fresh fruit or as sauce. It does lack the desired all red skin color, but generally carries sufficient red and blush to be attractive. Past performance justifies a trial. A selection listed as **Ottawa - 4189,** continues to be impressive at Morden from the standpoint of tree hardiness, productiveness and fruit size. Presently fruiting trees have been on the go since 1924, or for 31 years. The fruits measure up to 3 inches in diameter, Duchess shape, and are 75 percent colored with attractive dark red. They are rated fair to good as dessert or cooked, and store well to mid-winter.

Dr. Bill, from the Experimental Farm, Lethbridge, Alberta, has been fully dependable under Morden conditions. The medium tall, spreading, hardy tree is annually productive of well colored, medium to large fruits of early fall maturity. It has rated well in cooking tests but only fair as a dessert apple; keeps to near the end of December. A seedling of somewhat obscure background came from Mr. J. Luke, Rosthern, Sask., in 1945, and is presently referred to as **Lukes Seedling.** The trees have been abundantly hardy, vigorous and healthy. Very large, fairly attractive fruits are much like Manitoba Spy in general appearance. In sauce tests, it has rated excellent, and has a long storage life. Tree ruggedness and fruit quality mark this selection as worthy of wider trial. **Acheson,** a Delicious seedling, originated by J. H. Acheson, Edmonton, Alberta, around 1932, has been hardy, growthy, and productive. The uniformly yellowish-green apples with occasional blush are rather suggestive of Golden Delicious in flesh and flavor. It is rated fair to good as dessert, and good to very good as sauce; season early November to mid-winter.

Two apples of very recent origin have come out of Winnipeg, Manitoba. One is designated as **Drewry Seedling.** The original tree has been growing on the Drewry Limited property at North Main and Redwood Avenue for many years and fruiting abundantly. This medium to large apple carries fair color and is of very acceptable quality. Of still more recent origin is a Northern Spy seedling, grown by G. Plaxton, of Winnipeg, that exhibits considerable promise. The color is solid dark red and very attractive, and possessing a pleasing, aromatic flavor. It was awarded first prize as the best seedling apple in the 1955 Manitoba Provincial Fruit Show. Brooks

No. 14, George, Horace, Oriole are but a few of the many others under study at Morden. Comments on the foregoing will suffice for this time.

Plum: Plum introductions have been far less numerous in recent years than apple. Several are worthy of note, however. Two new varieties, **Chilcott** and **Manet,** were named in the spring of 1947 by the Northern Great Plains Field Station, Mandan, N.D. Both are open-pollinated seedlings of the native American plum. The fruits of both are large, red, roundish in outline, tend to be clingstone, and are of good quality for natives. Trees of Manet tend to be spreading with strong branches, hardy and productive, while Chilcott is more upright in habit. A selection known as **P. triflora A,** from Dr. F. L. Skinner, Dropmore, Manitoba, is a worthwhile plum. This medium tall, sturdy and hardy tree produces a large, uniformly red and attractive fruit with a freestone and moderately firm flesh. It has a very pleasing flavor. A seedling, **P.1. 200555,** selected at Morden in 1950, produces a delightful fruit to eat out of hand, and preserves well. This hardy form of Japanese plum yields fruit that measures up to 1¼ inches in diameter, nearly round in outline, dark red color under a dense bloom; flesh that is firm, juicy, freestone and with a mild, sweet, rich spicy flavor. Older varieties in this Japanese plum class includes **Ptitsin No. 5, No. 9,** and **No. 10** which are yellow fruited varieties, and the red fruited **Ivanovka, Ptitsin No. 12** and **Mandarin.** These are in some respects better adapted to prairie conditions than the indigenous native plums, and, in general, are proving very satisfactory. **Redglow** is a large, roundish plum named by the University of Minnesota in 1949. It is mid-season to late in maturity, but is a truly fine dessert plum that appears well adapted at Morden. **Algoma,** a sandcherry plum hybrid from the Central Experimental Farm, Ottawa, warrants trial if anyone is looking for something new in this class of fruit.

Cherries: Three new sour cherry are worthy of mention. **Dwarfrich** was released for general propagation in 1952 from the Cheyenne Horticultural Field Station, Cheyenne, Wyoming. It has the same parental background as the variety Coronation from Morden. This small, bushy plant produces fruit very similar in shape, color and flavor to the Early Richmond. Two recent introductions from the Minnesota Fruit Breeding Farm are Meteor and Northstar. **Meteor** is a combination of Montmorency, a true sour cherry, and the hardy Russian Shulianka type. The tree has been hardy at Morden and produces a large, light to medium red, somewhat elongated fruit of good quality. It ripens in late July to early August. **Northstar** is a morello type of sour or pie cherry. The tree is small of stature, has not been as hardy as Meteor, at Morden,

and produces at an earlier age than Meteor. Fruits are large to three-quarters of an inch, dark red in color and very good quality; season is mid to late July at Morden. Several selections from Morden of the Mongolian cherry, P. fruticosa, are in advanced stages of testing and will soon be released for general distribution. These P. fruticosa selection are dwarf, bushy in habit and should find a place as an ornamental as well as utilitarian in the production of very fine pie cherries.

These few comments are concluded with a note of caution. Varieties discussed here should be considered as trial material only, and not as immediate substitutes for varieties on the recommended list of fruits prepared by the Manitoba Horticultural Association. New growers are advised to make most of their initial selections from the recommended list.

DOLGA CRAB
(Courtesy of F. L. Skinner)

NATIVE PLUM IN BLOOM
(Courtesy of F. L. Skinner)

More Summer

by DR. W. R. LESLIE, Superintendent
Dominion Experimental Farm, Morden, Manitoba

The "Good Old Summertime" is a song teeming with general appeal. People welcome spring with its greenery and spicy fragrance escaping from growing things. Then again, when autumn glides in with falling leaves and southering wild birds, there is sadness that the last rose has faded and summer is almost gone.

Now comes pause to see how things can be improved. It has been observed that the prairie farmer, merely by surrounding it on the north and west sides with a generous shelterbelt planting, plus an extra outer row to serve as a snow-trap, can harvest benefits equivalent to moving his estate 300 miles south for the winter. Comfort, convenience and beauty result. Summer is the season of flowers and fruits. Let us extend it by starting it earlier and retaining it longer.

The call of the crow in mid-March is welcomed and then, classed as music. The first tender green leaves of spring are also particularly exhilarating as they mark the ushering in of a new season. Red Elder and native gooseberry are considered early awakeners. However, plant some Cherry Prinsepia and enjoy green shrubbery about one week earlier. Bloodroot, Prairie Anemones, and woodland Violets head the native flower parade. Siberian Squills and some other Oriental flowers precede them, often being in gay bloom before the snowdrifts have withered in the lee of the windbreak.

The small town property is planted to good advantage for summer luxuriance if choice of materials stress those herbaceous perennials which keep on keeping on with their blooming. A few examples are the little Viola, Johnny-Jump-Up; Iceland Poppy in moist coolish locations; Lythrums, particularly of the newer brightly hued varieties; Obedientplant or Physostegia, Caucasian Scabious, Shadow Valley Carnation, Osark Sundrops or Missouri Evening Primrose; Gaillardia or Blanketflower; Sea Lavender, Rosyveil Gypsophila and Pansies. All of these relatively tireless performers possess ample hardiness. Some are natives.

When mid-September comes, most flowers have called it a day and folded up. The average gardener declares summer to be spent and he is ready to submit to colorless and perfumeless borders. Certainly there is no need of only dreary scenery

in the borders for yet another month or six weeks. There are plants available to put on one of the most exciting floral displays of the whole season. It arises from Michaelmas Daisies or Autumn Asters and Chrysanthemums. These may be gallantly supported by Rosyveil Gypsophila, Shadow Valley Carnation, Cardinalflower, and some durable Phlox, Gaillardias, and Delphiniums. In the last genus a notable newcomer deserves enthusiam. It is the Pink Sensation variety. Rather subdued in stature, it has carried showy pink bloom every day from early July until late October.

In the period when summer is weakening, the following subjects play a goodly part in brightening the scene: Ghostplant Wormwood or Artemisia lactiflora; Pink Plumepoppy or Macleaya cordata; Red Sneezeweed or Helenium rubrum; Loddon Gold and Gold Greenheart, two double-flowered sunflowers; Newman, Herbstonne, and Sweet Coneflowers, being three Rudbeckias; Japanese Fleeceflower or Polygonum cuspidatum; and Azure Monkshood. They are performing persistently during September.

Garden Chrysanthemums are being introduced by the score. Pigmy Pink remains a pleasing early variety with its dense low mound of bright flowers. The two Morden introductions, Morden Gold and Morden Skyline, continue to be well rated. Many other highly prized varieties have come from Dr. F. L. Skinner, Dr. A. C. Hildreth, Prof. Glenn Viehmeyer, the University of Minnesota and other co-operators.

Autumn Asters, like unto Chrysanthemums, are worthy of a long article. Here but scant mention can be made. They are the most diverse and luxurious of the truly hardy late summer flowers. Among them are two impressively large, prosperous-looking varieties: Plenty, with lilac-blue ray florets and Janet McMullen, with pinkish effect. Harrington Pink remains the most truly pink of the 85 varieties on test. Unfortunately, it is late coming into the floral picture. Some of its seedlings, grown by H. F. Harp, are earlier but less purely clear-toned. Further effort may regain the glowing pink color.

The four Morden Aster introductions performed like big-leaguers again. Morden Purple and Morden Crimson belong to aristocracy. Plants are tall and generously productive of large intensely colored flowers. Morden Lavender, a lowly plant with pale blue flowers, and Sunup, a 3-foot plant with misty pinkish flowers, are more plebeian, being moderate in size of bloom but both are prodigal in production. As expected of commoners, they are endowed with robust constitution. Both were in bold array the last day of October.

In holding onto summer, recognition is happily paid to one woody subject, Dropmore Scarlet Trumpet Honeysuckle. That beautiful, hardy woody vine was in bloom from June until November. It is a valuable newcomer, another triumph from the inspired efforts of the Prairies' renowned Plant Wizard at Dropmore.

L. X. MARGARET JOHNSON
(Courtesy of F. L. Skinner)

Rodent Control in the Orchard

by C. R. URE, Horticulturist, Fruit Crops
Dominion Experimental Farm, Morden, Manitoba

Several rodents, notably rabbits, mice and pocket gophers, are a potential menace to fruit, shade and forest trees and to shrubbery in Manitoba. Comments at this time are concerned mainly with injury to fruit plants and how to avoid it.

The Jack Rabbit (White-tailed Jack or Prairie Hare) and to a lesser extent the Cottontail and Snowshoe rabbits feed heavily on new shoots and bark of fruits during winter months, especially when the snow is deep and natural food is difficult to obtain. Injury can be extremely severe (to young trees particularly) when rabbits are plentiful and permitted to roam unchecked. In the case of these pests the presence and extent of injury can be determined early, or at any time, by a careful check of the trees and steps taken to stop their feeding. The situation is generally quite different with field mice. Injury is usually done during the winter months, and when the snow lies deep around the tree trunks, as these little rodents feed on the bark of trunk and lower branches below the snow line. As a consequence, often the fact that injury has occurred or the extent of the damage is not known until the snow disappears in the spring. Trees which have been completely girdled, i.e. the bark eaten off all around the trunk and branches are doomed to eventual death on top unless repair grafting is performed in the spring shortly after the injury is observed. Damage caused by pocket gophers is different again and equally as insidious as that by mice. This rodent burrows and remains underground. It feeds upon the roots and other underground plant parts. Serious injury is frequently done to young trees. Pocket gophers do not hibernate but remain active and feed throughout the year. When the ground becomes frozen and prevents burrowing, it lives on stored food, or foods uncovered during previous burrowing operations.

Control Measures: A variety of measures are employed in the control of these pests. Seldom is one method alone entirely satisfactory for all conditions, in which case two or more may be required. A number of measures have been tried at Morden. A few of the successful ones will be outlined for each of the three types of pest.

Rabbits: Mr. Rabbit, especially the Jack, which remains largely in open fields, is active and can range over a considerable area, making them the more difficult to control of the 3 kinds of rodents. An orchard comprising a few trees or more can best be protected by surrounding with a 4 to 6-foot chicken wire fence. Rabbits enter only when snow drifts high and permit passage over the top. Shooting, trapping and snaring are all helpful. They may be used to supplement the control given by a good rabbit proof fence, or to give partial control when employed separately, or in conjunction with poisoning. The Cottontail Rabbit or Nebraska, and to a lesser extent the Snowshoe or Varying Hare, make and follow fairly well defined paths during part of their wanderings. Wire snares or No. 1 steel jaw traps set in these runways help to reduce the rabbit population. Various types of wooden traps have been used with reasonably good success. In larger orchards, or orchards surrounded by natural bush, a good hunting dog will do much to destroy the young rabbits, and keep populations down.

Various repellents or deterrents have been tried with limited success. A successful repellent must keep the rabbits away, and yet, not injure the bark on which it is placed. Many chemicals, otherwise satisfactory for deterring rabbits, are harmful to the trees. One must exercise caution. One of the best materials tested is resin mixed with a solvent, either alcohol or ethanol have proved satisfactory. Two pounds of resin dissolved in one quart of denatured ethyl alcohol, then painted or sprayed onto the trunk and lower branches in late fall, and when the bark is dry, will give protection unless other food is very scarce. Ethanol has not been tested at Morden but is reported as a satisfactory solvent. Often a few prunings left on the ground in late fall will deter rabbits from the standing trees, probably due to the ease of feeding on the cut branches. Where only a few trees are present, burlap, heavy building paper, or fine chicken wire wrapped around the trunk in late fall protects the lower region, but when snow is deep rabbits feed above the protected area. Last mentioned will be use of poisoned baits. These are one of the most effective measures against the Jack. A great many kinds of poisoned baits have been formulated from time to time. One developed by E. Criddle, of Treesbank, Manitoba, consists of dried, green leaves and fine branches of brome grass, timothy or Alfalfa, treated with a strychnine gopher poison. Take sufficient hot water (1 quart) to thoroughly moisten or saturate 1 gallon of the grass or alfalfa and add 2 oz. of commercial gopher poison and 2-3 oz. of salt. Mix thoroughly with the grass or Alfalfa carrier. Small piles of this bait are placed around the trees whenever injury begins or rabbit tracks are observed. Leaves

of cabbage, Brussels sprouts and head lettuce, or pieces of carrot, apple, etc., thoroughly moistened with the strychnine gopher poison is reportedly very effective.

Usually, two or more of the foregoing suggested measures, depending upon circumstances, will have to be employed to completely reduce tree injury by rabbits.

Mice: To the urban dweller with up to a few trees, mice are frequently the chief cause of injury. Of the several species present, the field or meadow mouse is the most destructive. They tend to inhabit grassy areas but in the fall, when the grass dries up, they often migrate considerable distances to winter cover and fresh food. This suggests one of the first control measures, i.e. to remove any accumulation of leaves, tall grass or other refuse in close proximity to tree trunks. An area of 12-18 inches in radius around the trunk kept black and free of weeds and grass is helpful. A second protectant is to surround or wrap the lower trunk with wire screen or other metal protectors, heavy building paper or strips of board to height of anticipated snow cover, and bank these up 4-6 inches with soil. A coarse grade of cinders or sharp crushed rock spread on the ground around the trunk and mounded up 3 to 4 inches acts as a fair deterrent. Tramping the snow around the tree trunk during a thaw generally produces a hard barrier and keeps the mice away.

One of the most effective controls at Morden has been use of poisoned bait. In the fall, probably early to mid-October, when the grass begins to dry and the mice start looking for winter quarters, bait stations are scattered throughout the orchard, especially at ends of rows or other points of nearest contact to surrounding fields. Wheat is treated with strychnine gopher poison according to instructions on the container. A good tablespoonful of treated grain is placed in an old milk bottle, a tin can such as a tomato can with the open end partly closed, or in a regular bait box. The latter is made of lumber to measure approximately 12" inches long by 5" wide and 3" or 4" deep, and with both ends open. Place the bait box, or milk bottle and tin can laid on their side, near trees and shrubs or end of rows, and cover with straw or leaves held down with a little soil. Mice looking for cover invariably find the bait station, and shortly thereafter are laid to rest. If mice are plentiful, a second lot of poisoned grain should be placed in the containers just before freeze up or heavy snowfall. Visit the bait stations periodically to see that they do not become exposed to birds feeding. These simple control measures, especially if used in combination, generally keep mouse damage to a minimum.

Pocket Gophers: Three methods of control have worked very successfully — trapping, use of poisonous gases, and poisoned baits. During their burrowing for food the pocket gopher pushes up mounds of soil periodically. Mounds of fresh soil indicate areas of recent activity and the area in which to set traps. A little prodding with a sharp stick soon locates the runway leading to the main tunnel. Dig a small opening into the runway, set in a No. 1 steel jaw trap, cover the opening with boards or other rigid material and cover this with soil to exclude all light. Examine the trap periodically, at least each morning. Secondly, use of Cyanogas A-dust in accordance with the instructions in the container has effectively rid the orchards at Morden of this pest. Sometimes, a rubber hose is attached to the car exhaust pipe. Lastly, poisoned baits are reportedly effective. Dust freshly cut ½-inch cubes of potato or carrots with a mixture of ⅛ oz. of sodium bicarbonate (baking soda), ⅛ powdered strychnia alkaloid and 1/80 oz. of saccharin. Do not use too much poison on the cubes as this will cause the gophers to vomit, and thus not be killed. Only a very light dusting (a few crystals) is required. Place cubes well in runways and cover entrance up completely.

Good hunting!

DAYLILY
(Hemerocallis)
(Courtesy of F. S. Skinner)

Planning a Garden Around the Home

(A new homeowner's problem)

by ROBERT J. HARRIS
Winnipeg, Manitoba

The majority of folks once they settle themselves in a house of their own turn their activities to improving the grounds around the home. To gain that objective and without going into too much detail the following is provided to aid those who may be at a loss to know just where to begin. In order to keep this a practical project we are bearing in mind that it shouldn't run into a great deal of money.

We all realize, of course, that to keep the cost down one must be prepared to do the larger proportion if not all the work himself. It makes it a good deal easier and far more pleasant when both the man and lady of the house are equally interested. I consider myself one of the fortunate gardeners as my wife is every bit as enthusiastic and has contributed equally toward developing our 50′ x 120′ lot from a yard to its present classification of a garden in four years.

You may be lucky and not have to contend with quack grass, if you don't, so much the better. We had a bumper crop and spent our first summer trying to get rid of the pesky stuff. Dig, shake and hand pick the roots may be slow and tiring but it is the most effective and the results will be a source of satisfaction later. Your soil may not be of the best — generally a little too much clay. This may be rectified by digging in a good percentage of sand, manure, and peat moss. Once you have the garden started save the grass clippings, leaves, vegetable tops, etc., and make yourself a compost pile with the aid of "Bacto" to decompose. Choose an obscure spot in the garden, possibly near the vegetable patch for this compost heap.

Now to begin your planning. Some of you may be able to visualize just what you would like and where you want to place the various plants, trees, shrubs, etc. However, the best way for us all is to make a layout first on paper. It does not take too much time to outline the lot on a piece of brown wrapping paper large enough to scale it down ¼″ to the foot.

In this way, you can spot exactly where the buildings are and from there plan to the best advantage just what you require. Visit some of your neighbors and friends who have established gardens, you learn by observation and a particular part of another garden may fit into the plans of your own.

For the average homeowner we must allow for walks, lawn, flower-beds, vegetable patch and possibly a garage if you haven't one, also a spot at the bottom of the garden for garbage disposal. Figure your walks for the most convenient way to get to the garage, back gate and garbage cans (would suggest you keep these out of view from the house), also take into consideration you want a minimum of snow shovelling in the winter (at the moment we have 29″ of snow and it's only Nov., so you can see the importance if you wish to eliminate work). You might not have a garage at present, but allow for one in your plans. Even without a car they are handy for keeping the garden tools, supplies and all kinds of odds and ends not to mention it's a handy place to work in the Spring and Fall, potting plants for the house, preparing Dahlias for winter and numerous other chores. Unless prepared for in advance, you may have to make drastic changes at a latter date which could spoil the entire appearance of the garden; whereas if allowed for in your plans, you may only have to cut down the size of the cucumber or vegetable marrow patch, think how much easier that is.

Keep your flower beds mainly to the outer edges of the lot with a background of shrubbery and make the lawn in the centre area. Above all, do not cut small flower beds in the centre of the lawn as it makes a garden look broken up, resulting in the loss of a spacious appearance. In a 50′ x 120′ garden, I wouldn't suggest any more than 2 or 3 large trees. To gain privacy and for background and color, depend on shrubs that when matured are from 2′ or 3′ high to 8′ or 10′ high, keep in mind if we want to grow a variety of subjects we must have considerable sunshine as well as some shade. If a rock garden is desired it will show to best advantage by placing it in a corner of the garden. It could also be used to divide the vegetables from the flowers, have it sloping toward the house to gain the full benefit of its beauty with the vegetable patch behind it. Keep in mind that you will have to do a certain amount of grooming, therefore have some flat rocks that lend themselves to stepping stones placed strategically around in order to get at your plants and pull weeds. A little extra thought will have to be taken with this project for if you are not careful the rockery will look like a plumb pudding (rocks dotted all over the place, that's bad). Your vegetable garden, of course, will vary in size depending on the space you

can spare and the number of stomachs you have to fill. If your garden is small and you like an abundance of flowers, you will have to abandon growing vegetables such as potatoes, cabbage, cauliflower, squash, etc., they take up considerable space. Limit yourself to peas, beans, carrots, beets, a few tomato plants, spinach, lettuce, etc., that decision is up to you.

Every gardener loves color, therefore, arrange your lawn and flowers to be seen from the window of the house. Keep the vegetables toward the back of the garden. I do not infer that a good vegetable plot is not a pleasing sight, on the contrary, it is, but once you start to harvest, it does look a bit bedraggled and a view from the window of petunias, phlox, snap dragons, zinnias, etc., is an eye-pleasing sight for all.

Our walk from the back door to the garage and on toward the back gate is composed of flag stones. An easy way to make these is to cut various shapes out of the grass to a depth of 2″ leaving about 4″ of grass in between. Have the shapes average around 3 square feet, if you get them too small you will have too much trimming and the grass will tend to cover them entirely. Pour your concrete mix into these shapes, being careful not to slop the mortar onto the grass, then smooth it over, leaving it mounded with a convex surface; this will allow the stones to drain and dry off faster after a rain or watering. The following day, the stones are set to walk on as if they had always been there.

Most gardens today have a patio or whatever you wish to call the outdoor living room. It can be a private spot in the garden handy to the house for convenience when serving refreshments. There are numerous methods of developing this much used location with either a trellis or low rubble stone walls contributing to both privacy and ornamentation. Again, the most economical way to make a foundation for your chairs and tables, etc., is to construct flagstones as mentioned above. You can utilize a solid cement slab if you wish or even go in for tiling it but this runs into more money. A flooring of any of the above types is necessary as some of your furniture could dig holes in the lawn. Don't be too eager to surround this spot entirely with shade that cannot be removed at will, because in this part of the country there are many summer days cool enough for us to appreciate the warmth of the sun.

You will find when you come to planting your shrubs and trees, etc., we have, in Manitoba, an excellent variety to choose from that are both hardy and decorative. The following is a list that will help you out in selecting your requirements. Most of the nurseries around Winnipeg can supply these specimens and the nurserymen are only too happy to give you the

necessary information as to location and method of planting. The extension service is also very co-operative in helping you with these problems.

TREES — Pyramidal Cedar, Mugho Pine, PFitzer Juniper, Spruce, Blue Spruce, Silver Maple, Birch, Russian Olive, Ash, Mountain Ash, Willow, Native Elm, Chinese Elm, Crabapples and Plums.

SHRUBS — Pigmy Caragana, Dogwood, Variegated Dogwood, Cotoneaster, Honeysuckles, Mock Orange, Potentilla, Double Flowering Plum, Prairie Almond, Snowball, Red Berry Elder, Lilac, Purple Leaf Plum and Spireas. There are, of course, many others but these should be ample to choose from for a start. The following two pamphlets put out by "The Department of Agriculture and Immigration, Winnipeg, Man., give you excellent information on varieties of flowers.

Publication No. 275 Annual Flowers.

Publication No. 257 (revised) Recommended Perennials for Manitoba.

Keep this in mind when starting out on this garden project. Don't try to accomplish your program in one season (it can't be done), work on a portion at a time, developing it to the point where you can see it progress. By doing this, it will not be drudgery and it will give you encouragement. For the first couple of summers, some of the chores will be a little strenuous but by going at it sensibly, the work is a pleasure which is what we are striving for. By the end of the second season, your yard begins to develop to the stage when you can call it a garden. In it you are going to spend many healthy and enjoyable hours, you are going to meet a great many friendly people among gardeners both here and in other parts of the country. You will find yourself doing as my wife and I . . . planning little improvements for the next season and during the winter months looking forward to the next horticulture meeting. If you are not already a member, you better join the Winnipeg Horticulture Society. By listening to experts on entertaining horticultural subjects and also discussing your problems with other members you gain a world of gardening knowledge, and besides, it's fun.

LAWN STORY

I mow the grass to keep it low
What madness keeps me doing it?
A vicious circle, I'll admit,
What madness keeps me doing it?
—Hal Chadwick

New Chemicals for the Gardener

by W. B. FOX
Chipman Chemicals Limited

While many of the older chemicals are highly effective for the control of various pests, some of the newer chemicals do a better job generally, and are more effective upon some of the more difficult to control pests.

For weed control, a number of herbicides are now available that will control weeds without affecting a number of garden crops. IPC and CIPC are proving useful for weed and grass control in strawberries, asparagus and onions. 2,4-D and MCP can also be used for broadleaved weed control in strawberries and asparagus while they are in the dormant stage. Low rates of CMU are also being used in some areas in vegetable crops for weed control. Another useful herbicide, SES (Crag No. 1), can be sprayed on the soil, where it slowly breaks down, becoming effective against small and newly emerging weeds without affecting the crops. Alanap is useful for weed control in cucumbers and other vine crops. Crops such as corn may be sprayed with 2,4-D or MCP and peas with MCP for weed control.

For quack grass control, such chemicals as TCA, Dalapon and maleic hydrazide are useful.

A number of new chemicals have recently appeared for the control of various vegetable diseases. Damping-off can be prevented by treating the seed with Spergon, Phygon, captan, or thiram. A number of fungicides such as zineb, nabam, thiram, captan, in addition to the older fungicides such as fixed copper and sulphur, are effective against diseases that attack the leaves and other aerial parts of plants.

The new antibiotics, containing streptomycin, are also useful against a number of bacterial diseases such as fireblight, black leg of potatoes and various other bacterial blights and wilts.

A number of the newer insecticides: Aldrin, dieldrin, endrin, heptachlor, are particularly effective against soil insects such as cutworms, root maggots and wireworms. Methoxychlor controls, as does DDT, a number of chewing insects while

malathion is effective against aphids and other sucking insects. There are also combinations of insecticides and fungicides such as malathion, methoxychlor and captan which provide a wide degree of protection against insects and diseases. Older insecticides such as rotenone and pyrethrum should not be overlooked since they are also effective upon a wide variety of insects.

A very important requirement for successful gardening is proper plant nutrition. Fertilizers are now available containing various proportions of essential elements to meet individual requirements. Also, the trace elements which are generally necessary are included in some of the newer fertilizers.

All of the above mentioned chemicals are safe to handle and leave no harmful residues on edible portions of plants when applied according to directions and precautions.

Insect Notes — 1955

by H. P. RICHARDSON, Entomologist in Fruit Crops
Dominion Experimental Farm, Morden, Man.

This past season may be noted, at least in some areas, for the very heavy infestations of spider mite, tarnished plant bugs and aphids on our fruit trees and ornamentals. The season, dry and warm in April and May, moist in June and hot and dry in July and August, was conducive to their development. Consequently, where no control measures were taken for mites, many a raspberry patch and bed of ornamentals were very unthrifty at a time when they should have been providing us with good quality fruit and an abundance of bloom and green foliage. The tarnished plant bug took a heavier toll than usual this year in blasted flower buds and malformed strawberries, and aphids heavily infested many of our prize fruits and ornamentals reducing them to a sickly state with gnarled leaves covered with offensive honeydew.

The depredations of these pests do not have to be, as a few minutes with a sprayer at the proper time and a few cents worth of the proper insecticide will control mites. One or two applications of DDT or Malathion applied when the growth starts in the spring and later if necessary will effectively control the tarnished plant bug, and an application or two of Malathion will rid your plants of aphids. The added beauty and fruitfulness of your plants freed of pests will amply repay you for your time and expense of controlling them.

A note of warning, however, should be added. Like other garden practices insect control is effective only if the operations involved are well planned and executed. Following is a few tips to assist the uninitiated.

1. **Know your pest** — Your insect control bulletins, "Fruit Insects and Their Control," "Insects on Ornamental Trees, Shrubs and Flowers and Their Control," available through the Department of Agriculture, Extension Service, Winnipeg, Manitoba, the local Agricultural Representatives, University of Manitoba, Winnipeg, or from the Dominion Experimental Farm, Morden, describe the pests likely to occur and when to spray. Specimens should be submitted when writing for information on the control of any particular pest.

2. **Be prepared** — Have your insecticides on hand and your sprayer or duster ready before the growing season starts.

3. **Read Directions on Insecticide Containers** — Different chemical companies make different formulations. You will

need double the quantity of a 25% formulation to get the same amount of insecticide as in a 50% formulation.

4. **Be thorough** when spraying. Good coverage of the plant will mean the difference between good control and poor control.

5. **Be careful!** Insecticides are poisons and must be treated accordingly. Wash off any insecticide that comes in contact with skin or clothing.

6. **Do not smoke** while handling or applying insecticides.

7. **Wash sprayer thoroughly** when finished spraying as insecticides are corrosive.

Growing Spring Bulbs Indoors & Outside

by W. J. EMERSON
Gardener to the Lieutenant Governor of Manitoba

After the show of flowers in the Fall comes a long period when there is a dirth of bloom. It is to fill this period, from after Christmas to late spring, that the flowering bulbs come into their own, first in the home and then outdoors in the Spring.

In dealing with spring bulbs, the first requisite is good bulbs. It does not pay to get cheap bulbs. A few cents more for top size bulbs and you will be well rewarded. Also, do not buy bulbs which have been exposed in a window of a shop or in an over heated spot in a store. Heat is one of the worst enemies of spring bulbs. They must be kept cool and dry when they are out of the soil, as they quickly deteriorate when exposed to heat. Obtain your bulbs as soon as they come on the market in the Fall, which is around the middle of September. If you are not ready to plant, you can keep them in the bottom of your refrigerator or in a cool spot in the basement, opening the bags so the air can circulate around them.

First, I will deal with indoor growing. The following do best indoors: Hyacinths, Tulips, Daffodils, Paper Whites and Crocus. Time to plant—anytime after October 1st.

Any good potting soil is suitable for growing bulbs. The pots can be of any size, but I prefer a 6-inch Azalia pot, as it gives a nice sized plant and is easy to handle. Place a piece of crock over the drainage hole, a handful of coarse gravel over this, then fill a little better than half full with potting soil. For Tulips, I place seven bulbs in a 6-inch pot, sometimes less if the bulbs are large, six around the rim of the pot, with the flat side of the Tulip bulb toward the side of the pot. This is so the leaves will hang down over the side of the pot and help hide it. I place one bulb in the center. The top of the bulbs should be just below the rim of the pot. Fill the pot to the top with soil, giving a couple of sharp raps on the table to firm the soil.

Daffodils are handled the same way as Tulips, only squeeze as many bulbs as you can get into the pot.

Hyacinths are planted three bulbs to a 6-inch pot, or if the bulbs are small, four. They are also planted with their tops just at soil level. Hyacinths can also be grown in water. There is a special glass on the market for this purpose known as a Hyacinth glass. The glass is filled with water to the narrow part of the glass and the bulb placed in the cup part on top. It must be checked frequently to keep the water to this level, although the water must not touch the bottom of the bulb. The roots will soon make their way into the water. The bulb must be kept in a cool, dark place until the glass is full of roots and several inches of growth is made on top when it can be brought into the light to flower.

After the bulbs have been potted in soil, they must be given a thorough soaking with water, either placed in a tub to soak up water, or well watered with a can.

Now the whole success in flowering bulbs comes in the next operation — a long, cool spell in which to make roots. I find a cold frame is suitable, or a pit can be dug in the garden. Place the pots in the frame or pit, cover with 1 inch of sand, fill with a couple of feet of dry leaves; cover the cold frame with glass, leaving open a little for ventilation; cover the pit with boards and more leaves; leave until the weather gets down below zero for some length of time — I find about the middle of December, as a rule, is late enough to leave them out. When the pots are brought in, place them on the basement floor in the coolest spot. If the bulbs are frozen when you open the pit or frame, do not worry, place them near the catch basin and cover with 18 inches or more of snow and leave until completely thawed out, then place in a cool dark spot, keeping them moist. When 4 inches or more top growth has been made, they may be brought up to the light, avoiding strong sunlight until they green up. If several varieties are used, some will make faster growth than others, so will give you flowers over a long period. But don't forget, roots before tops make the flowers.

Paper Whites cannot be handled as above, as they cannot stand any frost. They do best if the bulbs are kept in the bottom of the refrigerator and planted in dishes full of pebbles and water, placed in a cool, dark spot to make roots, checking water now and then. When 5 or 6 inches growth or buds start to show, they should be brought to the light. If bulbs are taken from the refrigerator and planted in succession, Paper Whites can be in flower from before Christmas until late in the Spring.

Crocus are handled similarly to Tulips. The bulbs are placed in pans (pots about 2 inches deep) rather than pots, planted about 1 inch apart. They must be kept cool all during

their growing period. Most rooms are too warm for successful flowering.

OUTDOOR PLANTING

Tulips, Daffodils and Hyacinths can be planted outdoors, although the latter two do not do well unless in a sheltered location, near the house foundation where the soil is kept warm by the cellar heat. They must be planted early in the Fall so as to make roots for the winter. Plant the bulbs 5 to 6 inches deep and 4 to 5 inches apart. I like to place them on a layer of sand for drainage. The soil should be returned to the hole, firmed down and if dry, well watered. If the planting is in an exposed position, some cover will be needed to keep the snow on them; leaves, branches or Christmas trees are good. The covering should be removed when growth is seen in the Spring. Spent flowers should be cut, and if space is required for annuals, bulbs lifted with leaves and all intact and hilled in some other part of the garden. Daffodils will do better if left alone. When the leaves have dried up, the bulbs should be dug, dried, cleaned and stored in the basement until the following Fall. They deteriorate in time and new ones should be planted.

There are some bulbs which, once planted, should be left. They will increase year by year and are quite hardy on the prairies. They may be obtained from some of our prairie nurserymen. These bulbs are attractive on the rock garden, at the base of trees and edges of shrubbery, and other spots where they will get some Spring sun and sufficient light to ripen them for another year. The first to flower in the Spring is Scillia Siberica, a small blue flower, like lily-of-the-valley, beautiful in clumps or clusters here and there. Others are Tulip Tarda, Tulip Kolpakowskyana, Tulip Urmiensio, Tulip species, also Fritellaria, Karadghenus, F. Pollidiflora, and F. Pudic. Another small flowering bulb is Muscari Polyanthum and Muscari Azureum. These bulbs take well to naturalization.

Weed Killers Are Plant Killers

by GEORGE FRIESEN
Weed Research Assistant, University of Manitoba

Since 1945, several new weed-killing (herbicidal) compounds have become available to the public. The active ingredients of these new herbicides are growth regulators or hormones. The principal growth regulators used as herbicides are 2,4-D, 2,4,5-T and MCP. These materials are advertised and sold as weed killers, but remember, they cannot distinguish between weeds and desirable plants.

These new potent herbicides are very effective in controlling many weeds in lawns, pastures, roadsides, and field crops, **but,** unless handled properly, they can also damage or kill desirable plants.

A characteristic of these growth regulators is that very small amounts may injure or kill sensitive plants. Plants very sensitive to 2,4-D and allied chemicals include: sunflowers, sugar beets, rapeseed, tomatoes, beans, cauliflower, cabbage, Manitoba maple, and many ornamental trees, shrubs and flowers.

The following are recommendations for using 2,4-D and related herbicides safely.

1. Do not spray around homes or gardens when there is any wind. Stop spraying in fields when wind velocity exceeds 10 miles per hour. Do not spray near fields of sensitive crops unless there is no wind or unless it is blowing away from the sensitive crop. Evening and early morning, usually, are ideal for applying herbicides.
2. Use only low pressure (30 pounds per square inch) at the spray nozzles. With hand sprayers use only enough pressure to produce a spray from the nozzle.
3. Operate spray booms and hand sprayer nozzles close to the vegetation being sprayed.
4. Around homes, gardens, and in fields where sensitive crops are growing near by, use only the non-volatile forms (amines and sodium salts) of 2,4-D, 2,4,5-T, and MCP. The esters are for use only in large grain fields away from sensitive crops or plants.

5. Do not use the same spray equipment for weed sprays and insect or fungus sprays. It is difficult to remove 2,4-D and similar herbicides well enough to permit use of the equipment for insect or fungus-control spraying on sensitive plants.

6. Don't store weed killers with fertilizers, insecticides, fungicides, compost soil, flats, frames, nor in a head house or potting shed. They may become contaminated with the weed killer. Avoid spilling and leakage of chemicals.

7. Don't go into the house wearing your "2,4-D" clothes, and do not store spraying equipment or herbicidal containers in the basement. The vapors may injure houseplants.

8. Keep containers tightly closed when chemicals are not in use.

REMEMBER — WEED KILLERS ARE PLANT KILLERS — USE WITH CARE

The First Agricultural College West of the Great Lakes

by PROFESSOR E. H. LANGE
University of Manitoba

A GOLDEN JUBILEE

In 1906, the first Agricultural College west of the Great Lakes opened its doors to students in the City of Winnipeg. An Act, passed in 1903 by the Manitoba Legislature, provided "for the Agricultural College of Manitoba, to give instructions in theory and practice of agriculture . . . and such English and mathematics as may be required for success on a farm." It placed the management of the College under a Board of Directors, four appointed by the Government, one of which would ex-officio be the Minister of Agriculture, four by the farmers of the province and two by the University.

The first college announcement stated that the "kind of students desired for the new college were energetic young men who intended to go to the farm when they had completed the two-year course and demonstrated by good works that they had profited by attendance." Accepting this challenge the first young man to appear for registration was T. J. Harrison, Carman, Manitoba, and behind him followed W. R. Club, John C. Noble, W. W. Thompson, Robert Milne, R. D. Colquette, E. Ward Jones, Thon A. McLellan, Walter Crawford, Arthur Mathewson and many others, 85 in all.

The first staff of the college consisted of the following: W. J. Black, B.S.A., Principal and Professor of Animal Husbandry; W. J. Carson, B.S.A., Professor of Dairy Husbandry; W. J. Rutherford, B.S.A., Professor of Agriculture; F. Torrance, B.A., D.V.S., Lecturer in Veterinary Science; F. W. Broderick, B.S.A., Lecturer in Horticulture and Forestry; G. A. Sproule, B.A., Lecturer in English and Mathematics; A. R. Gregg, B.A.S., Lecturer in Mechanics.

The course in Agriculture, as first outlined, was a two-year course but at the conclusion of the first two years, provision was made for those who had completed the first two years successfully with a grade of 65% to proceed to the B.S.A. degree by completing three additional years.

Thus, in 1911, the first agricultural degrees were awarded west of the Great Lakes. Degrees in Home Economics were granted in 1918. The Manitoba Agricultural College was early affiliated with the University of Manitoba and, in 1924, became the Faculty of Agriculture and Home Economics.

Thus, 1956 is the Golden Jubilee Year of this institution.

To commemorate this important event in Western Agriculture — Faculty and Graduates have been busily planning a Golden Jubilee celebration. There will be "Open House" on the agricultural campus through the year. A special reunion is planned for June 21 and 22, 1956. A complete canvass of all graduates is under way. All are invited to attend and to bring their wives and families. By all indications, the old dormitories will be filled to capacity and extra accommodation will have to be provided. A Golden Jubilee Year Book will contain a history of the institution and will attempt to evaluate the achievements of the faculty and its graduates. It will also list all the degree and diploma graduates, their addresses and occupations.

Plans to establish a fitting and useful memorial are nearing completion. It is hoped that an Agricultural Hall will be furnished and equipped by the graduates. They will also spearhead a special drive to enlist agricultural industry in providing research equipment for a new Agricultural Research Building.

Most important of all will be the strengthening of bonds of friendship in an agricultural family now 50 years old — a rededication to serve Agriculture and humanity to the best of their ability.

Wintering Rose Bushes — Western Provinces

by D. W. HYNDMAN
Edmonton, Alberta

The wintering of hybrid tea rose bushes in the West, where we are liable to get as low as thirty below zero for a couple of nights, has long been a problem to the would-be rose grower. Many methods of wintering them has been tried out with varied results — mostly failures.

I have been growing roses for over thirty-five years in Edmonton, and for several years have judged the rose classes at various shows. I grow about 150 to 175 bushes of the better ones.

WATERING IN METHOD — This method of wintering has been used in Edmonton, where only a few bushes are to be taken care of. The success of any method depends largely on the way the bushes are taken care of during the latter part of August and September. Water should be withheld to give the bushes a chance to ripen off their wood instead of throwing up new shoots for late fall bloom. Such new growth will not carry over in winter storage and frequently is the cause of spoilage no matter what method of storage is employed. In late October, when it starts to freeze hard at night, soak the ground thoroughly around each bush by laying the hose near the bush and just let the water trickle away as fast as the ground can absorb it to a depth of one foot. Let this freeze each night and protect during the day to keep from thawing out until the final hard freezeup. Earth may be added a little at a time every few days until the mound is about a foot high, well over the graft union. The ground for covering should not be taken from about the bushes, but from elsewhere in the garden or flower beds. Spruce boughs or discarded Christmas trees may be placed over this for additional protection. Do not uncover them too early in Spring, about May first or when good growth sets in. Many bushes are lost by uncovering too early. Some growers use fruit hampers such as are used in shipping cucumbers and Brussels sprouts to the wholesale, knock out the bottom and invert over the bush filling it with dry earth. Apple boxes or butter boxes could be used. The important thing to be remembered is to ripen the wood and thoroughly wet the soil before freezing them in and applying the winter covering. Some varieties are much hardier

than others and more adaptable to this method. Nearly all the Brownell hardy roses are guaranteed to withstand at least fifteen degrees below zero. I have several of these and my Pink Princess has survived for at least seven years at thirty below and one night at 52 below. Even these sub-zero are given the freeze-in method.

Pit Method of Wintering — The pit should be about thirty inches deep and three or four feet square. I use damp peat moss for packing the roots of the bushes which should be standing up, working it well in around the roots and well above the graft union to avoid air pockets.

The bushes should be carefully dug about the middle of October, cut back to twelve or fourteen inches and all the leaves removed with scissors and without exposing the roots to the sun or wind, packed immediately in peat moss, shavings or even sawdust. A piece of pipe should be inserted for ventilation. Sprinkle the tops with about a half pound dry sulphur or "MALATHION" spray. Use three teaspoons of Malathion to two gallons of water, adding a little soap to make it adhere to the tops. It gets all the insects — me too — it's terrible smelling stuff but the best I have found.

Your garden stakes could be arranged on the west or northwest side of the pit as a snow fence to create a drift of snow over the pit which, after all, is the best covering. When the bushes are all packed in the pit, cover with three layers of tar paper, putting some lath or similar material in between each layer to make a dead air space. Cover with pieces or boards and pile the earth high over the pit and make a trench around it to shed spring runoff. Do not open the pit too early in the Spring, the middle of April or May first is about right most years. When removed from pit, the bushes should be heeled in, in a trench in the garden for about ten days, by which time you will find little new white rootlets, they may then be planted out where they are to grow. The soil should be very firm, damp but not wet.

During the past five years, I have stored my rosebushes in a large roothouse of a friend of mine. Under this storage method, we packed the bushes in wooden boxes, size about twenty by thirty inches and ten inches deep, using damp peat moss about three inches deep in the bottom and starting at one end with a layer of peat moss, the bushes are packed very tight with moss between and well above the graft union, bushes standing up in box with woody growth exposed, may be cut back to twelve or fourteen inches and well sprinkled with dry sulphur or sprayed with "MALATHION." Boxes of this size will store about fifty bushes if packed tight. Cut hand

holds at each end of box for easy handling. Much of this great interest in rose growing in Edmonton must be credited to Mr. Walter Wilson, of the Paramount Theatre, by his seasonal talks each week over the radio telling us what to buy and how to plant, grow, and show wonderful roses.

Two years ago, I partitioned off a cold room in our basement about eight by eight, including a window for ventilation. Each year, I usually grow fifteen or twenty bushes in tubs made from the larger size nail kegs cut in two. These bushes are grown in the backyard or vegetable garden and when in bloom are placed in the border or rose bed where there is little or no bloom. I tried out a few of these tubs in my new cold room last winter, and they came through in perfect condition, so I am wintering all of my bushes for the first time in my own cold room storage, temperature about thirty-five degrees as all our vegetables and apples are stored there, but I would prefer about twenty-seven degrees for roses only.

A survey made last spring of the stores who handled rose bushes showed that over thirty thousand bushes were sold in Edmonton, one store sold five hundred Peace in less than ten days, all No. 1 bushes.

Let's All Grow Muskmelons

by V. W. NUTTALL, Horticulturist, Vegetable Crops
Dominion Experimental Farm, Morden, Manitoba

The muskmelon is one of the most delightful crops to grow in the prairie home garden and can be considered the "dessert" of all garden vegetables. Its characteristic aroma in the early fall months sweetens the garden air and tempts the palate more than any vegetable and many kinds of fruit. It is said that the peak of quality in a peach is sampled only when it is freshly picked from the tree and eaten directly. This saying holds equally true with regard to choice quality in the muskmelon, vine-ripened in your own back garden.

Because the muskmelon is native to south Asiatic countries where the climate is hot and dry during a great portion of the long growing season, growing it in the short season gardens on the prairies sometimes presents a little bit of a challenge to the ardent gardeners but, on the other hand, is very gratifying when accomplished successfully. Two factors which account for the relative success of muskmelon growing are use of proper cultural practices and selection of the varieties recommended for a particular area. Home gardeners and commercial growers alike are greatly indebted to the plant breeder and to the research worker who, with combined co-operative efforts have introduced muskmelons adapted to many parts of the North American continent since the first types were introduced, supposedly by Columbus, in the late fifteenth century.

Results from recent cultural studies conducted at the Morden Experimental Farm are indicative that muskmelons can be grown with comparatively little difficulty by the prairie home gardener provided growers adhere to a few specific cultural practices. Because of the short growing season on the prairies and because muskmelon plants are frequently destroyed by fall frosts just prior to fruit ripening, it has been found necessary and practicable to lengthen the season for this crop by artificial means. First, the plants are started indoors in late April or early May. Secondly, they are transplanted to the garden plot and grown under some form of plant protector (preferably the paper hotent or glass cloche) for a period of two to three weeks. This practice stimulates the plants into a stage of development where they begin to flower and set fruit in late June or in early July. This practice also gives more assurance that a portion of the crop will ripen before frost.

A wide assortment of improvised or commercially manufactured plant containers suitable for starting muskmelons either in the house or in a standard type cold frame consist of pint size tin cans provided with drainage holes, lower halves of milk cartons, paper cups, clay plant pots, peat seedling pots or even pieces of sod. The essential factor to bear in mind when starting plants indoors is to avoid having the plants advance beyond the second rough-leaf stage of development before transplanting them to the garden plot. Plants further advanced are established with considerably more difficulty, usually because of root injury, and because muskmelons are comparatively slow to produce new root systems. Hence, muskmelon transplants are best handled with least possible disturbance to the ball of soil held together by the roots. It is for this reason that all containers such as pots and cans should have second preference for starting plants in, for plants are best removed from such containers in the transplanting operation, and this results in root disturbance.

Two precautions easily observed in growing plants indoors are to prevent damping-off by provision of proper ventilation during the day and to prevent chilling of plants during the night. If a cold frame is used, a 200-watt bulb on an extension cord is useful to place in the frame to maintain a suitable night temperature.

The location of the muskmelon patch in the garden is an important factor also in growing the crop successfully. An area sheltered from winds on all sides is preferable. If no natural shelter exists to provide the required "hot spot," the use of tall growing crops such as corn and sunflowers around the area gives satisfactory wind protection. The "shelters" should be planted in an arrangement to avoid excessive shading of the muskmelon plants from the sun.

With regard to moisture requirements, muskmelons thrive in well drained locations. If the season is abnormally dry, one or two thorough waterings by sprinklers or other means is recommended. Observations made at the Morden Farm show that maturity is hastened and quality is improved if the application of water is discontinued after the fruits have developed to three-quarters size. Over the years, research workers have shown that flavor and sugar content of muskmelon develops to the greatest degree when conditions are hot and dry just preceding fruit ripening.

Further to obtaining choice quality, fruits should be left to ripen fully on the vines. Maturity is indicated by what is commonly referred to as the "fullslip" stage, a point at which

the fruit breaks freely and cleanly from the stem when slightly disturbed by either the hand or the foot. Fruits left in the garden beyond this stage tend to become mushy in texture, insipid in flavor and generally to deteriorate very rapidly. Good quality can be preserved fairly satisfactorily for several days if the fruits picked at their peak of maturity are placed in plastic bags and stored in the refrigerator.

Farnorth is the most dependable variety of muskmelon for the prairie home garden and its quality is equal to that of any other variety grown locally or imported. Farnorth can be depended upon to produce some mature fruit even when seeded directly in the garden in late May or early June. Grown in this manner, its fruits are small (less than one pound). Tests made at the Morden Farm show that fruit size and total yields of this variety can be more than doubled by starting the plants indoors and when shifted to the garden, growing them under plant protectors for two to three weeks. Granite State, Golden Champlain and Honey Gold are other varieties suitable for this area when given the extra early start indoors.

The writer has intentionally neglected to present a detailed account of muskmelon culture by plant protectors and recommends that the reader refer to "Plant Protectors for your Garden Crops," an article which is found in the 1955 publication of the Winnipeg Flower Garden.

Sweet Pea*

The sweet pea is a specialist's flower. It is a member of the legume family in which belong the garden peas, beans, alfalfa, and clovers. Except for the bean, these plants are more or less cool season in their needs.

The sweet pea specialist emphasizes the importance of good soil preparation for successful culture of this flower. Good drainage is essential. Dig the soil deeply, and add a generous amount of well-rotted manure or compost into the soil at digging time. Use commercial fertilizers with compost or manure. Apply these in drills on either side of the seed row at the time of sowing the seed, and at the same depth as the seeds.

Sow seed in early spring as soon as the ground can be prepared. Fall sowing also is satisfactory. Also you can start seed a month to 6 weeks before setting out plants by sowing in 3 to 4-inch pots. Set pot-grown seedlings out after danger of hard frosts are past. Avoid growing pot-grown seedlings in high temperatures as they may grow too weak and spindly.

Some sweet pea seeds are difficult to germinate. Cut off the seed coat opposite the growing point with a sharp knife. This will aid germination. Some growers place their seeds ½ inch deep in moist sand and transplant them in a week's time to flower pots and set out the small plants.

If the seeds are sown directly outdoors, sow seed in drills about ½ inch deep. Some growers advocate deeper sowing, but no advantage is seen in this. Sow seed thinly, and later thin so the plants are about 6 inches apart. Wider spacing is recommended for the grower who is interested in securing exhibition blooms.

Sweet peas are a climbing plant and need some sort of support. Place the supports at the time the seed is sown or plants set. A wire netting support seems to be most popular. Others build a lath frame with tacks or nails set at 6-inch intervals along top and bottom. Weave stout string up and down over these nails for support for the vines. A third method is to use branchy twigs and place them near the plants. Or, as is practiced in England, sow seed in circular fashion and place the twigs in tepee fashion to support the plants.

Mulching with straw, or strawy manure, is highly recommended for keeping the soil cool around the base of sweet pea vines. Straw also helps conserve moisture and keep down weeds.

Water sweet peas thoroughly at 5 to 7-day intervals. Cultivate ground after irrigation or rains if it is not mulched.

Pick blooms often so seed does not form. Cut some of the blooms with a little foliage attached to aid in inducing more branching of the plants.

Pests of Sweet Peas

Aphids, or Plant Lice, are tiny, usually greenish, soft-bodied sucking insects, found on the undersides of the leaves of sweet pea plants. They are readily controlled with thorough dusting or spraying with an all-purpose garden insecticide.

Red Spider Mite is a tiny mite not readily seen with the naked eye. It attacks the vines during hot, dry weather. It causes light green and yellowish mottling on the foliage. Spraying leaves with water helps keep down this pest. Dusting or spraying with an insecticide containing Malathion will give an effective kill.

Mildew is a whitish powder appearing on the foliage. This can be controlled at the same time you are dusting or spraying for insects by using an all-purpose insecticide and fungicide.

* * *

Peony*

Peonies are very hardy and consequently a good perennial for our western plains. Most popular are the double-flowered varieties. A number of other types exist such as singles, anemone, and Japanese.

Peonies prefer a soil rich in organic matter and well drained. They are frequently used as a foundation plant, in the flower border and bedded by themselves. In plantings, space them from 3 to 4 feet apart. Full sun is required by the plants if maximum bloom is to be realized. They should not be placed where they will receive competition from trees and shrubs.

The early part of September is the best time to transplant peonies. Roots may be secured from reliable nurserymen; or old clumps may be dug up, divided and reset. Divisions should have from 3 to 5 strong eyes or buds.

Soil should be well prepared and enriched with well rotted manure and commercial plant food in advance of planting. Prepare a planting hole for each root, deep enough

and wide enough without cramping roots. Set roots so that the eyes or buds are no more than 2 to 3 inches below the ground. If the roots are set or settle deeper than this, the plants may fail to bloom. After setting the roots, work good fertile topsoil in well around the roots.

Prevent the plants from blooming the first year by pinching off all forming flower buds. Heavy blooming should be realized the third or fourth season after planting.

Peonies are heavy feeders. Top dressing with a commercial plant food again in the spring will help maintain good soil fertility in established plantings. Heavy waterings during prolonged dry spells are also helpful.

Flower stems of peonies often bear from 4 to 7 buds. For best quality blooms, it is best to nip off all side buds and allow all of the nourishment to go to the main or terminal bud. For exhibition blooms, this is an important practice in order to secure maximum size and good quality.

Peony blooms may be cut just as the outer petals begin to open out. Cut blooms with a sharp knife. Do not cut too far into the foliage, since the more foliage removed, the less vigorous the plant will become. Likewise, if the blooms are left on the plant for landscape effect, the forming seed pods should be removed before they develop very much. Place cut blooms in cool water in a cool place and leave there several hours before using in the home.

Peony blossoms become heavy when they begin to show size. The use of some type of fence or support will help keep blossoms from falling because of their weight.

Peony Pests

Ants. Ants do no harm to peonies in themselves, although they can be carriers of Botrytis disease. Ants go after the sticky substance secreted by the buds on the peony plants. Control by dusting ant hills with chlordane.

Botrytis Blight. This blight causes irregular brownish-black spots on the leaves and stems and may cause blackening and dying back of young shoots. Buds may fail to open because of this disease. Control Botrytis, if it is present, by cutting off tops in the fall and burning them. Rake and burn all debris around the peony plants. Next spring, just as new shoots appear above the ground, drench with 1:1000 corrosive sublimate solution (1 oz. to 7½ gals. water) or with weak Bordeaux solution.

Hundreds of varieties exist. A few favorites are:

White — Early, Festiva Maxima; mid, Alice Harding; late, Marie Lemoine.

Pink—Early, Madame Calot; mid, Jeanne D'Arc; late, Sarah Bernhardt.

Red—Early, Longfellow; mid, Felix Crousse; late, Victor Hugo.

Failure to bloom may be due to one or more of a number of factors: unsuitable site, too much shade, competition from tree or shrub roots, too deeply planted, late frosts killing only flower buds, overcrowding or competition from weeds or grass, disease of roots or tops, too small a division — 3 to 5 eyes recommended.

* * *

Iris *

Many species and types of iris exist, but most popular are the Bearded Iris. They range in height from 1 to 5 feet.

Especially important to success of bearded iris culture is full sun and a well drained soil. Good surface drainage is also important as iris will rot if water stands on the beds any length of time.

Iris thrive well on poorer soils but benefit from good culture. Prepare the ground well in advance of planting. Work the soil deeply as well as include an application of commercial plant food. They do well on sandy loam and also on moderately well drained heavy clay.

Iris are often planted in beds by themselves. However, they add considerably to the beauty of mixed flower beds if planted in fairly good-sized clumps. They are frequently planted about the foundation of the house.

Benefit from summer planting. Transplanting about a month after they have bloomed seems to be the ideal time. This may be in late July or early August. Later transplanting does not allow for strong rooting before chilled soil in autumn arrests root increase.

Iris are propagated or increased by division of the rhizomes. If old plantings are dug up, cut up the old clump and separate by using a sharp knife. Use the outer rhizomes and discard the inner portions. Plant only the strongest and most vigorous rhizomes.

Dig the planting hole and prepare a mound in the center. Set the rhizome on the top of the mound and spread the roots around the mound of earth. Place the rhizomes horizontally. In some areas, planting the rhizome so that it is at the surface of the ground is recommended. This is helpful if there is a drainage problem or the soil is heavy. Slightly deeper planting, up to 2 inches in depth, is suggested for the lighter, sandier soils. Cut the top back to about 6 inches of ground level at transplanting time. After the soil has been firmed in well around the newly-set plants, give them a generous watering.

Iris may be planted in such a way as to present a clump effect. Allow from 4 to 6 or more single roots per clump and set them about 8 inches apart. Space individual clumps at least 3 feet apart.

If there is danger of heaving due to alternate freezing and thawing during winter months, mulch the plantings with clean straw or marsh grass. This may be unnecessary if the plantings receive generous snow cover during winter months.

Cultivate the iris beds as often as is necessary to discourage weeds. Topdress established plantings each spring with a good commercial plant food.

To maintain a young, vigorous planting, it is well to replant the beds every 3 to 5 years.

* * *

Daylily *

The daylily or hemerocallis is a herbaceous perennial known for some time in pioneer gardens as the lemon lily. It is not a true lily, although it resembles the trumpet shaped flower of the regal lily. The plant is well named since each individual flower lasts but a day. Some plants will produce as many as 50 or more flower buds so the season of bloom may extend over a considerable period.

Generally, the flowers open up in the early morning and begin to close up and fade in late afternoon. A few varieties like Patricia, Dauntless, Sovereign, and Sonny, retain their opened flowers into evening. It is a regular practice of hemerocallis enthusiasts to pick off faded flowers each morning to prevent seed production and thus maintain more vigorous plants.

Yellow and orange colors predominated in the varieties first introduced. Plant breeders, and there are many of them,

have worked with the hemerocallis and have extended the range of colors into pink, red, copper, bronze, and pastel shades and variegated colors. The present goal is to develop a pure white daylily.

It is difficult to know why the daylily is not more popular. It is absolutely hardy and is a very dependable herbaceous perennial. When more gardeners become aware of the availability of the new forms of daylily, this flower is bound to become more popular.

A good reason for greater popularity of this flower is its ease of culture. Its long blooming season is another point in its favor. By a careful selection of a number of varieties with blooming dates covering the range of the growing season, you can have bloom from hemerocallis from June to September.

Daylilies are increased by dividing or separating established plants. Dig and reset established plants every 3 or 4 years in order to maintain a vigorous planting for many years. Heights vary from small varieties only 12 inches high to tall varieties reaching 6 feet. This makes them useful for bordering as well as background. Spacing of 2 to 3 feet apart each way is advised for average varieties. Set plants the same depth as in their former location.

Plant hemerocallis in full sun or partial shade. They bloom earlier if they receive full sun. Planted in dense shade, the amount of bloom is reduced considerably. Plant hemerocallis in any good garden soil but add chemical plant food and humus. Some gardeners claim the daylily is drought tolerant, but favorable moisture conditions make the plants grow best.

Few plant pests bother the hemerocallis. There is little need for staking this plant because of its habit of growth. Make new plantings either in early spring or fall. They can be used successfully with other plants in the perennial flower border.

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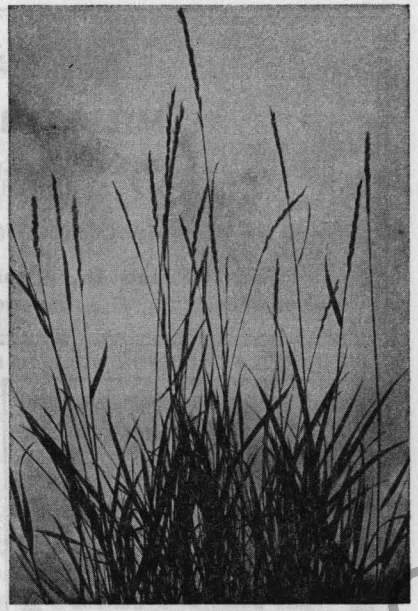
* We are indebted for much of the preceding information to Leonard Yager, Extension Horticulturist, Montana State College, Bozeman, Montana.

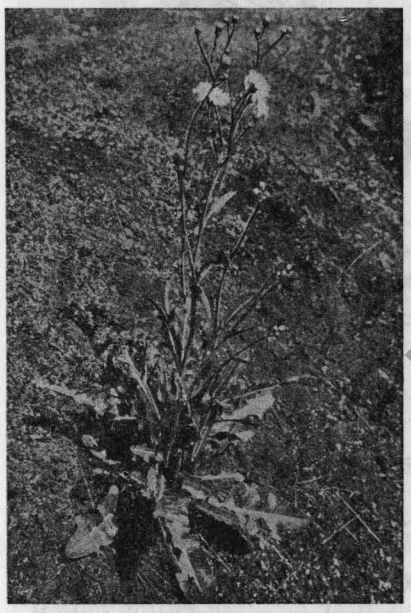
Provincial Fruit and Honey Show and Dauphin Horticultural Society Show at Dauphin, Man. — Aug. 30-31, 1956

Fruit entries to ..... F. J. Weir, Legislative Bldg., Winnipeg
Honey entries to ..... D. R. Robertson, Legislative Bldg., Winnipeg
Dauphin Show secretary-treasurer ..... A. J. Schmiedl, Dauphin

Barnyard Grass



Couch Grass



Sow Thistle

Barnyard Grass

Annual. Prostrate habit. Sometimes mistaken for Crab grass. Appears in late June. Control: clean cultivation.

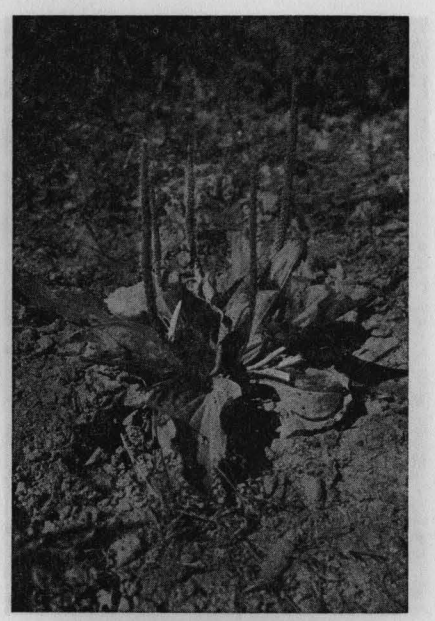
Couch Grass

Perennial. Multiplies both by seed and root stocks. White roots with sharp tips spread over wide area. Control: black summerfallow.

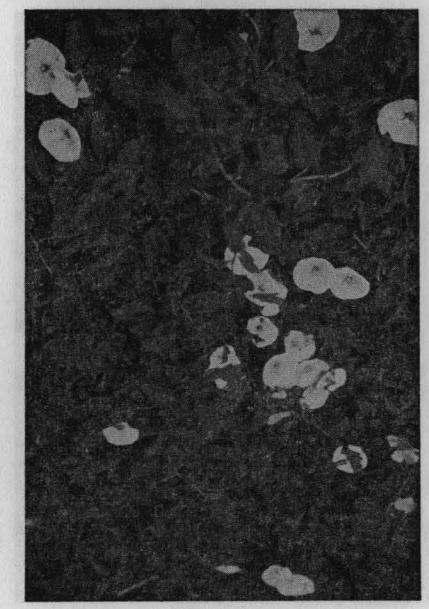
Sow Thistle

Perennial. Fall. Spreads by seed and creeping roots. Showy yellow bloom. Control: black summerfallow.

Dandelion



Broad-Leaved Plantain



Field Bindweed

Dandelion

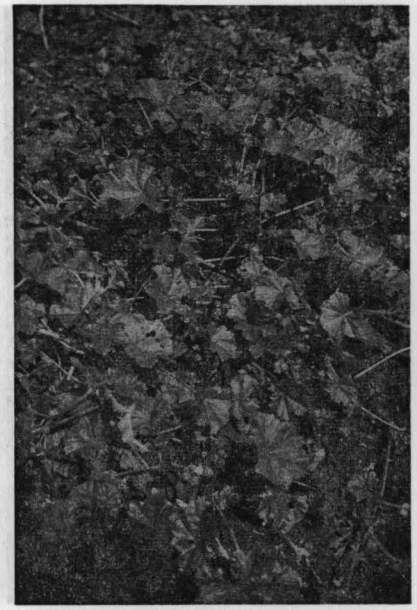
Perennial. Multiplies by seed. One of the best known and commonest weeds. 2,4-D carefully applied gives complete control.

Broad-Leaved Plantain

Perennial. Stemless. Large leaves, "Roe-tail" seed stalks. Chiefly troublesome in lawns. Control: 2,4-D carefully applied.

Field Bindweed

Similar to, but distinct from Wild Morning Glory. Perennial. Spreads by deep creeping roots. Control: clean cultivation.



Round-Leaved Mallow

Round-Leaved Mallow

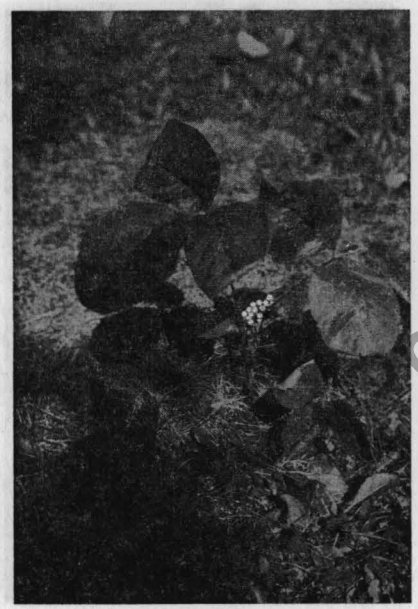
Annual or biennial. More or less prostrate. Spreads by seed. Control: clean cultivation, prevent plant setting seed.

Poison Ivy

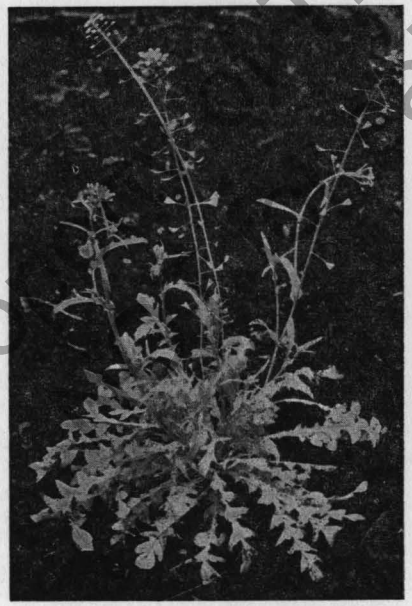
Creeping shrubs. Glossy green leaves divided in three. Mostly in woodland. Poisonous, causes serious skin trouble. Control: spraying with weed killers. This plant should be familiar to all.

Shepherd's Purse

Annual. Small rosette-type plant. Deeply serrated leaves. Control: cultivation to prevent seed ripening.



Poison Ivy



Shepherd's Purse

Stinkweed

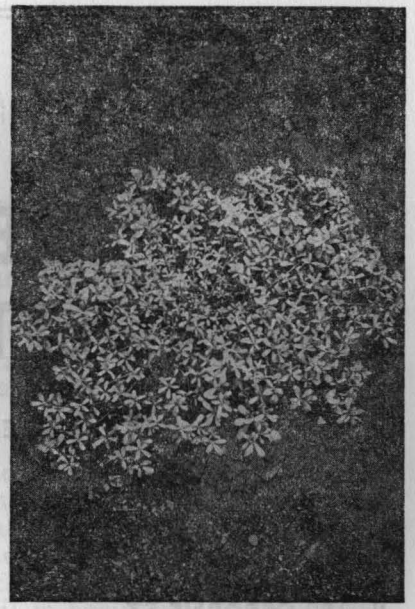
Annual. Same family as above. Heavier and taller plant. Control: cultivation, prevent seed from ripening.

Purslane

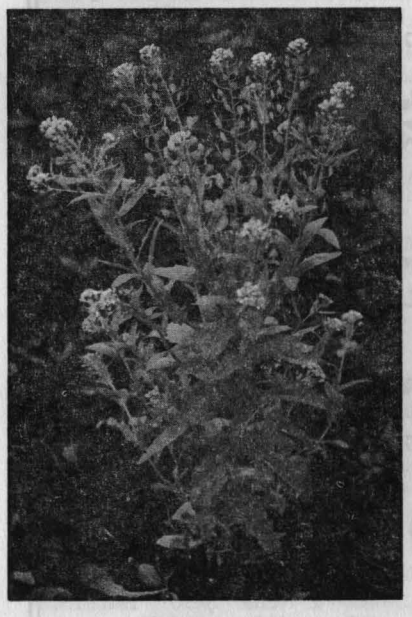
Annual. Fleshy, prostrate, spreads by seeds. Difficult to control. Pulled plants left on ground will root again. Control: clean cultivation.

Pigweed

"Red Root" annual. Tall, quick growing weed. Spreads by seeds. Control: prevent reseeding, clean cultivation.



Purslane



Stinkweed

Pigweed

POPULAR PLANTS

by W. SCOTT and H. MacDONALD

Notes from Assiniboine Park

Assiniboine Park, owned and operated by the Winnipeg Board of Parks and Recreation, is situated on the south bank of the Assiniboine River, approximately four miles from downtown Winnipeg. One of the features of this park is an informal flower garden where many varieties of flowers, trees and shrubs are grown.

This garden, about three acres in size, is situated on the north side of the park. The main entrance has a small rock garden and pool upon which stands the famous "Boy with the Boot," which attracts much attention. Close to the river and surrounded on all sides by woodland, it is well sheltered from the elements. However, the soil is heavy and high in lime, the latter conducive to Chlorosis. Careful application of fertilizers and water is necessary for success with some of the more temperamental species. Mixed grouping of perennials, annuals, and shrubs gives this garden colour from early spring to late fall. It is also an example of the smaller border varieties in the front of the beds giving way to the taller varieties in the background.

The garden is open to the public from mid-June, about the time bedding out is completed, till the first frost. During the summer, a large number of people enjoy its flowers, take pictures and notes of varieties for guidance in their own flower beds. In this article we hope to describe the flowers and shrubs that appeal most to the general public. The garden staff have a sure popularity poll of flowers.

Roses, of course, are just about tops. There are over six hundred bushes of many varieties in the garden. Peace, the well-known hybrid tea rose, commands attention, it has just about everything . . . colour, size, vigor and excellent foliage, and is one of the stronger varieties. Talisman, Betty Uprichard, and Michelle Mieland are other well-thought-of hybrid tea roses. A red floribunda, Independence, rates high as it is a strong grower and its mass of double blooms appear all summer long. Else Poulsen, a single pink, produces more bloom than any other. Other floribundas, Alain, a deep crim-

son semi double, Orange Triumph, is not orange coloured but is the hardiest and a good free bloomer. The most popular is Fashion, a semi double, apricot coloured. Of the hardy bush roses Hansa is the favourite. All roses, of course, are not hardy in this country and some must have protection during the winter and early spring months.

Among perennials, Delphiniums top the list, our stock is Pacific Giants. The seedlings are flowered in nursery rows and rigidly culled before planting in the garden. The flower stalks are individually staked and tied as they are very tender, and unless watched very closely, will be broken even with a light wind, but with proper attention they will grow to a height of about nine feet and always give a wonderful show. Ligularia Speciosa is a close second and a fitting companion for Delphinium. Its six-foot golden spires of bloom and large elephant ear leaves are indeed showy. Another of the tall perennials is the Plume Poppy or Bocconia, whose mass of flowering spikes rise to a height of ten to twelve feet and make a unique background. One of the most popular perennials in the garden is, of course, Morden Pink, with its pink flowering spikes in July and August. Lillies always command attention and the ones most enquired about are Miss Preston's Lily Hybrid, Grace Marshall, and Dr. Skinner's Dunkirk. These, grown in clumps with their brilliant hues of orange and red, are a beautiful sight in the summer. Some of the newer Centifolium Hybrids are also becoming quite popular. The "Bee Balm," Betonica Grandiflora and Saponaria Ocymoides, both mat plants, are very useful and have masses of colour in season. One of the most attractive perennials in the garden and the one wrongly named by most people is Statice, or Sea Lavender. Similar to Gypsophila "Baby's Breath" in growth, it is hardier and longer lasting, and with its mauve coloured flowers it is a wonderful filler for cut flowers and is everlasting.

Dahlias are planted in groups of from two to six plants. The cutting or intermediate type of dahlia is most colorful. Ambassador Van Kleffens, orange yellow; Gerry Hoek, a lovely pink water lily type; Arabeske, lemon yellow about thirty inches high; and the vivid scarlet Shirly Westwell are favourites. The big dahlias have their admirers too — Pride of Holland, Kenluff, Michigan White, Great Lakes, Fernies Triumph and Croydon Masterpiece draw much of the public's attention during the season.

Gladioli, which were generally alloted to the cut flower garden, have now found their place in the informal garden. Planted in clumps of from fifty to a hundred, they are placed

behind lower growing plants so that when not in bloom their foliage is hidden. Some old favourite glads rate high here: Salmons Glory, Spic and Span, Orange Gold, Red Charm, and The Rajah, are very popular. Two miniatures that always catch the eye, Bo Peep and White Lace.

The annuals naturally steal the colour show. Approximately forty five thousand plants are bedded out in early June, ranging from the tall Castor Beans to the dwarf Ageratums. Placed among the perennials and shrubs, they give a continual show of colour all summer long. A selected race of Dwarf Morning Glory, grown from seed saved each year, is one of the most enquired about plants in the garden. Similar to Petunias in habit, the plant has deep blue flowers with contrasting cream throats, from early June till killing frost. There are many varieties of Snapdragons on the market, but one which we grow from Suttons, in England, never fails to attract attention. The name, Scarlet and Gold, describes the colours perfectly, a dwarf intermediate, free bloomer, and an excellent grower it makes a good border or secondary bedder in the garden. The Nierembergia, or Cup Flower, is another popular dwarf-type annual. Less than ten inches high, with pale blue flowers, it is much like the Buttercup in size. Of the many types of Verbenas, the split leaf or Bipinnatifida, commands the most attention, a soft blue in colour and a mass of bloom all season, it is a very strong grower. The seed may be saved from year to year. The Salvias, of course, are grown by everybody and are quite popular. We have our own stock of Blaze of Fire and select the seed from the healthier plants each year. A brilliant red in colour and about eighteen inches high, it makes a wonderful show in the summer. Another Salvia which is often mistaken for Veronica is Salvia Farinacea. A later bloomer than the red variety, it has blue spikes much like the Veronica's and grows about three feet high. Of the taller annuals, the Zinnias are the most colourful. Two named varieties which are the favourites in this garden are Blaze, an orange, and Floradale Scarlet, a red. Both are cactus types and make good cut flowers. The Spider Plant, or Cleome, is another popular tall annual excellent as a background. The two varieties we grow are Helen Campbell, white and Pink Queen, pink.

Shrubs and trees, of course, have their place in any garden. They may act as a background giving protection to the smaller plants or to emphasize certain features of the garden and also are used to separate various areas. The Potentilla Fruticosa and Dahurica, with their white or yellow blooms, are always an attraction for the visitors. An old-time favourite is the Highbush Cranberry with its ornamental foliage,

flowers and fruits. A mature plant of Japanese Lilac twenty feet high never fails to claim attention when in bloom. The majestic Weeping Birches (often miscalled Weeping Willow) and Blue Spruces nearing maturity, are the most striking trees in the garden. Some fine White Cedars also get their share of admiration. At the west entrance sprawls an old tree of Pinus Mugho, a source of wonder to the passerby. The ornamental fruit trees are always popular and the Dolgo Crab, last season heavily laden with fruit, topped the list.

Nearly all the plant material here can be grown in the home garden, and the garden, besides being a park beauty spot serves as a reference for the home gardener, where the behaviour of the various ornamental plants on display can be noted.

Conquering Cutworms

by the MASTER GARDENER

What gardener has not had the sad experience of strolling into the garden one fine morning only to find his newly transplanted cabbage, broccoli, tomatoes or annual flowers nipped off at the surface of the ground? The nocturnally operating villain is one of the many varieties of cutworms.

Until the advent of Chlordane or Chlordane-Lethane preparations, the only protection was the laborious placing of paper collars or bands around the stems of the plants or putting out dangerous poison bait. Now, all you need to do is to mix one tablespoon of this new preparation with each gallon of transplanting water or better yet, starter solution, made up with water-soluble Instant Vigoro. Set the plant, cover the roots with soil, then pour a cupful of the solution around the plant so that it will permeate the entire soil depth from surface to the roots. When the cutworm crawls up through the soil and comes in contact with the Chlordane-treated area, his hours are numbered.

These procedures are just plain good insurance with a very low premium rate! Cutworms are found everywhere; be different and don't let them be found in your garden!

DOWN TO EARTH

It's a back-breaking job in the garden,
When there's nothing but digging to do.
It may not be fun, but the job must be done
With a spirit courageous and true.
It's a back-breaking job, but it's healthy,
When bent on a gardening spree;
Yet it does seem a shame, that my wife makes the claim—
There's no weed in the garden like me.
It's a back-breaking job, and I'm sorry
To see my wife suffer this way;
But, in chivalrous vein, I keep making it plain —
I really must help her some day!

— J. M. R. (Edinburgh Evening News)

How to Grow a Gloxinia

by the MASTER GARDENER

Gloxinias are exotically beautiful, long-blooming plants that make ideal Christmas gifts. Should you make a gift of a Gloxinia, or should you receive one, take note of the following suggestions on culture of this plant, in order that the gift may be enjoyed the longest possible time.

The pot should be placed in an east, southeast, or south window for wintertime growing. The Gloxinia, however, prefers relatively warm night temperatures, so if the window is cold and drafty, the plant should be moved away from it at night unless a temperature of 65 to 68° can be maintained. A dry atmosphere is not appreciated by Gloxinias, and they simply will not thrive if the relative humidity is below 45%. Water the plant with room temperature water when the soil has become quite dry; then soak it from top to bottom. Should you splash water on the leaves, take time to blot it off or keep the plant out of the sun until the water is evaporated, since, like African Violets, Gloxinia leaves will become spotted if strong sunlight strikes them while wet. Feed the plant every two weeks with a solution of Instant Vigoro, using a teaspoonful to a quart of water and using this solution in place of a normal watering. Feeding should be continued until the plant has finished flowering.

After the last bud has opened, cut it back to the last two leaves, decrease water until it starts into growth again, or withhold water entirely until the foliage withers, then store the tuber until it revives of its own accord. The tubers may be left in the pots and stored in a cool corner of the basement. It is advisable to sprinkle the pots with water once a week to keep the tuber from shriveling. When new leaves poke through, scoop out about an inch of the topsoil and add fresh soil; then bring the plant into the light to start its growth once more.

Gloxinias are easy to propagate by cutting smaller leaves and rooting them in water, sand, or vermiculite.

HOUSE PLANTS FOR SUNNY PLACES: Christmas Cherry, Cineraria, Crocus, Cyclamin, Daffodils, Geraniums, Hyacinth, Amaryllus, Cactus, Coleus, Kalanchoe, Shrimp Plant.

WINNIPEG HORTICULTURAL SOCIETY

Statement of Receipts and Disbursements
for Year ending October 31st, 1955

RECEIPTS		DISBURSEMENTS		
Cash on hand Nov. st	$ 72.51	Flower Show:		
Membership Fees	630.00	Prizes	$497.50	
Exhibition Grant	451.37	Prizes Wpg. Glad. Soc.	85.00	
Membership Grant	45.00	Prize Lists	132.00	
Municipal Grant	100.00	Rent of Rink	70.75	
Prov. of Man. re Fruit Show	50.00	Music	16.00	
Donations:		Ribbons	16.57	
Winnipeg Free Press	302.50	Cartage	23.00	
Others	75.95	Other Expenses	83.47	$ 924.29
Winnipeg Gladiolus Society	85.00	Home Grounds Competition		185.95
Advertising, Year Book	985.00	Year Book, 1955		1,364.66
Sale of Year Books	493.45	Year Book, Comm. 1954		57.50
Annual Meeting	144.00	Year Book, Comm. 1956		25.00
Admissions, Flower Show	294.15	Annual Meeting		148.40
Entry Fees, Flower Show	58.80	Monthly Meetings		7.18
Net Proceeds of Trips to Portage and Morden	31.60	Advertising		17.15
Miscellaneous	2.75	Honorarium, R. W. Brown		100.00
		Honorarium, W. J. Tanner		150.00
		Printing & Stationery		282.28
		Postage		270.03
		Hall Rent		8.00
		Typewriter & Maintenance		51.89
		Flowers		3.00
		Bank Charges & Exchange		15.78
				$3,611.11
		Bal. on hand Nov. 1st, 1955		210.97
TOTAL	$3,822.08	TOTAL		$3,822.08

Nov. 18th, 1955.

Wm. J. TANNER,
Secretary-Treasurer.

AUDITOR'S REPORT

To the President and members of the Winnipeg Horticultural Society:

I have compared the above statement with the books and vouchers, relating thereto, and certify that it is a correct record of the receipts and disbursements of the Winnipeg Horticultural Society for the Year ending October 31st, 1955 according to the information and explanations given me.

Winnipeg, Nov. 23rd, 1955. W. F. BLACKWELL, Auditor.

FLOWER, FRUIT and VEGETABLE SHOW

A combined show of the Winnipeg Horticultural Society, the Winnipeg Gladiolus Society, the African Violet Society, the Provincial Fruit Show, and the Manitoba Honey Association Honey Show was held in the Civic Caledonian Curling Club rink on August 24th and 25th, 1955. This was our first attempt at a joint show with the Gladiolus Society, and it turned out to be a very successful venture. There was a very fine display of fruit from all parts of Manitoba, and this attracted a lot of attention.

Opening ceremonies were capably performed on Wednesday evening, at 8 p.m., by Alderman Mrs. Maud McCreery, representing Mayor G. Sharpe, who was unable to be present.

Entries in the Winnipeg Horticultural Show totalled 699, and admission fees were $58.00. Admissions to show were $294.15. Prizes amounted to $497.00; printing, $132.00; rent of rink, $70.75; music, $16.00; ribbons, $16.57; cartage, $23.00; other expenses $97.92; making the total cost of the show $853.24.

An outstanding attraction at the show was a display of cut flowers by the T. & T. Seed Co.

I would like to take this opportunity of saying "Thank you" to all those who worked so hard in making the show a success.

Respectfully submitted,

Wm. J. TANNER,
Chairman, Flower Show Committee.

ANNUAL FLOWERS

by H. H. MARSHALL

Head Gardener, Dominion Experimental Farm
Brandon, Man.

Annual flowers continue to fill an important place in home gardens. The cost of a fair quantity of seed or one or two dozen plants is less than for a single plant of most perennials. Although annuals do not bloom as early as the majority of perennials, in most years they will produce a profusion of bloom from early July until September frosts.

A large group of annuals are commonly started in greenhouses and planted out in late spring. This is done because certain plants require a long season, and others will bloom for a longer period if started early. Such plants are: Alyssum Stocks, Nmesia, Lobelia, Nicotiana, Petunia, Portulaca, Salvia, Antirrhinum or Snapdragon, Balsam, Dahlia, Pansy, Pinks, Marigold and Zinnia. Seed of some of these is very small and costly.

Members of a second group, some of which do not transplant well, are best seeded directly in the open. Their seeds are frequently of moderate to large size. Included in this class are: Chinese Forget-Me-Not, Calendula, Poppies of all kinds, Candytuft, Four O'Clock, Cosmos, Lavatera, Larkspur, Linum rubrum, Salpiglossis and Sweet Peas. Alyssum, Pinks and the earlier Marigolds and Zinnias may also be grown from seed.

During the last few years, aster yellows has seriously damaged several species in Western Manitoba. This disease, which is carried by leaf hoppers, is difficult to control. Until a satisfactory control is found, or it becomes less prevalent, it may be advisable to restrict plantings of such susceptible plants as Aster, Calendula, California Poppy, Dimorphotheca, annual Chrysanthemums, Phlox, Sweet Sultan and Clarkia. Infected plants soon become unsightly.

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