



The
PRAIRIE GARDEN 1960

PRICE \$1.00

Published by WINNIPEG HORTICULTURAL SOCIETY

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Foreward

The Winnipeg Horticultural Society, through its Prairie Garden Committee, takes great pleasure in presenting to all gardeners in the Northern Great Plains area, the Seventeenth Annual Edition of The Prairie Garden, compiled from material supplied by men and women with experience and knowledge of gardening and its problems on the great Northern Plains of this continent.

We dedicate the 1960 Prairie Garden to those great men of Western Horticulture as exemplified by the late A. P. Stevenson and the men who have been awarded the Gold Medal struck in his memory.

These men, and others of their kind, with unselfish zeal, have, within the last half century, introduced a host of outstanding hardy varieties of trees, shrubs, ornamentals and vegetables to bring added beauty and assistance to the inhabitants of the Northern Great Plains area.

It is fitting that the International Peace Garden, astride the International Border between North Dakota and Manitoba, should be a symbol of International Goodwill for, as so ably expressed in our front-piece, horticulture knows no National boundaries.

An outstanding example of International Horticulture is the Almey Crab pictured on our front cover. This beautiful ornamental while originating at the Experimental Farm in Morden, Manitoba, and named after J. R. Almey, well-known pioneer horticulturist of the Canadian Pacific Railway, is now catalogued, not only in Canada, but in the United States and Europe as well.

"THE PRAIRIE GARDEN" COMMITTEE

ChairmanMr. G. S. Reycraft, 92 Queenston St., Winnipeg 9, Man.
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AdvertisingMr. J. P. de Wet, 207 Whytewold Rd., Winnipeg 12, Man.
Mr. F. C. W. Rice, 185 Ash St., Winnipeg 9, Man.

We also wish to express our thanks to Dr. A. R. Brown, CBC's Prairie Gardener, Mr. S. Sheard, Regina, and to the many other outstanding professional and amateur horticulturists who, through their valued assistance and contributions, have made it possible for us to bring to you another edition of The Prairie Garden.

Price — \$1.00 per copy.

Special prices to Horticultural Societies and Garden Clubs.

Let Your Light So Shine

By M. TRUMAN FOSSUM

Mr. Truman Fossum is a member of a pioneer family of North Dakota. He has been associated with horticulture all his life and has the distinction of being the first graduate of the "greenhouse and nursery practice course" of the School of Forestry, Bottineau, N.D. He spent a year at the world famous Kew Gardens in England and has pioneered in the field of marketing, statistical and economic research for the florist-nursery industry in the United States since 1945.

Much has been said and written about a universal tongue. Industrialists strive to standardize manufactured products so that light bulbs, screws and bolts, may be interchangeable in any land. Recent generations may one day be condemned for failing to achieve accord in international matters. There is evidence that the spiritual development of man has not been commensurate with progress in the physical and natural sciences. Within the span of life of many who are now living, it has become possible for man to quickly and easily destroy his own handiwork. How, then, can Twentieth Century man achieve the understanding, the spiritual growth required for survival of life among individuals, communities, and nations?

One means for alleviating some of the ills of the world is the improvement of minds, of thinking, and of ideas of individuals. High percentages of the world's population have moved to urban and semi-urban areas. This has restricted the activities of individuals in their inherent desire to care for living plants and animals. Such interests are largely confined to whatever may be done with ornamental plants. Ornamental horticulture, in the broadest use of the term then becomes the unique activity or interest, which can indirectly motivate man towards ideas and principles which are requisite for the spiritual growth required for the survival of nations.

These and related thoughts lead to the assumption that it is the duty of horticulturists to acquaint others with the desirability of such an interest. Enlightened horticulturists know no language barriers, no distinctions of nationality or faith, no conflicting political philosophies, and no cleavages based on wealth in worldly goods. The coordinated work of horticulturists in world affairs could well be that of "letting their light so shine" that others may know.

THE PRAIRIE GARDEN

Western Canada's Foremost Horticultural Annual

Published by
Winnipeg Horticultural Society
(Established 1931)

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

17th Annual Edition

Winnipeg, Manitoba

February 1960

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Green Grows My Garden

By Dr. A. R. BROWN
CBC's Prairie Gardener

Founded in London, England in 1804 and recognized in Royal Charters since 1809, The Royal Horticultural Society has played a leading role in British horticulture and earned world-wide prestige. Throughout its history its basic objectives have been "to collect every information respecting the cultivation of all plants and trees," and "to foster and encourage every branch of horticulture."

Fellowship in the society is open to anyone interested in horticulture, who pays the annual subscription, and is duly sponsored by a Fellow.

The society has offices and halls in London at which, with few exceptions, meetings and shows are held every two weeks. Many of the shows are national in character, as for instance the National Rose Show, or other national shows for societies interested in carnations, delphiniums, iris and sweet peas. Each May, a tremendous week-long general show is staged at Chelsea. The Chelsea Show is one of the world's greatest horticultural events.

The society operates three hundred acres of Trial Grounds at Wisley, where testing of new varieties of plants is carefully supervised by experts. Student gardeners are also trained in the science and practice of gardening. Various cultural practices are investigated and reported upon; and demonstration gardens of all types are maintained. The perennial borders and the Rock Gardens are especially interesting.

The society publishes a Journal reporting its activities, a Botanical Magazine, and numerous yearbooks and other important publications. The society also conducts a number of examinations in horticulture. A library of more than 20,000 volumes and pamphlets is maintained and regularly open for use.

This brief and somewhat sketchy account of the Royal Horticultural Society and its work is presented to show how important the activities of a well-organized horticultural society may become, and to indicate what are some of the chief ways in which a society or association of societies can function most effectively.

In the short history of the settlement of the prairie region, horticultural societies have also played an important

part. In the earlier years the annual show was a major, and sometimes the only important activity. These early shows stressed education of the public in what could be grown successfully and the standards which could be achieved.

In the years since World War II there has been a considerable revival of interest in horticultural societies and marked broadening of the scope of their activities. As well as a substantial growth of societies and garden clubs in all three provinces, each province now has a provincial association; and each province is now serviced by a Horticulturist.

Alberta has staged provincial horticultural shows, while Saskatchewan and Manitoba have stressed Provincial Fruit and Honey Shows. These have been sponsored by the Provincial Horticultural Association in each case. The Manitoba association also sponsors a province-wide Home Grounds Improvement Competition, and the development of their own area plantings at the International Peace Garden.

Many local horticultural societies have broadened their work. The Winnipeg Society publishes this fine booklet as a public service, and they cooperate with the Winnipeg Gladiolus Society in staging an International Show. In Calgary, joint shows by the Dahlia Society, the Gladiolus Society, the Garden Club and the Horticultural Society are the regular procedure. Both Regina and Calgary, as well as a number of other societies use the annual prize list as a place to provide horticultural advice on important topics. The Regina Society cooperates with the Public Library in developing a fine library service for gardeners.

It seems quite evident, therefore, that our prairie horticultural societies are up on their toes eagerly seeking ways and means of expanding their service to the gardening public, and thus playing a major role in the shaping of prairie gardens.

AMATEUR SALE AND SWAP

Had a request from one of our readers to put a small advertisement in the Prairie Garden.

This gave us an idea! Maybe other Prairie Garden readers would like to do the same, on a price or exchange basis. Accordingly, in our 1961 Prairie Garden, we will set up a Classified column under the above heading. Subscription rates will be 50c per line (approximately 7 words per line). Our lone classified ad for 1960 will illustrate.

FOR SALE — WATER LILY ROOTS, *Gloriosa* (red); *Gladstone* (white) \$1.50 each, at the farm. Mrs. S. W. Cooper, Unity, Sask. Box 600.

The International Peace Garden

F. C. W. RICE, Executive Director



TO GOD IN HIS GLORY

We two Nations dedicate this Garden and pledge ourselves that as long as men shall live, we will not take up arms against one another.

This is the inscription on the stone Cairn at the entrance of the International Peace Garden. This Cairn was erected on July 14, 1932, on the occasion of the dedication of the Garden before a crowd estimated to be in the neighborhood of 50,000.

The original idea of a garden on the International Border was conceived by Mr. Henry J. Moore of Islington, Ontario, Canada. Mr. Moore presented his idea to the National Association of Gardeners of America at a meeting held in Toronto in 1929. The Association gave hearty approval to the idea and appointed a committee of three to select a suitable location. It is significant that while membership of the Association is centered in the eastern part of the continent the site finally chosen is located in the Great Plains Area, approximately midway between the Atlantic and Pacific Oceans in the beautiful Turtle Mountains.

The Garden is located on the International boundary 13 miles north of Dunseith in North Dakota and 18 miles south of Boissevain and 60 miles south of Brandon in Manitoba. It is situated on provincial highway No. 10 where this highway joins state highway No. 3 in North Dakota. The State of North

Dakota donated 888 acres and the Province of Manitoba donated 1451.3, making a total of 2339.3 acres.

Development at the beginning was slow, due to the depression and then World War II. Fortunately, through the co-operation of our National and Local Governments and the untiring efforts of a few public spirited citizens in North Dakota and Manitoba, limited but satisfactory progress was maintained. Since 1950, when a full-time superintendent, Mr. M. J. Tinline, was appointed, progress was stepped up, and with increased financial support from individuals, fraternal societies and various organizations the Garden is becoming a major tourist attraction. In 1959, over 40,000 visitors registered at the information booth and thousands more did not trouble to register.

The completed section of the "Formal Area" consists of the Peace Panel, parking areas and a series of terraces leading down to a sunken garden. There is a pool on each of the terraces and these are connected with waterways that lead to a large pool in the sunken garden. Around this pool are walks, rose gardens and borders of shrubbery, with provision for beds of perennials yet to be planted.

Plans for the formal area call for a series of terraces up the natural slope west from the sunken garden. These terraces are designated: Cascade Panel, Turf Panel, Reflecting Pool, Peace Tower and Emblem Panel. The formal area will ultimately stretch a distance of approximately one mile west from the entrance.

Considerable development has also been done apart from the formal area. Visitors have miles of beautiful driveways in both the American and Canadian sections, which lead to the picnic areas and views of the lakes that have been created. The largest of these lakes are Lake Udall in the American section, named after Mr. W. V. Udall of Boissevain, and Lake Stormon in the Canadian section, named after Mr. John Stormon of Rolla, N.D. Pioneers in the development of the Garden, these two richly deserve this honor.

There is a beautiful lodge in the American section erected by the Civilian Conservation Corps of logs from the Riding Mountain National Park and granite boulders gathered throughout the Turtle Mountains in North Dakota. The C.C.C. had a camp within the Garden during the depression and some of the barrack buildings have been converted to dormitories to accommodate 200 people. It is planned to extend this accommodation to take care of another 100.

During the past few years, The International High School Music Camp has been held for a three-week period during late June and early July. This camp is gaining in popularity,

hence the necessity of enlarging the accommodation. Last year, 448 high school students were in attendance at the camp, which operates on a weekly basis, with instruction varying each week and some carry-over of students. Instructors are recruited from many states and several provinces and the students have come from eight states and three provinces.

The lodge is popular as a meeting place and for social affairs both local and international. Local church groups cater to these affairs from a modern kitchen in the lodge.

There are 14 overnight cabins in the American section available for most of the season at reasonable rates.

The picnic areas are sponsored by various women's groups who also pay their maintenance costs. These picnic areas have kitchens, tables and benches, water and several individual barbecues.

The Manitoba Horticultural Association sponsors an Arboretum in which a wide selection of trees and shrubs have been planted. These specimens will all be labelled in the near future, so all may see and know the characteristics of the material planted.

The formal area has a diversified collection of trees and shrubs as well as herbaceous perennials. A great quantity of annual flowers are planted each year to add color to the overall picture.

The founders envisaged a living symbol that not only points up the long standing friendship of our two nations but also is in very fact a Garden of Peace located on the longest unfortified boundary in the World.

The small group of people who fostered and have been responsible for the development to date need a great deal of help to bring the plans to completion. To this end, financial support is urgently required. How can you help? By becoming a member of the International Peace Garden Inc. There are several classes of membership:

(a) Associate Membership	\$ 5.00 per annum
(b) Voting Membership	10.00 per annum
(c) Life Membership	100.00 per annum
(d) Civic, corporate or fraternal membership	10.00 per annum

Enquiries regarding the International Peace Garden re group outings, conducted tours, literature, meetings, etc., may be addressed to:

The International Peace Garden,
Dunseith, N.D., or Boissevain, Man.

*Plan Now to Exhibit and Attend
Winnipeg's Fifth*

INTERNATIONAL FLOWER SHOW

AUGUST 17th and 18th, 1960

IN THE BEAUTIFUL

CIVIC AUDITORIUM

SPONSORED BY

The Winnipeg Horticultural Society

and

The Winnipeg Gladiolus Society

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

Entries Accepted From Anywhere

All exhibits must be forwarded (Prepaid) to arrive at the
Winnipeg Auditorium before Midnight, August 16th, 1960

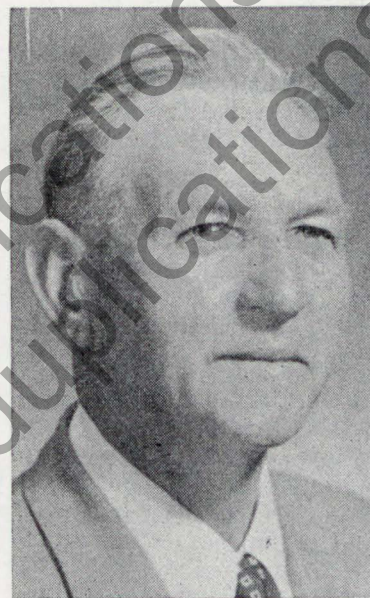
FOR COMPLETE PRIZE LIST WRITE TO

MR. W. J. TANNER
Secretary W.H.S.
518 Henderson Hwy.
WINNIPEG 5

or

MRS. S. CALHOUN
Secretary W.G.S.
646 Henderson Hwy.
WINNIPEG 5

Stevenson Gold Medal Awarded to Albertan



MR. ROBERT SIMONET

The Stevenson Memorial Board has selected Mr. Robert Simonet, Edmonton, Alta., as the worthy recipient of the tenth award of the Stevenson Memorial Gold Medal. The award will be presented to Mr. Simonet at the 62nd annual convention of the Manitoba Horticultural Association scheduled for February 1960 in Winnipeg.

Mr. Simonet was born near Paris in 1903. In 1919 he came to Edmonton. Naturally interested in plant improvement, he was first obliged to work for four years for local farmers and market gardeners, while accumulating sufficient capital to begin a modest market garden enterprise. Meanwhile, he made constant use of the facilities of the University of Alberta library to familiarize himself with the principles of genetics. In the course of his studies he became interested in the possibility of using a single parent plant carrying complete dominance for double flowers, as a means of establishing 100 per cent doubleness in petunias. Up to this time this had been a professional secret of the Japanese. However, by the time Japan entered World War II, Mr. Simonet had established one or two lines of completely double petunia varieties and was able to produce a fair amount of seed. Since then he has maintained the lead so achieved in the North American development of this enterprise.

He has been interesting in other Horticulture plants. He has produced one or two fine gladiola varieties, the best of which is Simonet's Buff; several new and improved strains of double hollyhocks and two selections of rhubarb. He introduced Yukon native strawberry blood into everbearing

varieties, which has resulted in several promising seedlings, the one named to date being "Alberta". He has a unique natural hybrid of Saskatoon and Mountain Ash that he is using to establish seedlings from which could develop an unusual line of ornamental or small fruit plants. His major interest at the present time is with roses, using native roses of several species, in hybridization experiments with tea roses and other species and hybrids.

In addition to his first love and interest, the developing of new and better varieties of many Horticulture plants, Mr. Simonet serves on the Alberta Horticultural Advisory Committee and he is in constant demand as a judge at Horticultural Bench Shows.

The Stevenson Memorial Gold Medal was instituted in memory of the late A. P. Stevenson, of Pine Grove Nursery, Morden, Manitoba, as a memorial to this great prairie horticulturist and to do honor to individuals who have made "conspicuous achievement in the field of practical horticulture."

In receiving the award, Mr. Robert Simonet joins that distinguished group of horticulturists so honored in the past for their outstanding contributions toward the development of the better varieties of fruits, vegetables and ornamentals now in use. Much of our present day horticultural information is the result of their vision, skill and patience.

PREVIOUS AWARDS

DR. F. L. SKINNER, Dropmore, Man. — 1932.	PROF. W. H. ALDERMAN, Uni- versity of Minnesota — 1944.
*DR. N. E. HANSEN, Brookings, S. D. — 1935.	*WM. GODFREY, Morden, Man. — 1947.
*G. F. CHIPMAN, Winnipeg, Man. — 1938.	M. B. DAVIS, Ottawa, Ont. — 1951.
N. M. ROSS, Indian Head, Sask. — 1941.	DR. A. F. YEAGER, New Hamp- shire, U.S.A. — 1954.
	DR. W. R. LESLIE, Winnipeg, Man. — 1958.

*Deceased

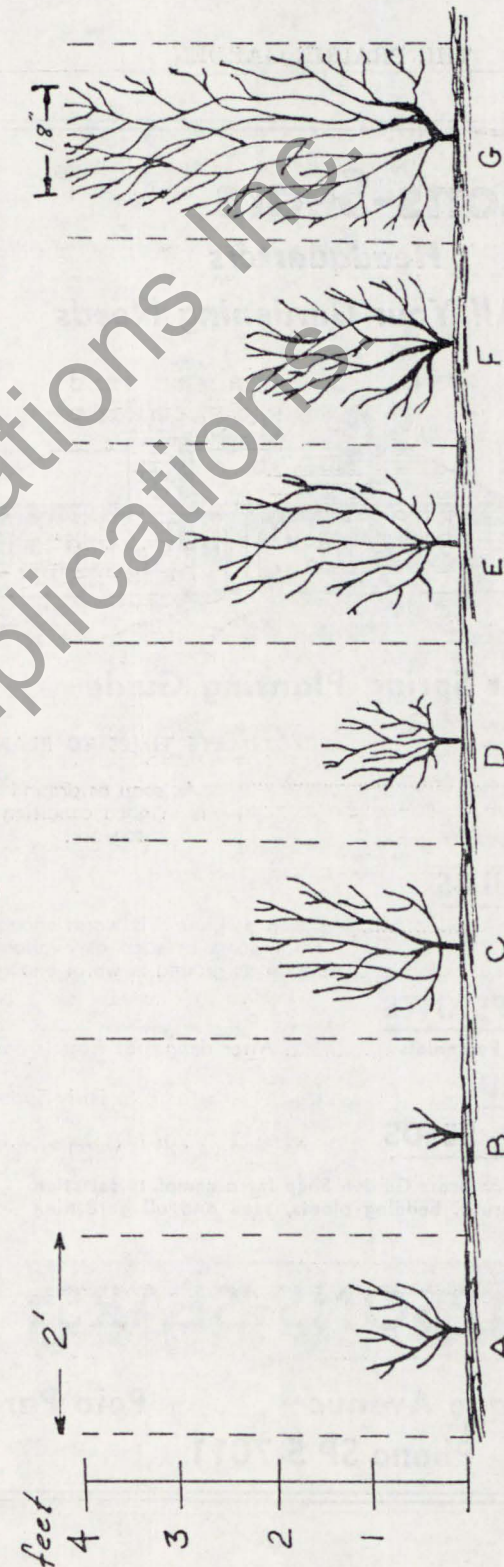
MESTERY'S RADIO & ELECTRONIC SERVICE

Phone SP 2-1766

188 Sherbrook St.

Winnipeg 1, Man.

SHAPING A NEW HEDGE



A Hedge is 12 inches high when planted.

B After planting, prune to only 6" in the case of Spring planting — if Fall planting, prune the following Spring.

C Trim again several times during the first season but not after Aug. 15 of any year. Be sure to trim the sides as well as the top.

D The following Spring (early before the leaves appear), cut to height of 1 foot.

E Begin regular trimming again as you did the first year, keeping hedge well shaped as you prune (as in illustration E).

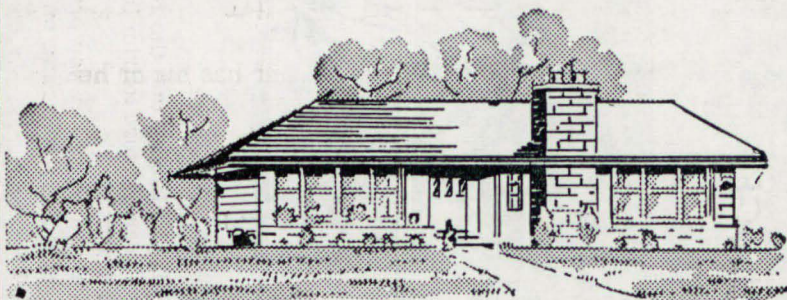
F In trimming, taper gradually to top for a nicer effect and also to stop snow from collecting on top of the hedge.

G Mature hedge after the third year. From that date on just keep it in shape.

Simpsons-Sears

Headquarters

For All Your Gardening Needs



Your Spring Planting Guide

SHRUBS

APPROXIMATE TIMES TO PLANT

Flowering	} As soon as ground is in good condition to work.
Ornamental	
Evergreen	
Fruit Trees	

SPRING BULBS

Gladiolus	As soon as ground is warm enough.
Gloxinias	Plant indoors as soon as available.
Dahlias	As soon as ground is warm enough.

BEDDING PLANTS

Annuals and Perennials	After danger of frost is past.
------------------------------	--------------------------------

GRASS SEED

..... Early Spring.

PACKAGED SEEDS

..... As soon as soil is warm enough.

Visit Simpsons-Sears Garden Shop for a complete selection of bulbs, shrubs, bedding plants, seed and all gardening needs.

SIMPSONS-SEARS

1515 Portage Avenue

Polo Park

Phone SP 5-7011

ROSE POT-POURRI

By Mrs. W. M. MacDONALD

Regional Director, Canadian Rose Society, Winnipeg, Man.

From time to time the Rose Section has received questions on various phases of rose culture, and it may be of general interest to review some of the items discussed with our correspondents.

Watering Roses. Nearly every grower has his or her own favourite way of watering roses; and mention of the subject will always promote a healthy argument on "the best way". It is well to remember that one good soaking is more useful than a few light waterings. The latter will cause the feeder roots to turn upwards towards the surface of the soil.

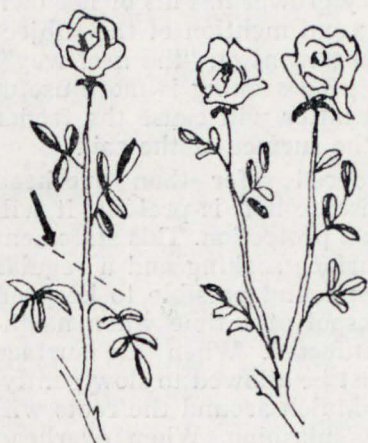
Surface watering is considered safer than overhead sprinkling, which may spread disease if it is present; it will also wash away your spray or dust protection. This statement may be challenged; but, with surface soaking and a regular spraying programme, it has been found possible to keep an entire rose garden free of Blackspot at a time when neighbouring gardens were badly infected. When the surface method is followed the water must be allowed to flow gently, so that the soil is not disturbed. Mulch around the roots will be an added protection against splashing. When overhead watering is the favourite method, it should be done early in the day so that the plants are dry before evening.

To Spray or Dust? That is the question. It is a much-discussed subject, too. With many people, time is the deciding factor. Dusting is usually easier because the material is ready mixed and it can be applied quickly and without fuss. Spraying is, to many of our gardeners, a more effective over-all control. Many people use both dust and spray — dust being used on roses until the buds form, and spray taking over for the balance of the season. It is conceded that spray is less noticeable on open blooms.

One rule applies to both methods, however. Whether you dust or spray, do it **regularly** and **frequently**; and be very watchful during a rainy spell. Remember that prevention is easier than cure.

Mulches. The use of a mulch is a time-saver because it checks the growth of weeds. It retains moisture in the soil; conditions the soil; reduces the risk of Blackspot; and keeps the surface reasonably cool in hot weather, thus encouraging good bloom production. Ideas are varied on the subject of material for mulch, naturally; and the gardener usually has chosen something that is readily available at a reasonable

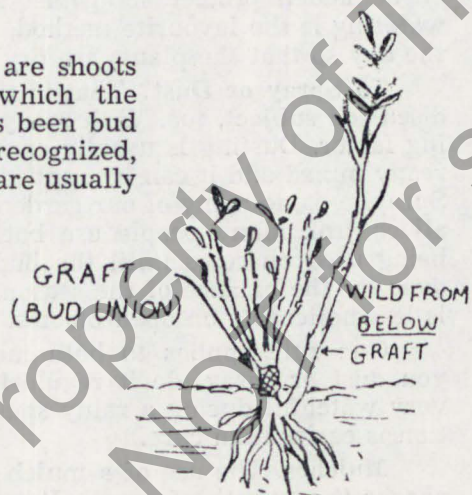
price in his particular area. We have lawn clippings, peat moss, sawdust, buckwheat hulls, to name only a few. The first two need no comment. Sawdust is a good conditioner; but it should be old before it is used as a mulch, or it may absorb nitrogen from the soil. Buckwheat hulls are reasonably priced if obtained direct from the nearest mill; they pack less than some mulches, and they are attractive in the garden. However, from personal experience we should warn you that they were also attractive to our bird visitors, who seldom left the mulch where it was supposed to be.



There is a certain way to cut rose blooms for indoor decorations (as shown on cut at left). Cut as long a stem as possible, long stems look best, providing one or two leaves are left on the stem, new shoots for bloom will develop from buds in axils of leaves.

ROSE SUCKERS

Wild shoots or suckers are shoots from the rootstock on which the named variety of rose has been bud grafted. They are easily recognized, the leaflets in most cases are usually seven on the sucker and five on the graft, and a different shade of green. The suckers are easily removed by a sharp downward pull when they first appear. They never should be allowed to develop for if unchecked they will smother the graft.



Frozen Roses? Why not? You can select one perfect rose and freeze it in an ice cube or small block of ice. It makes a very effective decoration for a party tray. To be sure that the ice is clear, it is best to use distilled water.

HARDY SHRUB ROSES

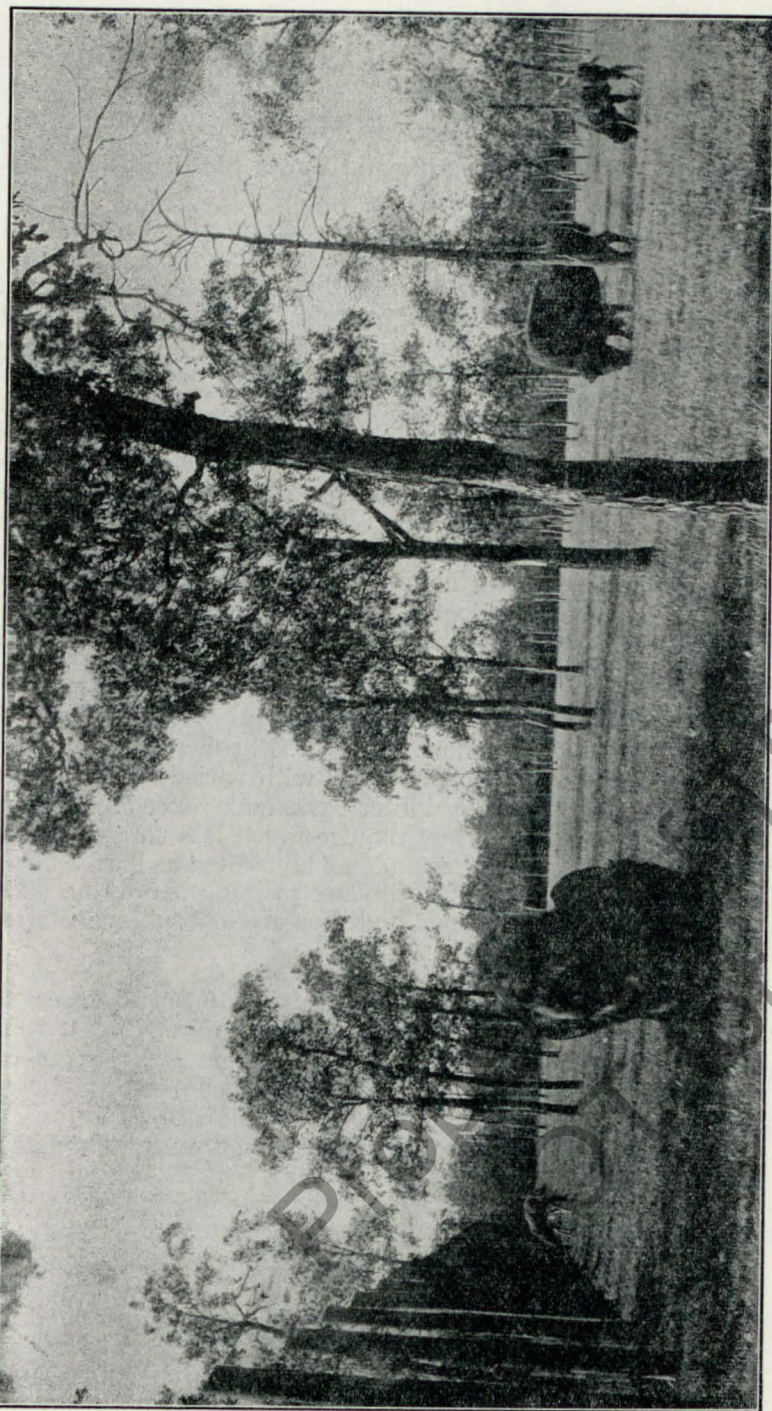
By W. A. CUMMING

Research Branch, Experimental Farm, Morden, Manitoba

The rose is conceded to be one of the first flowers to be brought under cultivation by man and its development has proceeded from very early times with an accelerated pace into the present day. Unfortunately for Prairie Canada the main emphasis has been on the production of races of roses which lack hardiness under Prairie climatic conditions. Even the hardiest of rose varieties belonging to the Hybrid Tea, Hybrid Perpetual, Polyantha, Floribunda and so called Grandiflora classes require much care in pruning, fertilizing and pest protection plus special preparation for their winter survival under our climatic conditions. When in bloom these roses are among the most beautiful of flowers but there is very little that is attractive about the habit and form of the bushes when they are not in full bloom. Their role in the garden should be restricted to massing in formal beds, preferably in a special area set aside for that purpose.

Much emphasis is placed on plants which have a continuous interest throughout the year. Shrub roses, with their diversity of size, form and texture, with varied colored leaves, colorful fruits and bright winter bark, make excellent subjects for the shrub border. They require much less care than their more aristocratic relatives and can be treated as hardy shrubs. Winter protection is not a problem; pruning is only necessary to remove old or dead wood and they are less subject to attack by insects and diseases.

If the story of the breeding of hardy shrub roses was gathered together, it would make fascinating reading. It would include the names of such private individuals as Skinner of Dropmore, Manitoba, Wright of Saskatoon, Saskatchewan, Bugnet of Legal and Simonet of Edmonton in Alberta. Government institutions have also shared in the development of hardy shrub rose varieties. The late Prof. N. E. Hansen, working from South Dakota State College, combined plant exploration in Eastern Asia with his rose breeding work. Chiefly for his work with roses, the late Wm. Godfrey, long time head gardener at the Morden Experimental Farm, was awarded the Stevenson Memorial Medal. An even more accelerated rose breeding program is being carried out at Morden by his successor H. F. Harp. Through the years various members of the staff of the Central Experimental Farm at Ottawa have



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contributed new hardy shrub rose varieties. Iowa State College has had an active rose breeding program for many years, first under the direction of the late Prof. Budd and more recently directed by Prof. Buck. Dr. Glen Viehemeyer of the North Platte Experiment Station in Nebraska is breeding hardy roses on a large scale, as are also members of the staff of the Minnesota State College.

Plant breeders have sought hardiness in roses from two sources, native species and species introduced from the colder regions of Europe and Asia. Some of the native species contributing to present day varieties are the Meadow rose, *R. blanda*, Prickly rose, *R. acicularis*, Sunshine rose, *R. suffulta*, all of which are found in Manitoba, and the Shining rose, *R. nitida*, native of eastern North America and the flower emblem of the province of Newfoundland. Introduced species which are playing a more important role in the production of hardy roses include — the Rugosa rose, *R. rugosa*, Altai rose, *R. spinosissima altaica*, Turkestan rose, *R. laxa*, the Alika rose, *R. gallica grandiflora* and the Redleaf rose, *R. rubrifolia*. These have been combined in many ways with less hardy, quality roses to give us our present wide selection of hardy shrub roses.

A few of the so called "Old" roses, including Cabbage, Moss, Damask and Provins varieties have proven to be fairly satisfactory shrub roses under our conditions. These were mainly brought from Europe by early settlers and have been passed along from one garden enthusiast to the next. A concerted effort to gather together a collection of these old roses could be richly rewarding.

The sorting out of the many varieties of shrub roses now available to prairie gardeners and the recommendation of specific varieties is an onerous task. For this article I have chosen to briefly describe the varieties appearing in the "Recommended List of Woody Ornamentals for Manitoba", 1960 edition. The heights given are those for mature specimens at Morden and may vary somewhat from one district to another.

Alika was selected by Prof. N. E. Hansen at the Regel and Kesserling Nursery, St. Petersburg, U.S.S.R., in 1906, where it was labeled *R. gallica grandiflora*. Its large semi-double flowers are the brightest red of any of the hardy shrub roses. The bush reaches a height of from five to six feet.

Altai is a form of the Scotch rose *R. spinosissima* introduced to this continent from Asia. The large, single, creamy white flowers are borne profusely and are followed by large, showy, black fruits which will hang on all winter. It makes a compact shapely shrub from five to six feet in height.

Alysham is a hybrid between the rugosa variety Hansa and **R. nitida** bred and introduced by Percy H. Wright. The foliage shows the impact of its nitida parent, being glossy bright green. The medium large flowers are double and clear pink in color. The bush reaches a height of from three to four feet.

Dr. Merkeley—A dwarf rose growing from two to three feet in height with clean bright foliage. The double smaller pink flowers are borne in abundance just after the main crop of flowers on the June blooming roses is past. This rose is closely related to the Cinnamon rose and was secured from Siberia by Dr. H. J. Merkeley of Winnipeg and introduced by Skinner's Nursery Limited of Dropmore.

Geo. Will is one of Dr. F. L. Skinner's hybrids of the native Prickly rose. It produces its medium sized double pink flowers in profusion in June and continues to produce intermittent bloom throughout the remainder of the season. The bush is compact and upright, reaching four to five feet in height.

Haidee is another Skinner introduction with Altai and Scotch rose blood combined. Its flowers are medium size, double and clear light pink. Its large, roundish, dark red fruits with fleshy winged pedicels are showy throughout the fall and early winter seasons. The bush reaches a height of about five feet.

Hansa—A rugosa hybrid originating in Holland. This rose has remained with us for many years as one of the really good hardy shrub roses and along with Skinner's "Betty Bland" helped to popularize the growing of shrub roses on the prairies. It is a strong grower, with the typical roughened foliage of its rugosa parents. The flowers are large, fully double and red with a slight tinge of blue. The main crop of flowers come in June but flowers continue to appear until hard frost kills them. The bush grows three to four feet in height.

Harrison's Yellow has small neat foliage on a compact, thorny, five foot bush. The semi-double, pale yellow flowers are followed by black fruits. This is the hardiest and best rose in its color class. The variety Persian Yellow has brighter yellow flowers but does not make near as compact a plant and is very subject to Blackspot disease.

Prairie Youth is an introduction of the Morden Experimental Farm of complex parentage. Its clear, salmon pink, double flowers are borne in clusters and flowers continued to appear intermittently throughout the summer. This is a back-

ground shrub reaching to eight feet under good growing conditions. It has a slightly arching habit of growth.

Shining rose has shiny, small, dark green leaves and small, single, rose-colored flowers followed by bright red fruits. Its many slender stems are clothed with bright red spines which along with its shining red fall foliage color and colored hips give it a prolonged season of interest. This rose suckers freely and soon makes a dense mat two to three feet in height.

Therese Bugnet is a complex hybrid of Betty Bland raised by Georges Bugnet of Legal, Alberta, and introduced by P. H. Wright. The large flowers are double, red, fading to pale pink and continue to appear throughout the summer. This is an upright compact shrub with clean good colored foliage from five to six feet in height.

Turkestan rose was introduced to this continent from Eastern Siberia. The large, single, white flowers are followed by bright red bottle shaped fruits which hang on all winter unless eaten by birds. This rose is sparsely but sharply armed and has been suggested as a replacement, for use as a living fence, for the much advertised Japanese rose, **R. multiflora**. The latter is much too tender for our climate. It reaches five to six feet in height.

Wasagaming is another Skinner origination belonging to the rugosa group. It grows to approximately five feet in height and is more or less spreading in habit. The foliage is typical rugosa and when in full bloom the branches are often bent to the ground with a profuse display of large, double, clear rose flowers. It has the distinct fragrance of the old Cabbage roses.

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Gibberellin — A Plant Growth Promoting Chemical

Dr. A. C. FERGUSON

Division of Plant Science, University of Manitoba

In the past three years much publicity has been given to the growth promoting substance known as Gibberellin. Some of the publicity has been sensational and certainly, insofar as its commercial uses, premature. The net result has been confusion as to its usefulness and in some cases disillusionment to the point of dismissing it as just another "gimmick".

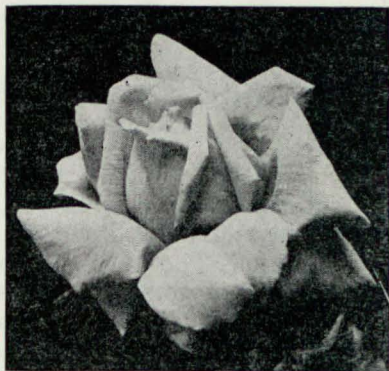
Let us review the scene so that we can put the picture into proper perspective:

As far back as 1926 a Formosan scientist observed that rice seedlings when infected with a particular fungus grew more rapidly than uninfected plants. Twelve years later a group of Tokyo scientists isolated a plant growth substance from the fungus and called it Gibberellin A. For some reason, scientists in the western world paid little or no attention to this discovery until 1956, when the effects of gibberellin on the growth of various plants were tested at several western research institutions. Results were dramatic and in a short time the material was distributed for sale by at least six commercial agencies.

The growth stimulating properties of gibberellin have been established in a wide range of crop plants — the most frequent responses have been stem elongation and hastening of flowering and in some cases bud and seed dormancy may be broken by treatment. The amounts of the chemical needed to produce these effects is small, ranging from a few grams to a few ounces per acre or as low as a few micrograms (one millionth of an ounce) per plant.

Elongation results mostly from an increase in cell length and the increased size of plants may be accompanied by an increase in yield resulting from increased photosynthesis from a larger leaf area. Dwarf garden peas when treated have grown like tall kinds and bush beans develop twining vines like pole beans. Applications of gibberellin to celery at the opportune time have increased plant height by 8 inches over

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untreated celery. However, in the production of crop plants, increased size is not necessarily desirable even if accompanied by higher yields. It is axiomatic that quality of crop must be maintained if the size and yield increases are to have real economic value. Experiments at the University of Manitoba over a two year period have indicated that the general overall quality of celery was reduced by treatment and that higher yields did not result from the taller growth manifest by peas and beans. Quality of the bean crop was much reduced coupled with the further complication that treated plants proved more susceptible to Bacterial and Halo blight. In some plant species elongation is accompanied by stem weakening and in extreme cases by stem cracking so that plants are actually damaged by the overgrowth resulting from gibberellin.

As stated earlier, time of flowering may be hastened in some plant species by treatment. Tomato flowering was advanced a few days and this in itself could be of great value to tomato producers in areas of short season. However, tests at Manitoba have shown that the benefits of earlier flowering in tomato were not enough to compensate for the detrimental side effects. Plants grew "leggier", bloom number was down and fruit set lighter with a result that the crop was later and significantly lower in yield.

Biennial crops such as cabbage, carrots, celery and rutabagas have been induced to flower and produce seed the first year and annuals such as head lettuce and radish, correctly treated, produce seed stalks immediately. Obviously this type of response could be of great use to the seedsmen in shortening his seed production time.

Some researchers have reported that gibberellin will replace the cool temperature required for bloom in many greenhouse crops and that it will make short day plants flower under long day conditions. Our results have shown that Stocks when treated flowered earlier and did not require the below 60° F. night temperature normally necessary for flowering in that species. However, Poinsettia (a short day plant) failed to produce the characteristic red color after treatment whether grown under short or long days. Greenhouse grown Chrysanthemums produced somewhat longer stems but neither bloom number nor size was increased with treatment.

The ability of gibberellin to stimulate dormant buds and seeds of some plant species could prove a boon to the plant breeder and to nurserymen in enabling them to by-pass certain

"after ripening" treatments used in their propagation programs. Dormancy of peach, apple and blueberry twigs, potato tubers and dahlia "roots" are known to be broken by gibberellin under certain conditions. Gibberellin may have a place, also, in promoting growth of certain crops at sub-normal temperatures. Blue grasses, bent grasses and fescues have been stimulated to grow in early spring 2 to 6 weeks ahead of normal season. The grass, after the initial surge of growth, resumes a normal pattern without apparent harmful effects.

A rather specialized use of gibberellin was made in California on grapes. Varieties with compact clusters are undesirable because rot is liable to develop when grapes are crowded. Treatment with the chemical increased the length of the cluster and permitted development of a larger better quality grape.

To sum up, gibberellin has been established as a plant growth promoting substance and in time may have a wide application in commercial crop production. However, it must be remembered that plants differ in their response to the chemical depending upon species and environment. Consequently, exact dosages and times of application will have to be worked out for each situation. Also, it must be remembered that an increase in plant size is not necessarily desirable in itself and users of gibberellin must take into consideration the total effects insofar as they influence crop production. Gibberellin at the present remains a very interesting growth substance useful to the plant scientist in his study of growth and has in few if any instances received his blessing as a means by which commercial crop yields and quality can be improved.

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Favorite Dropmore Introductions

By F. L. SKINNER, M.B.E., LL.D.

During the past fifty years a great many trees, shrubs and perennials of economic and ornamental value have been introduced to the Canadian Prairies and quite a large percentage of them have had their first taste of prairie soil at Dropmore. It is not possible to give here a complete list of all the Dropmore introductions but I will mention some of those I think are of most importance.

Among trees there are the hardy Harbin strain of *Ulmus pumila* now known as the Dropmore Elm, *Pyrus ussuriensis*, *Prunus triflora koreana*, the Mongolian Oak and Basswood, Manchurian and Swedish Basswoods, *Populus tristis*, *P. tremula erecta*, *P. octorabdos* and the hardy form of *P. simoni* Kew 209.

In shrubs there are the *Clematis macropetala sibirica* and *serratifolia* the Korean lilacs, *Syringa dilatata* and *velutina*, Manchurian *Weigela*, *Philadelphus schrenki*, the single flowered *Prunus triloba*, the true *Rosa laxa* from central Asia and *Spiraea tricarpa*.

In perennials the following are some of the most important, *Chrysanthemum zawadskyi* from Austria and the early flowering *C. arcticum*, *Iris kaempferi* from Manchuria, *Lilium pumilum*, *cernuum* and *amabile*, *Ligularia speciosa*, *Paradisea liliastrum*, *Vinca herbacea*, *Tulipa kolpakowskyana* and *T. urumiensis*, *Viola altaica* and many others.

Before the Russian spy trials broke I was exchanging quite a lot of plant material with the Russians and one interesting family of which I got seeds of several members was the *Ligularias*. This is a plant family that has many rather weedy looking members but at the same time has some members that are amongst our showiest hardy perennials.

The first of these good varieties of which I received seed was *L. speciosa*, a plant that in rich moist soil has huge elephant's ears of leaves and spikes of showy yellow flowers that reach up to five or six feet, making the plant one of the most striking perennials in the July herbaceous border. Unfortunately from that first importation of seed only one seedling developed and as the plant is self sterile it must be propagated by division, a much slower process than if it could

be grown from seed. In 1958 I received some more seed from Murmansk that has germinated fairly well and seed and seedlings should be available in the near future.

So far all the ligularias that have proved hardy at Dropmore have flowers of some shade of yellow or orange but there is a closely related species from South America that has bright reddish purple flowers and if one had the time and patience it might be possible to cross it with the hardy Ligularias and thus bring into that stately race a much wider range of colour.

In the realm of plant breeding Dropmore has also played the leading role and a greater number of species of hardy plants have been worked with than at any other institution on this continent.

The breeding of Poplars, Weeping Willows, Oaks and Basswood better suited to our climate and soil has been given much attention at Dropmore. Last summer, hybrids between the Mongolian and mossy cup Oaks grew up to two feet in their second year while the Basswood hybrids grow much faster, are better suited to dry land conditions and are mostly immune to the leaf mite that attacks the native basswood. In Poplars some of our hybrids are doing well in Europe where so many fine hybrids, that are not hardy with us, can be grown.

The Dropmore Scarlet Trumpet Honeysuckle and the hybrids of Clematis macropetala are the showiest climbing plants that are hardy in the prairie region. I tried several times to cross our native climbing honeysuckle with the southern Lonicera sempervirens but without success; then while travelling through north-western Minnesota one summer I collected Lonicera hirsuta and when it flowered with me I succeeded in getting one berry on it to the pollen of L. sempervirens. From this berry four seedlings grew, three exactly like the mother plant and one like the father. This one seedling proved to be sterile and it starts flowering in June and keeps it up until severe frost. One mild autumn it had flowers on it on November 15th.

When I found out in 1924 that Syringa oblata dilitata, which had been collected by Wilson on the Diamond Mountains in Korea in 1917, was much hardier than many of the French Lilacs I started crossing it with good named varieties. The many hybrids I have since raised do not sucker like the old lilacs, they are much more compact in habit, some of them seldom grow over six feet in height. In size of spike and in-

dividual flowers they will compare with the best of the French varieties. I have measured individual flowers 1½ inches across and spikes up to 12 inches long. None of the European single white varieties as grown at Dropmore can compare with the single white hybrids of S. oblata dilitata. They will also stand a greater range of temperatures. Down in California they bear up better than the European varieties and at Beaverlodge in the winter of 1951-52, while all the European varieties tested, killed back more or less, the three dilitata hybrids came through uninjured and flowered freely.

Roses were the first flowers I tried to improve in hardiness by breeding and at that time I had no facilities for growing roses under glass. None of the garden roses that I was able to secure in those early days would ripen their fruits out of doors so I was compelled to use Rosa rugosa and our native roses as seed parents. Betty Bland was the first worthwhile hybrid that I raised using the native Rosa blanda as seed parents and Captain Hayward as pollen plant. Capt. Hayward is one of the hardiest of the H. P. roses that we have grown at Dropmore and that probably accounts for the fact that Betty Bland is hardy throughout Western Canada.

Since my visit to Europe in 1947 I have been able to secure a number of Old Roses that are dwarf in habit, will ripen seeds outdoors, and can be depended on to flower year after year without protection. The advent of these roses has made it possible for me to duplicate the breeding of a race of roses similar to the older H. T. and Floribunda roses. These being from much hardier parents I feel sure that from the seedlings now on hand we will soon be able to select roses that can be counted on to flower from June until September and with the form and fragrance of the Old Garden Roses. The true Rosa laxa was first used as a parent at Dropmore and has already given us some fine double flowered shrub Roses and from developments now under way promises to give us a new race of continuously flowering Roses of the florabunda type.

Lilies were much later in getting on my breeding program than roses but have given much better returns for the time I have spent on them. When A. Perry got an Award of Merit in London in 1926 for the Dropmore Concolor I felt encouraged to spend much more time with lilies with the result that in 1932 Maxwell won the Cory Cup and later Dunkirk and several others won Awards of Merit in London and Boston. It was about the time of the evacuation of Dunkirk by the British Army that Dunkirk showed its merit as a good garden plant and its blood red colour suggested the name. With so many fine lilies in the red and yellow colour range, I

have lately been concentrating on the white, yellow and pink trumpet lilies. The results have been encouraging and I now have varieties in all three of these colours that came through the snowless winter of 57-58 without protection. The pink variety has set seed readily to the pollen of the hybrids of *Lilium auratum* though none of these seedlings have yet reached the flowering stage.

One of the interesting things about the work we are doing at Dropmore is that other plant breeders are finding it possible to build on our work and of course we build on the work of others whenever possible; to mention one instance, Simonet of Edmonton was successful in crossing *Rosa laxa* with a Tea Rose, his hybrid, a single creamy white rose though it kills back quite a bit at Dropmore, flowers with us from June until severe frost and it will ripen seeds to the pollen of a wide range of Rose types. Seeds of many crosses of Simonets hybrid with China Roses, hybrid perpetuals, etc., are even now germinating at Dropmore.

CULTIVAR

By C. R. URE, Head, Fruit Crops Research,
Research Branch, Canada Dept. of Agr., Morden, Man.

A new word is appearing with increasing frequency in the horticultural literature, particularly international literature. That word is "cultivar". A brief explanation of the term may be opportune, as its meaning and use is not to be found in older dictionaries. It is an international term used to designate a particular plant group or unit, which in English is commonly known as a "variety"; in German as "Sorte"; or in Italian as "razza".

Plants are classified into groups depending upon their botanical relationships. The world's plant kingdom is broken down into sub-kingdoms, sub-kingdoms into divisions, divisions into classes, classes into orders, orders into families, families into genera, genera into species, and the smaller unit is "variety" or "cultivar". As readers of these notes will be concerned mainly with cultivated plant names, their interest will center on genus, species, and varieties or cultivars. The terms variety and cultivar have the same meaning, and can be used interchangeably. "Cultivar" is essentially a technical international term synthesized from the words "cultivated variety".

The word "cultivar" has been adopted for use in the "International Code of Nomenclature for Cultivated Plants". This code was prepared by the International Commission of the International Union of Biological Sciences, with a view to providing a set of regulations and names universally applicable to cultivated plants, whether in the fields of horticulture, agriculture or forestry. It is hoped that its use will remove confusion and ambiguity in naming and publicizing cultivated plant forms internationally.

According to the International Code of Nomenclature for Cultivated plants a cultivar (variety) may be one of four kinds of plant units.


1. A "clone" which designates a group or unit of uniform plant material derived originally from a single individual, e.g., the McIntosh apple, Dunlap strawberry, or Peace rose are clones or clonal cultivars. Clones are propagated entirely by vegetative means, such as cuttings, divisions, buds, grafts, layers, etc. Under the International Code the foregoing would be recorded as *Malus pumila* "McIntosh", *Fragaria ananassa* "Dunlap", or *Rosa hybrid* "Peace". The first word indicates

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the Genus (Genera), the second designates the species, and the last give the particular variety or cultivar.

2. The second type is a line, a unit, or population of sexually reproduced plants of uniform appearance that are propagated by seeds or spores. Uniformity and stability of type is maintained through selection to a definite standard. Examples are common in vegetables, flowers and cereals — Lincoln (Homesteader) pea (*Pisum sativum* "Lincoln"), Nantes carrot (*Daucus carota* "Nantes"), or Rosy Morn Petunia (Petunia sp. "Rosy Morn").

3. First generation hybrids (F1) constitute uniform groups of plants reproduced sexually, but which must be reconstituted for each lot of commercial seed by crossing two or more breeding stocks or inbred lines. The breeding stocks are maintained by inbreeding or clonal propagation. Examples of this type of variety or cultivar are "Golden Beauty" and "Sugar Prince" sweet corn, "Mustang" tomato, or "Fiesta" onion.

4. Lastly is a group or assemblage of plants which exhibit slight genetical differences between individuals, but also possess one or more major characteristics by which the group can be separated from other groups, varieties or cultivars. Cultivars of this type are to be found in the cucurbits, in phlox and in some of the bluegrasses, to cite three instances.

The "International Code of Nomenclature for Cultivated Plants", and adoption and use of the term "cultivar" became effective on January 1, 1959. With an ever increasing worldwide exchange in cultivated plant materials such internationally adopted terms as "cultivar" are likely to become more common.

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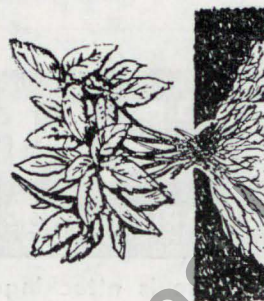
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Strawberries

Strawberry plants must be planted with the crown of the plant level with the surface of the soil as shown in the illustration. If the crown is buried the plant will have difficulty in growing and if the crown is above the surface the roots will dry out. In either case there will be losses.



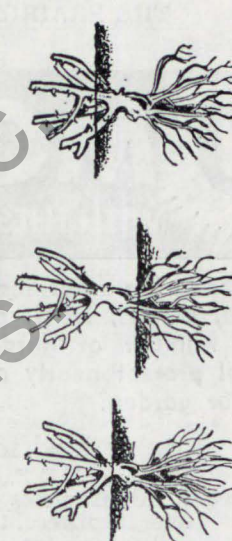
Planting Iris



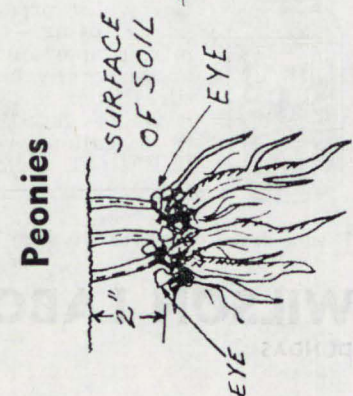
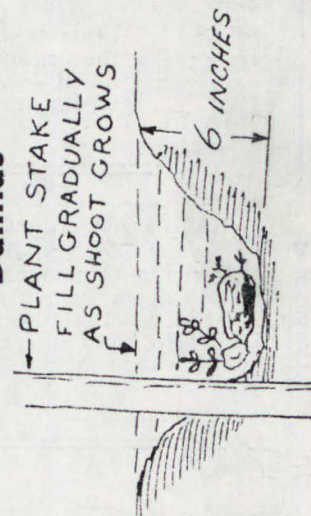
Tulips



Planting Roses



Dahlias



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Plant with the point where the stems branch out from the root 2 or 3 inches below ground level as shown in the illustration. Pack the soil and water well. Mound up soil around stems and keep moist until buds on stems begin to enlarge, usually a couple of weeks after planting. When growth has started remove soil to ground level, leaving a slight depression to hold water.

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Iris on the Prairies

By GARY ESSAR, Kindersley, Sask.

Gary Essar has been growing iris for the past three years. He is 16 years old.

Few flowers can offer you the variety that iris can, — whether it is color, size, season of bloom, preferred growing conditions, or use in your garden and home. There is always an iris to suit your taste.

Now you may say, "I only know the common yellow or common blue iris" but I have proved that the tender iris can be grown on the prairies.

The group that is by far my favourite is the Giant Bearded group. Varieties in this group are sturdy and easily grown. Their blooms range from four to eight inches across and the bloom stalks are usually about thirty-six inches high. Their range of decorative colors is tremendous. They have great landscape as well as indoor decorative value. They are effective planted in rows or groups, in a showy place in the garden or in the perennial border. Their leaves suggest tropical foliage.

I might suggest that you grow more lighter colored iris than darker ones because they make a more attractive planting. They should be planted with plants which have contrasting foliage such as ageratum or columbines. They can also be planted with plants which flower at about the same time such as peonies, oriental poppies and pinks.

A few of the varieties of this class which I have found good are:

Ola Kala — deep yellow; Ballet-in-Blue — wavy clear blue (Canadian); Elizabeth of England — light azure blue (Canadian); Pinnacle — yellow and white bicolor; Algiers — rose suffused reddish bronze (Canadian); Argus Pheasant — tobacco brown; Solid Mahogany — red mahogany; Wabash — purple and white bicolor; Black Forest — almost black; Pink Cameo — pure pale pink; New Snow — snow white.

Another type which I find easy to grow is the Siberian iris. They multiply rapidly and require little care. They are hardy and thus they require no special cover. A moist, well-lighted position suits them best. There are several hardy varieties which can be grown in this area and they can be obtained from several of the prairie nurseries.

Those of you who are tempted to buy bulbous iris (iris

which grow from bulbs) are going to be taken as they aren't hardy on the prairies.

When you select a place for your iris, be sure they get at least six hours of sunlight each day. They should be planted where they are not hindered by tree or other plant roots and where they have good drainage.

Good soil is necessary to produce good quality blooms. If your soil is of a sticky texture some sand should be added to loosen it. Compost or peat moss is also good to make the soil more suited to iris culture. As our soil in this area is alkaline we do not need to add lime to it.

Iris are shipped to you about the first of August. This is the time when the iris starts another phase of its growth cycle and so this is the best time to transplant. They should be planted as soon as they arrive but if planting is not possible at that time they should be kept slightly moist in a dark cool room. A mound is formed in the center of a hole large enough to accommodate all the roots. The mound should be large enough so that when the rhizome is placed upon it, the top of the rhizome will just be beneath the surface of the soil. When the roots have been set in place, the soil should be packed around them and then thoroughly saturated with water.

Iris should be divided every four to five years, depending on the size of the clump. To divide an iris, dig up the plant and pull large clumps apart with your hands. Cut each clump into smaller pieces with a sharp knife. Each division should have one or two fans of leaves. I would suggest you discard any weak or diseased parts. After this is done, cut back the foliage halfway. This prevents rapid loss of moisture. Replant as before described.

Iris are relatively pest free plants; however, something occasionally appears that needs attention. One of the most serious diseases is soft rot. This is best controlled by disinfection with a mercury compound. Before planting, cut away all infected parts and disinfect with the compound. The soil should also be disinfected. The iris borers are the worst pest. They are worms which bore into the rhizome. A DDT spray soon gets rid of them.

Since iris aren't hardy on the prairies, a winter mulch of some type is absolutely necessary. I find straw the best cover but excelsior or dead plants may be used providing they are loose and don't pack.

I hope these few notes will be helpful to you when you start out on your iris collection.

Horticultural Station Gladiolus Garden

By T. KILDUFF, Assistant Superintendent,
Provincial Horticultural Station, Brooks, Alta.

This year the Provincial Horticultural Station at Brooks, Alberta, saw the beginning of a gladiolus collection which, it is hoped, will contain many of the best of the new and the old. It is comprised of over seven hundred varieties, and contains specimens in the full range of color and size classes. Its nucleus is the writers' hobby garden. Charged, as part of his departmental duties over the past several years, with reviewing the gladiolus section in Alberta's "Horticultural Guide", yours truly felt he had to keep his glad patch up-to-date. Fellow glad fans will understand how this point of view would rationalize the outlay of funds beyond the limits justified by the most rabid hobby interest. And so it grew. However, "all's well that ends well"; and the end of a burdensome hobby collection is now the beginning of a valuable floral asset to a growing horticultural institution. Donations from the private collections of J. G. Archibald and J. H. Downs, both of Lethbridge, and J. A. McKay of Brooks, have been welcome additions. So also are their originations — "Baby Butterfly" and "Puck" from Dr. M. W. Cormack, now of Saskatoon, and "Ruffled Rhythm" from Dave Allen of Emerald Gardens, Lethbridge. It is expected that this collection will be further rounded out by purchases, and by donations from interested glad growers and hybridizers.

Besides being of value as performance test on which to base recommendations of suitable varieties for Alberta condition, this collection will serve as a reservoir of sound breeding stock. It contains many of the parental varieties of those just now coming to the front in public favor. Some from the "twenties" and many from the "thirties" must "have something" merely to survive to the portal of the "sixties". In building up this collection the writer annually tried to add such varieties in the "top fifty" as were not already present. To this end, symposia, and other commentary, of the Canadian Gladiolus Society, the New England Gladiolus Society and the North American Gladiolus Council were diligently consulted. Omitting varieties too late to be of value here, success in obtaining the top varieties currently being

grown and in favor over a period of years has gathered an outstanding group, comprised of 150 giant flowered, over 300 large flowered types, over 100 each of the medium and small flowered types and about twenty of the miniatures.

Preliminary work was begun this season to test the effectiveness of various chemicals on the control of corm-borne diseases. Also planned are further checks on chemical weed control in glad plantings, which has proven so promising in some other areas. No results can be quoted from these trials as yet; but a finding on "heat vernalization" in glads may be of interest at this time. Pre-planting heat treatment of corms has been reported as inducing earlier bloom. Under our short-season prairie conditions "late midseason" and "late" varieties rarely give us enough bloom to warrant growing them. However, in replicated trials at Brooks, Edmonton, and Beaverlodge, it was shown that holding corms for 12 days at 80° F. advanced blooming an average of eight days over the untreated check in the "late midseason" variety "Liberation". In the "late" variety, "Patrician", the only bloom obtained at Edmonton and Beaverlodge was from the heat-treated corms. At Brooks the heat-treated "Patrician" averaged nine days earlier in blooming and produced much larger corms than did the check. Now, if we want to go to a little extra trouble we can enjoy some of those highly rated, long season varieties we would formerly only read about. We'll add them to our collection!

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GOLDEN BROOM

Cytisus nigricans, var. *elongatus*.

By **DON MacPHEDRAN**, Prince Albert, Sask.

Tests have proven this variety of Golden Broom (*Cytisus*) to be hardy enough to be a valuable addition to the number of shrubs suitable for low growing hedges in Northern Saskatchewan. It should also prove quite adaptable to the parkland areas of Manitoba and Alberta. It may also be adapted to the drier areas of the prairie region. At present it is being thoroughly tested at a number of places on the prairie and we will know shortly how it behaves under dry land conditions.

This particular strain of *Cytisus* was imported from Brno, Czechoslovakia, in 1937. Several lots of seed were received from various sources in Europe, however, the lot from Brno was the only one that proved hardy enough to survive the first winter. It has been grown at Snowden, Sask., continuously since then and at other locations in the park belt for lesser length of time. Some severe winters there has been a small amount of tip killing but not sufficient to do any great damage to the plants.

While this variety of *Cytisus* takes kindly to pruning and may be trimmed to any height, it will make a fairly neat low hedge without any trimming and under our conditions will grow to a height of about three and a half feet if left untrimmed.

Cytisus is a legume with pea shaped flowers and compound leaves consisting of three leaflets. There is some variation in the types of plants found within this variety, some are of a more spreading nature than others, the greatest number of plants, however, are of an upright type of growth. Some variation also exists in the type of leaf and in the flower color. The flowers are slightly larger than those of *Caragana arborescens* and are various shades of yellow tinged with red which becomes more predominant as the flower ages. The period of bloom is three weeks in early June. This shrub blooms so profusely that it is a solid mass of color when in bloom. When not in bloom it is well covered with leaves right to the ground and makes a very neat low growing hedge which owing to the small stature of the plant does not rob the adjoining garden or lawn of its moisture supply such as the taller growing hedges do.

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The Year 1959 in the Department of Agriculture at the University of Saskatchewan in Retrospect

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

The year 1959 is one that will long be remembered in the annals of this Department. It was a year of great significance in the history of the University and it was a year that brought considerable prominence to the work of the Department of Horticulture.

The University of Saskatchewan celebrated its Fiftieth Anniversary during the year. This University had its beginning in 1909 with a staff of four professors and the President and with an enrolment of some seventy students. Fifty years later, it had a staff of nearly 300 professors with many assistants and with an enrolment of regular students at Saskatoon during the academic year 1959-60 of 4,800 approximately.

The Department of Horticulture made free use of spikes of its new gladiolus variety, Dr. Walter C. Murray, for



A few of the baskets of spikes of the gladiolus, Dr. Walter C. Murray, used in decorating the University gymnasium for the Jubilee Convocation held on September 29, 1959.

decoration at various events during the late summer and early autumn of 1959. This variety was named after Dr. Walter C. Murray, the first president of the University and the man that guided the destinies of the University during its first thirty years, and was named and released in the Jubilee Year. Many spikes of this gladiolus were held in refrigerated storage for three weeks and were used at the main Jubilee Celebrations during the last week of September following killing frosts.

A demonstration of a special use of cut lilies was given at the time of the Queen's Visit to the University in July of our Jubilee year. Stems of two University lily originations, Rose Queen and White Princess, were cut and placed in small openings made in turf at the base of a low stone wall framing the steps of the Murray Memorial Library on the campus where the Queen was formally received. The two varieties of lilies with their rose and white flowers made a pleasing union between the bare stone wall and the turf below. Approximately 150 lily stems were used in this decoration. It was discovered later that University lilies were used by local groups in making presentation pieces for the Queen at Regina, Moose Jaw and Unity. Flowers of the variety Orchid Queen were used for the Regina presentation piece.

A new lily seedling was released during the year and designated Crimson Queen. This is another in the "Queen" series of lilies originated and introduced by the Department of Horticulture, University of Saskatchewan. The plant is a sturdy grower up to four feet in height with large crimson flowers of heavy texture. This makes a total of eighteen varieties of lilies originated and introduced by the Department. For the most part, these varieties represent distinct breaks in the color of previous hardy lilies and white-flowered and pink-flowered varieties are included in the list.

Fruits came in for considerable prominence in the Department during the past year. It was felt that the University's Jubilee was deserving a special celebration as far as the Department was concerned and decision was reached to name and release a goodly number of fruit seedlings developed in the Department. These are varieties that have been developed over a period of some thirty years. Some of Saunders' first generation hybrids were used as the female parents and certain varieties of standard apples were used as male parents. Pollen of the standard varieties used in the project was supplied mainly by the Dominion Experimental Station (now Experimental Farm), Summerland, B.C., through

the courtesies of Mr. R. C. Palmer (later Dr. R. C. Palmer, now deceased) and Mr. A. J. Mann (now retired) who gave their unstinted co-operation and heartiest support to the project. Much of the material used as male parents was growing at the Dominion Experimental Station, Rosthern, Sask. (since disbanded) and was made available through the courtesy of Mr. W. A. Munro, Superintendent of the Station at that time (now retired).

Apples numbering fifteen are among the fruits released during the past year. The fruits of these range in size from one and one-half inches to two and one-half inches in diameter grown under field conditions. Quality of fruit has been an important consideration when making the selection and all are quality seedlings. Budded plants of some of these will be available in the spring of 1960 while such plants of others will not be available until the autumn of 1960 and the spring of 1961.

The pears reported in this publication a year ago and which gave a good account of themselves in 1958 have continued to do well in 1959. Five of these have been named and budded plants will be available in the fall of 1960 and the spring of 1961. Three of these are from crosses between the very hardy Siberian or Ussurian pear and the variety Bartlett and two are from crosses between the former and the large fruited, but little known, variety Aspa.

Five varieties of plums were released during the year. These are quality plums descended from *Prunus salicina* and *Prunus nigra*. The fruits of these have attained a diameter up to one and one-half inches under field conditions without irrigation.

Cherry-plum hybrids released during the year number four. These are open-pollinated seedlings of Dr. Hansen's Oka and Sapa.

One raspberry seedling was added to the fruit introductions for the year. This is a hybrid between Chief and Viking. The canes are sturdy but are of moderate height only. The fruit is of large size, of good color and of good quality and is produced freely. The hardiness of plant appears to be greater than that of Chief.

An interesting development during the year in the potato breeding work being carried on in the Department is that of the discovery of Ring-Rot resistance in a number of the promising seedlings selected. Breeding for Ring-Rot resistance

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was included some years ago in the potato-breeding program of the Department and tests made on certain of the seedlings that were selected on a basis of quality of tuber and productivity of plant have indicated success in this part of the undertaking also. This discovery will shift some of the emphasis, that has been given to quality and yield, to disease-resistance and will result in the necessity of re-assessing certain seedlings. With the increasing prevalence of Ring-Rot in potatoes in the Great Plains Area and with the problems associated with the control of this disease, these seedlings may assume a place of some importance in potato production in the prairie provinces.

The year 1959 was the biggest year in the potato improvement work carried on in the Department from the standpoint of the number of new seedlings grown and from the standpoint of the number of selections made. A total of 17,400 new seedlings were planted in the field for the first time in the autumn. These seedlings all are descended from Netted Gem and carry netting in differing amounts. The skins of the tubers of a few suggest that of a young alligator, netting far in excess of that found in the tubers of Netted Gem, while the skins of tubers of others show netting similar to that in Netted Gem or less.

The discovery that it is probably good practice to wash gladiolus corms at digging time, unless the corms are unusually free of soil, was made during the past autumn. The washing became necessary owing to the wet autumn and to the stickiness of the soil in which the plants were grown. In previous years some difficulty was always experienced in drying and curing the corms quickly even when the amount of soil on the corms was not large. This year, with all the difficulties experienced in retrieving the corms from the moisture laden gumbo, the drying and curing operation presented no problems. The corms and their roots were free of soil after the washing and the drying and curing proceeded without interference. The washing was done by placing the freshly dug corms in a large sieve of suitable mesh and using water under pressure from a hose. Who wouldn't prefer clean corms to dirty corms for winter storage when the operation can be performed as readily as this?

What lilacs should one grow? With the interest in lilacs that prevails one is often asked this question. It is not a question that is easily answered. Many of the lilacs being offered by nurserymen have little to commend them in the opinion of the writer. Color is important in lilacs as it is in other plants and in far too many of the lilacs listed in cata-



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logues the color is woefully wanting. Further, some of the lilacs being offered are incorrectly named. If you are planting lilacs and haven't grown Ellen Willmott (white) and Souvenir de Ludwig Spaeth (magenta-purple) in French lilacs and Guinevere (magenta) and Pocahontas (purple) in Canadian hybrids, you might consider these. These lilacs have been outstanding at Saskatoon in performance and in attractiveness.

People planting the Manchurian elm, which for the purposes of this note includes those designated as the "Manchu" and "Dropmore" elms, should not overlook the fact that this elm is not a long-lived tree. Even so, the tree has an important place in our tree planting but too much must not be expected from it. It has at least two distinct advantages in that it gives effect quickly and is drouth-resistant in good measure. One should not count on it for a period longer than 25 years.

Mention should be made of two of the newer woody ornamentals that are doing well at the University and appear to be worthy of culture. One is a "Rosybloom" crabapple originated by the Department and named Carmine Queen. The flowers are not quite as deep in color as those of Almey but are larger. The plant of this variety appears to be hardier than that of Almey. The other ornamental worthy of special mention is the Wasagaming rose. The plant reaches a height up to four feet and produces good foliage. The flowers which are borne freely are very double and are an attractive mauve-pink in color. Anyone desiring a hardy rose in this color class and who is not growing this variety should have no hesitation in planting this comparatively new ornamental.

The Department demonstrated, during the summer of 1959, the practicability of using a sub-soiler for the pruning of wood roots of plants in single-row hedges or in wider wind-breaks. The implement, or more strictly the attachment, used is known as the Dearborn Subsoiler and it was manufactured by the Ford Motor Company. It may be mounted on any tractor possessing the necessary power and having a three-point tractor-hitch. The blade of the machine is capable of penetrating the soil to a depth of two feet and shearing roots of substantial size. Other subsoilers, too, of this type could doubtless be used for this purpose. A treatment once in two or three years should keep the roots of the trees in the restricted area reasonably satisfactorily.

The year 1959 has come and gone. It has brought disappointments it is true but it has brought rewards. Even our

disappointments could be rewards if our vision could but penetrate the veil. May 1960 bring us peace and happiness above all things!



A subsoiling attachment for a farm tractor being used in the root-pruning of trees. Blade elevated. Note shoe at base of blade which leads blade into the ground. When lowered, the blade rides at an angle in the soil to a depth of approximately two feet.

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Deciduous Shrubs for the Prairies

by R. H. PATMORE, Brandon, Man.

Mr. Patmore operates a sizeable nursery at Brandon, and is an outstanding authority on trees and shrubs for the prairies.

The term "shrub" is an arbitrary one and it can be stretched to cover a multitude of woody plants. Most of us think of something under fifteen feet in height as belonging to this group, but would not wish to defend this limit too vigorously. We usually think of any woody plant grown to a single stem, as a tree, regardless of height, as for example the tree form lilacs or tree roses. Some of the ornamental crabs do not exceed fifteen feet in height, yet we usually think of them as trees, and we have seen ginnala maple well over twenty five feet in height, and still called it a shrub. So keeping this rather confusing border zone in mind and at the risk of being held guilty of adding to the confusion we will attempt to describe some of this wide group of useful plants.

Dwarf Shrubs (up to 3 ft.)—One of the most widely used of this group is that usually classified dwarf, and which for purposes of description will include those that under average conditions grow to around 3 feet or less. These shrubs are made to order for landscaping on the small lot. They are used for planting near the house, especially those with low foundations, and for building the low shrubbery, for example at intersections, where vision must not be obscured. Among the most useful of these shrubs are the potentilla or cinquefoil. These are unique among woody shrubs, as they are one of the few shrubs that will bloom for most of the summer. They are usually yellow flowering, but do include a few white varieties. When grown from seed, they vary considerably, as might be expected, in height, quality of flower, blooming season and general appearance. Selections grown from cuttings give the greatest satisfaction, as they are uniform, have definite colors, and length of blooming season. Farreri is the most dwarf, having a low compact form, and an attractive golden flower. Moonlight grows slightly taller and produces a lemon yellow flower. Snowflake is a white. These are the varieties we have found most suitable. Other growers might add to this list. The Dwarf form of Alpine current is an excellent dwarf shrub, although at present not commercially available. It is compact, richly foliated, and apparently free from many of the afflictions of the genus ribes. Euonymus or Burning Bush adds variety to this group. We prefer the Winged Euonymus, alatus compactus. It has a corky ridged bark and bears

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red fruits which hang on to the bush late into winter. Rich fall coloring gives it the name Burning Bush, but it is hardly as flaming as some newspaper advertisements would have us believe. There is a dwarf form of the native dogwood, Kelsey Dwarf, which can be included in this group and it brings with it the warm red bark of the species, with its white bloom and berries. Rose Daphne is an attractive small broadleaved evergreen, but rather tender and it needs protection. Frobelli or Anthony Waterer spirea is often used as a dwarf shrub. It is tender and the tops will kill back every winter unless well covered with snow. However, it flowers on the new growth, unlike most shrubs, and this killing back does not prevent it flowering, and in fact, helps to keep it dwarf. One of the best of these dwarf shrubs is the Globe caragana. This is a formal globe-shaped form of caragana frutescens. Foliage is darker than with the common caragana and it holds its foliage better in late summer.

The hybrid tea and foribunda roses can be included in this group. They require some care in wintering but the quality of their bloom and their longer season of bloom make this a rewarding labor. Perhaps we should not mention the evergreens when discussing shrubs, but we are unable to resist including a few because of their abundant usefulness in this group of low growing shrubs. The Junipers, Sabina, Arcadia Sabina, and Communis Alpinus are valuable. They are well foliaged, rich in color, and can be depended on to stay within bounds. Another new evergreen not yet widely available but for which we feel tempted to predict a big future is the Montgomery dwarf blue spruce. Intensely blue in color, densely foliaged, and rarely exceeding 3 feet in height, it will find a ready use wherever a low growing shrub is desired. Certain blue juniper selections such as Silver Globe (scopulorum) is also extremely desirable, at present rare, but we hope, more plentiful in the future. Several dwarf forms of the green Norway Spruce have proved hardy with us, and being compact and densely twigged, might find a useful place in Prairie Horticulture.

Intermediate Shrubs (3-5 ft.)— There is an intermediate group of shrubs that will range between 3 and 5 feet. These are also useful in foundation planting, particularly if the foundation is high. Sweetberry Honeysuckle and Clavey's Dwarf Honeysuckle are useful members of this group. Both are yellow flowering. Sweetberry grows in a neat rounded form, and Clavey's has an open spreading head. The popular bush roses are included in this group, including the widely grown red Hansa, one of the few hardy roses that blooms over a long period in summer and the newer Morden varieties,

which bloom heavily in late June and early July. Some of the low growing spireas fit in this group, of which the best is probably *Trilobata*. It is compact, with an abundance of attractively formed and colored foliage, and covers in late June of most years with closely packed white flower clusters. *Media* is hardy and flowers well. Its foliage often becomes discolored and unsightly in late summer. *Sorbifolia*, the false spirea, has foliage resembling the Mountain Ash, as the name suggests, and produces plumes of white flowers in late June. It suckers mildly, but is easily kept under control, with an occasional removal of the suckers. *Pygmaea caragana*, and a closely related species *brevifolia* are excellent shrubs in this group. They are quite unlike the common *caragana* in appearance, as the branching is fine, never heavy, very compact and the bush is globe shaped. They also have all the good qualities of the *caragana*, being drought resistant and tolerant of a wide range of soils and climate. *Brevifolia* is more resistant to spider mite than *pygmaea* and therefore holds its foliage better. *Prunus tenella* is a non-suckering form of the early flowering single pink Russian almond. Since it must be reproduced by layering, and it does not root readily, it is scarce. When grown from seed a large proportion of the seedlings revert to the suckering habit of the Russian Almond, and this species suckers with such enthusiastic abandon that it becomes a weed.

Taller Shrubs (6-8 ft.)—There is a group of shrubs reaching a height of some 6, 7, or 8 feet, which includes some of the most useful species. They are widely used in shrubberies and some are excellent as individual specimens. The red-twigged dogwood, *cornus stolonifera* is attractively foliaged in summer with white flowers and berries, and a warm red bark in winter. *Peking Cotoneaster*, the *cotoneaster acutifolia*, can be extensively used. It has a dark lustrous foliage which opens early in the spring and hangs on well into October. In the fall it colors up well. It is a shapely shrub and stands trimming well. It is therefore widely used as a hedge plant as well as for massing in shrubberies. Its flowers are insignificant, but the black shiny berries in the fall are interesting. *Siberian currant*, *ribes diacanthum*, is another of this group useful as a shrub and for hedging. *Tamarisk pentandra* has a silvery fern-like foliage surmounted with large pink plumes of flowers. The tops kill back almost to ground level every winter but grow again to a good height in summer. The red flowering variety does not have the silvery foliage. *Tamarisk* is usually difficult to transplant. *Cherry Prinsepia* is well liked. It has arching branches and produces large red fruits which add to its fall coloring. The *Mock Orange* or *Philadelphus* is one of the most attractive members of this group. The most widely planted, particularly in the east and south, is the double

Virginal. It is rather tender and requires a sheltered location when planted on the Prairies, but under the right conditions will cover with large flowers in July. There are a number of single flowering hardy varieties of which *Lewisi* is one. It also flowers heavily in July.

Tree-like Shrubs—The largest shrub group includes the tall or tree-like species. These are used for background shrubberies, screening and as specimen shrubs. They are also used in hedges for screening or low windbreaks. This group includes some of the most popular shrubs, such as the Lilacs, ranging from the early flowering *vulgaris* and its hybrids, the so-called French hybrids, through the *Dilitata* selections and hybrids, to the late flowering *Prestoniae* hybrids. The *vulgaris* and the French hybrids, the common lilac, are too well known to need comment. These are the shrubs we all think of when the word lilac is mentioned. Some of these sucker excessively and become as uncontrollable as weeds when planted. Others sucker less readily and can be used safely in a planting. Those that sucker readily can be easily grown by planting out these suckers, and since they are easily grown, they can be grown cheaply. Those that sucker less readily must be grafted on non-suckering roots such as ash, which acts as a nurse root supporting the lilac long enough to enable it to make its own roots and then conveniently dying off, leaving the lilac on its own root. They are also grown by planting the few suckers they can be induced to make. I have never known *dilitata* selections to sucker, but would not be surprised if they occasionally did so, and the *dilitata* hybrids do not sucker badly. The *prestoniae* hybrids are completely non-suckering. The foliage is long, unlike that of a lilac, but the flowers resemble those of the common lilac. Some varieties such as *Redwine* lack vigor, but others are very vigorous, particularly *Royalty*, with large panicles of bloom, which in some seasons will cover the bush. They are possibly the most satisfactory of any of the lilacs.

The *Tartarian Honeysuckle* is another important member of this group. It is hardy, non-suckering and covered with bloom in late June. The deep red flowering varieties are showy, including *Zabelli* and one newly introduced by Dr. Patterson of the University of Saskatchewan. These are also some good white flowering varieties, and some useful introductions of other growers.

There are two selections of the *European Red Elder* of considerable usefulness. They are both hardy and attractive. One, the green foliaged *Redman Elder* with finely cut leaves, has balls of creamy flowers in spring resembling the *Snowball*, followed by clusters of small red berries which are edible in summer. It does not grow so rankly as the coarser leaved

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varieties grown from seed. The other is the Golden Plume Elder, the foliage of which turns a bright golden color when exposed to full sunlight. It also does not have the rank growth of the seedling elder. Both these varieties must be grown from green cuttings or grafted.

Highbush Cranberry also belongs to this group. It has a deeply lobed leaf which gives it a rather refined appearance, clusters of white flowers in spring, and red berries in the fall. The young bark is smooth, whitish, adding to its appearance. The native *Viburnum Trilobum* is the most suitable for the prairies. Another member of this family is the Nannyberry, or *Viburnum Lentago*.

Double Flowering Plum (*Prunus Triloba*), and the Double Flowering Prairie Almond are popular shrubs in this group, although possibly belonging better to the 5-7 ft. group. *Prunus Triloba* has larger, more double flowers, of deeper color than the Almond. The Almond may be somewhat hardier. Both are usually grafted on plum seedlings, and some may sucker. Such suckering roots should be watched for and pulled out whenever they appear to avoid having them choke out the desirable grafted part of the tree. These are sometimes grafted on bush cherry and Nanking cherry roots, and even started by layering on their own roots, but they are not readily propagated in this manner.

Caragana Arborescens, the common caragana, and its selections form part of this group. The most attractive of these selections is the *Caragana Lorbergii*, or fern leaved caragana. With its feathery foliage it is very popular for contrast in a border and even as a specimen shrub. If kept trimmed it shows off to better advantage. The foliage is a light green which makes it useful for contrast. It has all of the toughness and adaptability of the caragana.

Of the ornamental crabapples, *Almey* is without question the most outstanding. It has an annual flowering habit, unlike most of the breed, and covers with masses of deep rose colored blossoms in late May. It has rather a spreading head, which can be restrained if desired by pruning, if not done too severely. There are other pink flowering varieties, but we have not seen any of them that equal *Almey* when in bloom. These all appear to be of equal hardiness, as they have all originated from *malus baccata* and the red flowering varieties of *malus pumila*. *Dolgo* is one of the best white flowering crabs, as it usually bears an abundance of bloom in the spring and is covered with its striking scarlet fruit in the fall.

There are two species of maple hardy on the prairies often grown as tall shrubs. These are *Ginnala* and *tartarica*. Both

are valuable as ornamentals and as windbreak material. Ginnala is possibly hardier, though there does not seem to be much difference, as we have never known either to winter kill. Ginnala has deeply lobed leaves, whereas, tartarica is not lobed, but has a serrated or saw-toothed edge. Both color attractively in the fall, and both have medium sized winged seeds which also develop color contrasts on the tree. Since these are among the most tree-like of the group, they should be used only where very tall shrubs or low growing trees are required.

Russian Olive is probably the most satisfactory of the silvery foliaged shrubs of this group. It colors more intensely than others, and is non-suckering. If grown from suitable sources, it is quite hardy. Buffalo berry and Russian Sand-thorn both sucker and this makes them objectionable. The Silver Leaf Willow is a useful member of this group, although it will often go beyond its upper limits. The coyote willow is the most highly colored of any, but not yet readily available. It must be grafted on a non-suckering willow to avoid having it sucker all over the surrounding plot. I have never seen specimens higher than four or five feet, but expect it would grow higher than this.

There are a number of species of Hawthorn; all extremely useful for prairie plantings. Toba is a hybrid of an English variety and one of the native prairie hawthorns. Its foliage adds to the appearance of the tree. The flowers open white and turn pink as they age. It is of borderline hardiness and has often killed back in the Brandon area in winter.

Prunus Maacki, the Amur Cherry, is a tall, tree-like shrub. It has a lustrous brown bark, white flowers in spring and colored berries in the fall. It is resistant to the black knot disease which often makes the May Day tree, which it resembles, unsightly. Schubert pin cherry, with its dark purple foliage, is useful for contrast. It has the typical pin cherry flowers in long clusters in spring, followed by the shiny black pin cherries in the fall.

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Maintenance of Trees and Shrubs in Alberta Gardens

By W. BROWN, District Gardener
Parks Department, Edmonton, Alta.

With the rapid development of residential subdivisions, we find that shrubs and grass are being widely used in landscaping the lots of home owners. Properly planted and looked after they complement each other and the home to the best advantage, but if either is not looking its best, the whole arrangement suffers.

Here I will deal with ways to keep the trees and shrubs in good order and to do this must consider the results desired from each plant. In the dogwood, for example, we probably want the fall colouring of the leaves and winter twigs, while with lilac we will certainly look for masses of flowers in their season. With the evergreens, the shape and form of the plant is important, each type showing different features to greater or less advantage. Each plant should be treated in such a way that its especial features will be emphasized but not at the expense of its general health and all round appearance.

The general health of the plant is important and to improve this the following points should be watched:

Soil Fertility—Except in very good soils established shrubs and trees will benefit from dressings of fertilizers containing Nitrogen, Phosphate and Potash (N.P.K.), applied in the spring or early summer.

Watering—In long, dry spells, and especially where the soil is loose and sandy, or on sloping banks, watering will benefit most plants. A really good soaking once a week will do far more good than daily sprinkling of small quantities. Watering should be reduced towards the end of August.

Digging—A lot of harm is often done by people who dig too close to the base of shrubs during a fall cleaning up period. If the beds can be mulched with organic material, peat, grass clippings, sawdust, etc., during summer, digging will hardly

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be necessary. Where it is deemed necessary, a digging fork is a safer tool than a spade or shovel, as far as the plant's feeding roots are concerned. Weeds can be controlled by hoeing in most cases.

Pests and Diseases—The pests and diseases, which will appear even in the best of gardens, can usually be dealt with fairly easily. A wide range of sprays and dusts is available and a trip to a reputable horticultural sundries store, with a sample of damaged plant material, will usually produce a suitable remedy. If anything unusual is noticed about a plant, it should be checked at once, as early control measures prevent pests and diseases from spreading as well as reducing damage. In cases where difficulty arises the University or Parks personnel will be pleased to advise on these problems.

Pruning—Much unnecessary mystery surrounds most instructions on pruning. The perfectionists will require detailed instructions but the average home owner can get by by using some common sense and remembering a few simple rules and facts.

Pruning is the removal of part of a plant, usually to persuade the plant to conform to a desired pattern. It must, therefore, be known how each plant is likely to respond to any given pruning treatment. The following are useful generalizations of cause and effect:

A branch cut off above a growth bud—In this case the bud will usually be induced to develop into a branch growing in the general direction in which the bud was pointing.

A branch cut off above a side branch—This will often speed up growth of the side branch.

More than 50% of the branches cut off—In a healthy plant this usually induces rapid and soft twig growth in the following growing season.

In general—Young well rooted plants will be more responsive to pruning than old mature plants where other factors are equal. Plants mostly tend to grow towards the light and away from dark areas or deep shade. Always make pruning cuts in the region of active tissue, e.g., above a bud or close to the union of two branches.

Methods—All shrubs and trees should have the dead and unhealthy branches removed, along with those rubbing against

or crowding another. Branches which are spoiling the shape and balance should also be removed, but this does not mean clipping to geometrical forms.

From this point consider the special features mentioned earlier. If flowers are required, then the production of flowering branches will be the main aim of the pruning. Plants flowering on old framework branches need little more than cleaning and thinning. If they flower on wood matured the previous year, they must be pruned to induce production of good wood in the current year. This is done by removing old branches which have flowered leaving room for new branches to grow and mature. In cases where the flower bud is at the end of a branch, and it has developed the previous season, remove the faded flowers as soon as possible. Lilacs are in this group. In all cases thinning out and keeping the plant healthy is necessary.

Where twig colour is the aim, such plants as dogwoods and willows can be cut back to ground level each spring and will produce new wands for the following winter. This is not the only way to get twig colour as plants growing naturally will be attractive in their own way.

I hope that these brief notes will encourage home owners to approach their shrubs and trees with more confidence and sharp pruning tools. No two plants will respond with the same vigour and in time the home owner will be able to treat each plant as an individual in such a way as to obtain the best results.

Finally, no amount of pruning will make a valuable shrub from a plant which hasn't room to grow. It is better to thin out whole plants in this case and have fewer good ones.

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The Home Greenhouse in Alberta

By JACK ROGERS
Gardens Foreman
Parks Department, Edmonton, Alta.

It seems probable that many home owners have considered building a greenhouse in their yard, only to be put off by lack of, or too much, information about the operation of these useful buildings.

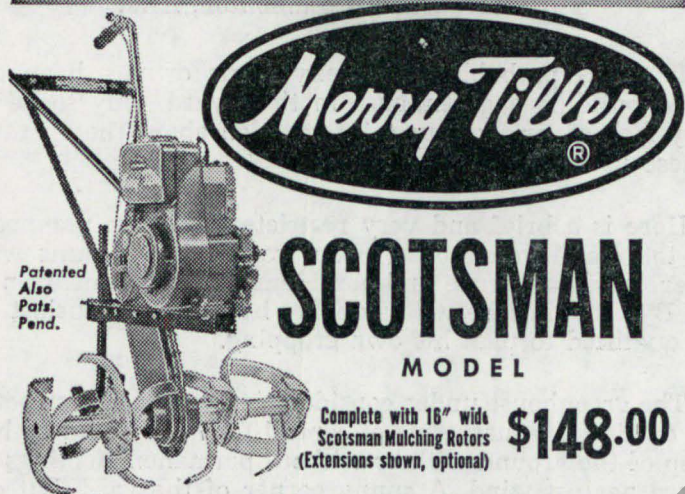
Here is a brief and very restricted program planned to give the small greenhouse owner satisfactory results while he develops experience and confidence to experiment on his own. By that time he will probably be a true enthusiast and well qualified to plan his own cropping.

The greenhouse under consideration would be a structure with outside measurements of some 10' x 7'. It would be built on top of the ground with or without permanent footings but secured against wind. A sunny corner of the yard, but convenient to water, and gas if it is to be used, would be utilized. The construction would have solid walls 30" up from ground level topped with 20" of framed glass wall. The centre ridge at 78" high would run lengthwise with hinged ventilators at the down wind side. A method of opening some of the side windows would improve the operating of the house. Any convenient size of glass can be used in the construction but some standard size should be aimed at to ease replacement problems. The home handyman might build his own greenhouse but unless he is quite experienced would be well advised to have a competent carpenter undertake the task.

Portable benches, about 27" wide, would run down both long sides of the house and across the end opposite the entrance door. Later on the owner will probably wish to remove them to carry out his own cropping plan. They should be about 30" from the floor and can be used as work benches when not otherwise employed.

The following cropping plan is for part of the year only, leaving the house empty during the coldest part when heating is an expensive proposition. Materials required will be con-

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tainers to hold composts for planting. (Boxes 2" to 2½" deep with measurements of 10" and 12" would be suitable.) All containers require provision for excess water to run through the bottom. Some sterilized loam, some sand and peat, a heater for the greenhouse, labels, spare pieces of glass big enough to cover the containers, and seeds of the plants to be grown.

In March the heater is started and set to maintain a minimum night temperature of 50° F. (Heaters of various types are available.) A mixture of 2 parts sterilized soil, 1 part sand, and 1 part peat is put into the containers and packed fairly firmly. Some of the bedding plants, e.g. lobelias, salvias, and pansies with celery, leeks, and onions can then be sown and lightly covered with fine soil. The finished soil level should be ½" below the container top. Then the whole is set in a pan of water which comes to ½" below soil level and allowed to soak until the soil surface is evenly moist. It is then taken from the water and allowed to drain. Now ready for putting on the bench, it should be covered with a sheet of glass to reduce drying out and covered with paper to keep it dark and avoid the effects of direct sunlight.

The temperature should be kept about 50° F. at night by the heater and below 60° F. during daytime by ventilating. When not needed the heater will of course be turned off. Do not ventilate if cold frosty winds are blowing.

In mid-April the other bedding plants should be sown, e.g. petunias, snapdragons, asters, etc., along with some early cauliflower, lettuce, corn and tomatoes required for planting outside. They are treated as described above.

In early May a sowing of cucumbers and tomatoes is made to produce the plants required for cropping in the greenhouse during the summer. It is a little difficult to grow both in the one house unless it can be partitioned with transparent material such as one of the plastics. If this is not possible only one kind should be grown as a start.

When seeds germinate the paper and glass are removed to allow light and air in. For the first few days however, they should be shaded from bright sunlight. As soon as the first true leaves (not seed leaves) appear, the plants should be carefully dug out of the seed containers and planted 1½ to 2" apart each way in a similar depth of container with a heavier compost, e.g. 7 parts soil, 3 parts peat, and 2 parts sand, and

well watered as soon as planted. A pointed stick is very useful for this planting. Once thoroughly established in these containers they can be gradually hardened off by allowing more air to circulate and the night temperatures to drop to 45° F. A cold frame is a useful unit at this stage. Planting outdoors is usually done in late May or early June.

The summer greenhouse crop should be coming along about this time. Plants of these are planted in containers which will allow 1 cubic foot of compost per plant. With cucumbers, the plants are planted in about 3" of compost and this is filled up with good soil and well rotted manure mixed, applied in 2" layers as the plant develops. Side shoots are allowed to develop three leaves and then stopped while the main shoot is trained up over the roof. If the benches are taken out extra light is available. The plants should be sprayed with clear water twice daily unless the weather is cold and dull. Plants will be planted 3' apart.

Tomatoes will be planted in about 9" of compost and fed with commercial proprietary fertilizers or manure, water when the first fruits are about the size of grapes. All side shoots should be removed. Plant at 18" apart.

Regular watering and attention will do much more to ensure the success of the crops which should produce about 7 pounds of tomatoes per plant and 12 cucumbers. This is when the plants are producing into November by the use of heat on the colder days and at night.

Costs will vary greatly from year to year but the average heating cost will be roughly \$10.00. As the owner gains experience he will be able to judge whether he wants to operate over winter but since this is designed for the beginner it is probably best to leave the winter months empty. It is hoped that this will encourage some of the undecided homeowners to join the ever increasing numbers of small greenhouse owners.

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Healthy Strawberry Plants Pay Dividends

By C. R. URE, Head, Fruit Crops Research,
Research Branch, Canada Dept. of Agr., Morden, Man.

The use of healthy strawberry plants to start a plantation pays enormous dividends. Growers, both amateur and commercial, and likewise the strawberry breeders, have obtained promising new varieties or new seedlings, and after a period of time experienced a decline in plant vigor and fruit production. Many a variety of seedling that appeared most encouraging at the beginning was eventually discarded as unproductive. They turned out to be virus infected.

Virus diseases have been recognized in crop plants for many years. For example, the running-out or deterioration in potato varieties has been known for a long time to be associated with virus infection. However, it is only within the last 15-20 years that virus diseases have been established definitely as the causal factors causing deterioration in strawberry. In the intervening period the full extent and seriousness of virus infection in strawberry has become abundantly clear. It has been indirectly responsible for many growers dropping out of commercial production. One authority has said, "Virus diseases of strawberry have been among the most challenging of all crop-reducing hazards that have confronted plant disease specialists, nurserymen and fruit growers." In Manitoba, growers are not fully alive as yet to the seriousness of this situation.

Strawberries are susceptible to a number of viruses. Viruses are very minute entities or organisms far too small to be seen by the ordinary microscope. They possess the ability to multiply within living plant tissues and soon spread to all parts of the plant. In time, each runner arising from an infected mother plant becomes contaminated due to increase and spread of the virus within the plant system. Viruses are spread from infected to healthy plants by means of aphids. While several species of aphids feed on strawberry, the one that appears largely responsible for virus spread is the green strawberry aphid, *Capitophorus fragaefolii* (Cp11).

The presence of virus cannot be always recognized by outward or obviously apparent symptoms that will enable the grower to say this or that plant is infected. Rather, infection is

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usually suspected because of the way the plants behave when infected. There is generally a decline in vigor and production after infection rather than complete destruction. The severity of the reduction in vigor and fruit yield depends on the particular virus or mixture of viruses present. Some viruses, or virus complexes are much more drastic in their effects than others. It depends also on the degree to which a particular variety is susceptible or tolerant to the presence of a virus. Many commercial varieties are relatively tolerant of infection by single viruses, but certain combinations of viruses can cause devastating results. There are some virus diseases that can be recognized by specific and characteristic symptoms. Xanthosis (yellow-edge, or yellows) and crinkle are two such diseases with distinctive appearance.

Commercial acreages of virus-free plants have demonstrated increases in fruit production ranging from 70 per cent to doubled and trebled the yield compared to similar acreages of common stock, grown in the same area. The percentage increase from the virus-free stock in comparison to common will depend upon the severity of virus infection in the latter stock. It can be great or it can be light. As an example of what can happen the results of three-year experiment at Morden are presented. In the spring of 1957 a comparative test of virus-free and common plants of three varieties was established. One of the first observations noted was the greater ease with which the virus-free plants became established. Little or no replanting had to be done to establish full rows of mother plants. Such was not the case with the common stocks. The following spring (1958) counts were made on the number of plants established and growing. Virus-free Aroma produced 314 per cent more plants than common Aroma, virus-free Dunlap produced 530 per cent more than the common stock, and virus-free Premier 334 per cent more. Fruit yields for 1958 and 1959 combined show a 241 per cent increase in virus-free Aroma over the common stock, while Dunlap and Premier virus-free gave 213 per cent and 983 per cent greater yields respectively. It need hardly be said that strawberry growers can ill-afford to plant anything but the healthiest stock obtainable. Only through their use can the grower be sure of realizing the maximum returns from his plantation.

Maintenance of Healthy Stock:

Certain precautions and steps can be taken to ensure healthy, relatively virus-free plantings. Strawberry plants infected by virus cannot be cured by any of the ordinary spray or dust treatments, since the virus entities are systemic. Heat treatment of plants has been used to destroy certain viruses

but temperatures required are near the critical point of plant destruction so that special facilities and knowledge are essential to success. To maintain healthy plants one or more of the following procedures may be adopted as circumstances dictate.

1. Whenever possible start with virus-free plants from a reputable grower or nursery. The higher cost of healthy plants will be more than offset by the increased productions.

2. At the time of planting, destroy any plants showing recognizable symptoms, such as in Xanthosis or crinkle.

3. Any plants that show symptoms later on should be rogued out and destroyed as soon as recognized. Weak, stunted plants should receive the same treatment. Destruction of the plants must be taken literally — dig out as soon as observed, and bury or burn immediately.

4. Runners from diseased plants should never be used, and likewise, runner plants from apparently healthy plants in a field known to be virus infected are better left alone. Often the kindness of a neighbor in supplying plants is not a kindness at all if such plants are diseased.

5. New plantings of healthy stock, and especially plants being used for the propagation of runners to increase stock, should be isolated as far as possible from other commercial plantings. Distances up to one-third or one-half mile are recommended where possible.

6. Commercial growers will find it profitable to purchase a limited supply of virus-free plants every 3 or 4 years from a source of foundation stock. These plants are set out in an isolated planting to produce runner plants for establishing his commercial field. A similar practice might be followed by nurserymen producing plants for sale.

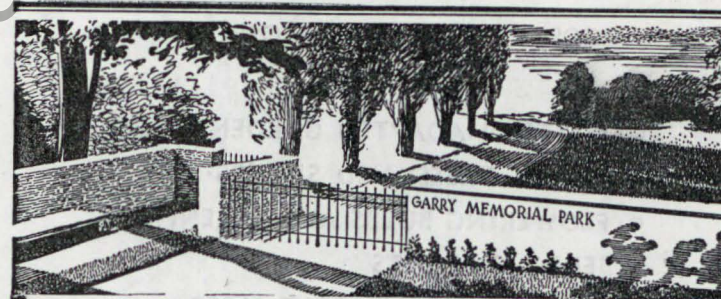
7. Regular applications of an effective aphicide spray or dust helps to keep aphids under control and reduces the chances of virus spread. Several chemicals have been used successfully; one of the safest to use is Malathion W.P. at 2 lbs. per 100 gallons of water applied about every two weeks. Avoid application less than 21 days before the fruit is ready to harvest. Strawberries grown for fruiting purposes only do not require as intensive an aphid control program.

8. If the varieties being grown are not certified as being free of virus then caution should be taken to avoid planting side by side varieties of unknown health status. If each variety grown happens to carry different single viruses or virus com-

plexes, then insects may mix up the virus strains and the end result can be drastic — often a complete breakdown.

9. Virus-free plants are not available in all varieties, and particularly, certain varieties especially adapted to the prairie region. For example, all plants of varieties such as Sparta and Glenheart so far tested have carried virus. Growers who wish to grow only virus-free stocks will have to be content with varieties in which virus-free plants have been isolated. At the present time, these include such varieties as Gem, Dunlap, Aroma, Premier, Sparkle and Robinson.

Sources of supply of virus-free plants are still somewhat limited on the prairies. Several nurseries are growing plants of varieties in which virus-free plants are presently available. It is suggested that you contact the nursery you deal with and he can assist you, or write Mr. F. C. W. Rice, secretary-treasurer of the Manitoba Nurserymen's Association, 185 Ash St., Winnipeg 9, Manitoba, for lists of nurseries.



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Industrial Grounds Beautification

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

The Winnipeg Horticultural Society joined with the Industrial Development Board of Greater Winnipeg during the summer of 1959 in broadening the field of interest in gardening to take in the grounds surrounding business houses.

This was the inauguration of an annual contest for the best landscaped industrial grounds in the Greater Winnipeg area.



First Prize Award, firms employing over 100 persons.
Carling Breweries (Manitoba) Ltd.

The industrial grounds were divided into two classes, firms employing 100 persons or less, and firms employing more than 100 persons. The landscaping was required to be at least one year old.

The judging was done on September 2nd, with special intention, that is, that industrial grounds should look good

for as long a season as possible. A fine show of short-lived annuals alone will not score winning points.

To be noted, too, was the opinion of the judges that the grounds must look good to the passerby on the street.

The two judges were driven around the industrial areas by G. R. Fanset, industrial commissioner, and the owners knew neither that their grounds would be judged, nor even that their grounds might be seen by the judges. All the previous warning they had had was that the competition would be held during the summer.

The ideal in the minds of the judges is a combination of evergreens and deciduous shrubbery, with early and late blooming perennials and summer annuals. The evergreens break eternal whiteness of winter's snows.

Companies whose grounds were rated highest in their respective classes, were presented handsome framed certificates, furnished by the Industrial Development Board, bearing the notation that the award was made "to encourage continuing beautification of industrial properties in the metropolitan area."

The presentations took place at a luncheon in the Fort Garry Hotel on September 17th, presided over by A. K. Stephens, chairman of the Board, who handed the certificates to the winners of the "over 100 employees" class. E. C. W. Rice, president of the Winnipeg Horticultural Society, gave their certificates to the winners in the "100 and less employees" class.

Winners of the 1959 awards were: over 100 employees, 1, Carling Breweries (Manitoba) Ltd.; 2, Bristol Aero-Industries Ltd.; 3, Canadian Oil Companies Ltd. 100 employees and less, 1, C. C. King & Company Ltd.; 2, Fisher & Burpe Ltd.; 3, Western Engine Works Ltd.

Mr. Stephens, in stating the occasion for the luncheon that had brought together representatives of his Board and of the society, said that he believed that it was the first time in Canada that an organization like the board and a horticultural society had worked together on a project for the beautification of their city. He thanked the Winnipeg Horticultural Society for bringing forward the suggestion.

Strangers to Many Gardens

By J. R. ALMEY

General Agricultural Agent,
Canadian Pacific Railway Company, Winnipeg, Manitoba

In recent years, many of the hardy perennials have been gradually replaced by the more showy annuals, biennials and tender perennials. This may be undesirable. I intend to deal with ten perennials only. In doing this I make no claim to them being "something new", or something much better than those commonly grown. One could venture to say, with certain qualifications, that they are not all commonly grown, or often grown, and that the grower will get a lot of pleasure from well grown specimens of these ten kinds. Under Winnipeg conditions they are known to numerous growers, and I have yet to meet anyone who finds much fault with them. I have grown nine of them for several years; some for over twenty years. The necessity of being winter hardy under our conditions limits the number of perennials we can grow, and growers in more temperate climes may not, therefore, rate these as highly as we do. Very few perennials have a long season of bloom, so foliage effect and plant type should be kept in mind.

The first I will deal with is **Ajuga genevensis (Bugle)**. This plant hugs the ground and sends its blue spikes of flowers up to 9" high above dark bronze shiny foliage. It is a vigorous grower, almost weed-like in its ability to spread and root over the surface of the ground. Perhaps it is best suited to the rock garden, but still well suited to the front edge of the perennial border. It blooms in early summer and is attractive throughout the season on account of its foliage color.

Delphinium Tom Thumb. Selections of the dwarf Delphinium give us a shade of blue for the garden which few flowers provide. This British selection "Tom Thumb" can be started like ordinary half hardy annuals, and will bloom the first year at a height of between 9 and 12 inches. The second year its height will be closer to 20 inches, and will remain at approximately that height. Plantings of this, combined with white lilies, make a very attractive spot in the garden. It is of easy culture, seeds freely, and if the latter are kept picked off the blooming season is considerably extended.

Campanula glomerata. Many people mistake this Bell-flower for a Gentian. Its clustered head does impart that idea. Its dark blue flowers in early summer bloom at approximately

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15" to 18" high. It will spread rapidly and needs to be dug, thinned out and replanted in late summer for good effect next year. Selections (clons) vary in their growth, and weak stemmed selections are to be avoided, as the heavy head of flowers needs the support of a sturdy strong stem. In recent years it has been planted in many gardens in Winnipeg, and is perhaps now the most commonly grown of those kinds I am writing about.

Clematis integrifolia. This perennial has a long history on the Prairies, and, within the plants I am writing about, has been grown for a longer time than most of them, yet today it is seen in very few gardens. Its nodding blue flowers continue to bloom over a more lengthy period than most perennials. Good selections of this make showy plants 2 feet high. A hybrid of this C. i. Durandi, while not as indifferent to careless gardening as integrifolia, is a much better perennial, and, with good drainage and slight winter protection, can be made to give good results. Its flower resemble C. Jackmani and are almost as large but retain the thick fleshy petals of integrifolia. It grows taller to 3½ feet and needs support for its slender growth.

Gentiana lagodechiana. This is another blue perennial which is easy of culture, blooming in midsummer to late August. Its typical gentian flowers are held some 6" to 8" high on slender stems which support each other. While many gentians are difficult to grow, this one has been continuous in my garden for over twenty years. Our high alkaline soils do not deter its growth, as is the case with many desirable plants. Its low growth places it in the rock garden to better advantage, but a mat of it at the front of the perennial border looks quite at home.

Ligularia speciosa. Most of us are acquainted with tall spikes of blue delphiniums; at a short distance away this plant looks like a tall yellow delphinium. It has spikes of yellow bloom, 2' to 2½' long, which reach to a height of 5½ to 6'. Its leaves at the base of this plant are somewhat rhubarb-like, and are often 12" to 15" across. It delights in a rich moist soil. It is best located where it is shaded from the strong afternoon sun, as its large leaves quickly wilt down in our dry atmosphere. Three to five plants of this in the back of the border render a majestic effect with complimentary plantings. By itself it has never set seed during the twelve years I have been growing it. It divides easily and can so be increased.

Lysimachia punctata. This yellow perennial has been growing for me for the past eight years without replacement. It is not completely hardy, but a light mulch of strawy manure

is all the protection it has needed. It likes a moist soil and I believe would grow better in an acid soil, although it has been growing satisfactorily for me in my ordinary Red River Valley soil. I have seen it growing to best advantage on Lulu Island in the mouth of the Fraser River, British Columbia, and also in Nova Scotia, where the Lupins grow so easily. Its spikes of yellow flowers grow from a bushy plant to 2' to 2½' tall.

Monardia didyma Bergamot. The scarlet form of this plant (Cambridge scarlet) has been grown for quite a number of years in this area. The prominence the pink form, known as Croftway Pink, has recently reached, gives it a foremost place in the perennial garden. Its rose-pink somewhat thistle-like flowers on a well rounded plant, reaching a height of 2½ feet, rates it a choice plant for the perennial border. Both this variety and the scarlet selections bloom over a longer period than most perennials. It loves the sun and is very happy on our Prairies.

Primula cortusoides. This perennial has been grown as long as forty years ago on the Prairies and yet today we rarely see it. This is difficult to explain. It is hardy, easily grown, not too choosy as to soil. Perhaps it cannot stand the hot burning sun in summertime, and at that time of the year needs shade. It blooms here in late Spring or early Summer. Its heads of rosy-purple flowers reach a height of 8 to 10 inches. It blooms at a time when few garden flowers are available. It is well suited to the rock garden, but a colony of them planted at the edge of a shrub group will repay the care needed. It sets seeds readily and is easily grown from seed.

Trollius (Globe Flower). In mid-May, when few flowers which can be cut for home use are available in the garden, the various varieties of this flower are welcome guests. The different varieties will vary from 6" to a height of 2 or more feet. The colors will range from pale yellow to deep yellow orange. They do like a moist situation, at least until past flowering, and usually up until then natural rainfall will take care of their needs. Some plants have been blooming each spring in my garden since 1940, and have only been replanted once, which was found necessary in order to remove encroaching twitch-grass.

I do believe all of these ten perennials have a place in the Prairie garden which has sufficient space to grow perennials or is a garden suited to plantations of perennials. I add this because in the planting arrangements care must be exercised to avoid uninteresting large areas when the blooming is past.

FLOWER ARRANGING

by Mrs. L. M. ROBINSON, Regina, Sask.
Secretary, Regina Horticultural Society.

Any type of decoration is rightly dependent on personal taste, so that these suggestions must be adapted to your own preferences.

A little planning before the planting season will be a big help in achieving satisfying arrangements. Where will you place your arrangements? It is usually in your own living room. If your living room is decorated in pastel tones, take this into consideration when choosing your plants for cut flowers. A bouquet of scarlet sweet peas or orange marigolds will not be as pleasing in a room featuring rose tones as will one of reds, rose, mauve, etc.

What location will your arrangement occupy? An arrangement on a mantel or tall piece of furniture would not be as high as one placed on a low table or on the floor. If your room is not very large, you will probably prefer smaller arrangements which call for smaller blooms such as the miniature types of glads or dahlias in preference to the large types.

Something else which must be taken into consideration is the amount of space you have available for growing flowers for cutting. If your space is very limited so that you can grow only a single row, probably sweet peas will be a good choice due to the abundance of flowers produced over a long season. If your space is not too limited, you will probably grow a number of varieties, but your time and size of pocket book may be considerations. There are many varieties suitable for cutting which can be grown from seed in the location where they are to bloom. We have good luck with sweet peas, sweet sultans, clarkia, dianthus, cosmos, zinnias, marigolds, larkspur, annual chrysanthemums, double shirley poppies, annual delphiniums, etc.

Snapdragons, stocks, petunias, etc., are best grown from bedding plants, while dahlias and gladioli are grown from roots. When planning you should try to include some perennials for early blooms and some plants which will provide foliage for your arrangements. If you plan for dahlias or gladioli for arrangements you should try to grow several of a single variety. Various types and colors of dahlias together in a vase usually present a rather jumbled appearance but one color of two or three types or mixed colors of one type can be very pleasing. The same is true of gladioli to a considerable extent.

Having made your plans and planted your garden, you

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have only to wait a short time and you can have small arrangements from early perennials.

This would probably be the best place for mentioning containers. You may find that you have a tendency to choose a similar type each time you are buying a vase. Instead, try to vary the sizes, shapes, and types so that you can vary your arrangements. When the first few blooms are available, a small container will be required. A few Iceland poppies or columbine in a small vase can be very pleasing. A low vase should be available for pansies and other short-stemmed blooms. When cutting the flowers, try to cut some foliage from the same plant, or if it cannot be spared, take some other foliage which is available. If your containers are wide-necked, you will require a pin holder, or material such as vermiculite to hold the stems in place. There is clay on the market for holding pin holders in place and it is a very good investment as it costs only a few cents, and will be a great help in making your arrangements stable. Vermiculite should be damp but not so wet that it won't hold.

In the summer you should try to pick your flowers in the morning before the temperature is above 70°. They should then be placed up to their necks in water in a cool place such as the basement for several hours to "condition" them, before arranging. Flowers will keep much fresher if they are picked from plants which are not too dry, and if they are kept in water to condition for some time before they are arranged or transported.

If you are using foliage grown separately from the flowers, you usually arrange the foliage in the outline you intend the arrangement to take. The flowers are then inserted between the foliage. Don't crowd them. They should still show up as individuals and preferably should not be touching. Where several varieties are being used the larger blooms are arranged first and usually lower, then the spaces filled in with smaller flowers or those of "spike" types. To explain this, if you picked zinnias and marigolds of medium size, snapdragons, larkspur, dianthus, sweet sultan, clarkia and annual chrysanthemums, you would place the zinnias, marigolds and then snapdragons, then fill in the other types mentioned, as they are smaller, more graceful, and will make a more pleasing "Outline".

Vary your arrangements, sometimes in an upright vase, sometimes a bowl and sometimes in a flat dish type container. Novelties will also come in handy and can be very attractive when grouped with suitable accessories, i.e. shells or shell-type containers with driftwood, sea gull ornaments, etc.

Bouquets made up of several varieties or types in a single color can be very effective. This brings to mind an arrange-

ment in a coppertone wicker basket. I used orange and gold hybrid marigolds, bronze snapdragons and a few gold zinnias. The arrangement was based in vermiculite. The marigolds had plenty of very attractive dark green foliage. The flowers were arranged in what might be called a spherical arrangement — the marigolds higher in the centre and lower around the edges. The snapdragons interspread at intervals between, and here and there a zinnia. The only disadvantage of this arrangement was its smell, and this brings us to a point which must be taken into consideration when arranging flowers for a dining table. Flowers with a strong odor or a heavy perfume must be avoided. While mentioning table centres for dining tables, I will note a few other observations. The size of the table and the number of diners will determine the size of the centrepiece. It must be small enough not to interfere with the dinner and low enough that the diners may see over it. If the dinner will be eaten under artificial light, make sure the colors look well in the type of light to be used. Also take into consideration the setting. An all white centrepiece will not show up as well on an all white table cloth with chinaware which is of pastel colors on a white ground as would one with more color. For instance, if the dishes feature orange and rust tones, clear scarlet, bronze, gold or yellow flowers will be good choices.

You will probably wish to take some of your flowers to friends in hospital, and a little thought in this direction will help. The hospital rooms are usually much more lofty than your home, and your friend will view the bouquet from a distance, usually while lying down. Large gladioli, or other large flowers arranged in a large tall bouquet will probably be most suitable. Flowers with a pleasing fragrance are usually very welcome, so try to include at least a few stocks, petunias, sweet peas or some other flowers with a pleasant perfume.

Flowers for a church should usually also be tall so that they may be seen at a distance, and of a light color if they will have a dark background. Most exhibition halls are large, dingy and poorly lit, and flowers may be larger and brighter than those which you probably find pleasing in the more refined atmosphere of your home.

A last word about florist flowers. They usually come with uniform long stems. Don't be afraid to trim them down to size to make a pleasing arrangement, and don't forget to condition them for some time before arranging, as they have been out of water for at least a short time.

Our Farm Home Grounds

By W. H. SHAFER, Poplar Point, Manitoba

Mr. and Mrs. W. Shafer won the F. W. McIntosh Trophy and the Richardson and Sons Trophy for the grand champion farm home grounds in Manitoba in 1954 and again in 1956.

I sometimes wonder why farmers in general appear so indifferent to their home surroundings, as compared to their city counterparts. Can it be that they are less aesthetically inclined? Is it the close association of the urban dweller which impels him to conform to an established pattern? Or is it due to the differences in their respective types of occupation?

The urban dweller, usually confined indoors during his working hours, finds change and relaxation in putting about his garden and grounds during his leisure hours. Watching the magic of nature transform the seeds he has planted into gorgeous blooms, and enjoying the outdoor air albeit polluted with a variety of fumes.

The farmer's work, on the other hand, has always been closely associated with nature, the great outdoors and with physical labor. So that when his working day is over, any further outdoor effort might appear as somewhat of an anticlimax. Few have in the past chosen horticulture as a hobby, or golf as a pastime.

This may explain why. If any horticultural endeavor was attempted around the average farm home in the past, it was usually the womenfolk who undertook it, or perhaps the older farmer, who when crowded out of regular farm work by his growing sons, found the garden and the home grounds a convenient and satisfying way of occupying his time.

During the past few years the increased leisure gained through mechanization, the widespread rural use of hydro power, enabling the modernization of rural homes, the advent of the rotary power mower, the fostering of Horticultural Societies in rural areas, etc., have all contributed toward an awareness by rural people of their home surroundings and a consequent desire for their improvement.

This has led many farmers to invest in power mowers to keep the grass and weeds trimmed around the house. Then realizing what an improvement this simple procedure made

on the appearance of the home, the next step was to improve the so-called lawn by filling the depressions and spraying for weed control, or reseeding where necessary.

Once a lawn has been acquired, further improvements will be indicated. The planting of a farm shelterbelt, an attractive fence, foundation plantings, border plantings, specimen trees, walks and driveways, a fruit orchard, and for added color a well placed bed or two of annual and perennial flowers, to mention only a few.

Each farm home setting is different, and while certain basic principles should be adhered to, ample opportunity remains for the expression of one's own tastes and ideas. In fact, the farm home grounds being isolated and not strictly limited as to size and shape, as are city lots, offer almost unlimited scope for originality of planning and arrangement.

Before proceeding, I wish to make it clear that I speak only as a novice. Until 16 years ago interest in horticulture which my wife and I may have had was strictly passive, since living in a city apartment offered little opportunity for horticultural endeavors. However, when during the war we acquired a farm, we became actively interested in gardening and fruit growing as a hobby.

Then when 10 years ago we built our house and moved permanently to the farm, we had already established a garden and a small orchard and now became interested in landscaping the home grounds.

We were fortunate in having a number of acres of native woods around the farm yard, out of which we had a few years before cleared an acre for the home grounds, garden and orchard, leaving a natural shelterbelt on nearly all sides, and partly hiding the farm yard from the living area. The work of clearing the land by hand was prodigious as numerous large oak trees were involved. The results obtained, however, proved well worth the effort.

Since information on practically all phases of horticulture is available in pamphlet form, either from your Agricultural Representative, or your Provincial Horticultural Department, I will merely endeavor, while relating some of our own experiences, to emphasize a few things which to me seem important.

In planning the home grounds, some experts will tell you to first make a scale drawing of the proposed layout, then having worked out all the details on paper, to translate

this into actuality, and while I do not wish to belittle this method of approach, I feel that it may have been over-emphasized. Farmers as a group are notoriously averse to putting anything on paper, and this injunction I feel may have had the effect of discouraging many at the outset. Although I have some experience as a draftsman, I found it more satisfactory, in laying out our grounds, merely to stake out the yard area, garden and orchard, as well as the driveway, walks and other features. In this way a better idea is gained of expanse and perspective, than if worked out on paper.

Having done this, it is well to leave it for a week or two, for as you live with your plan you will no doubt see where minor changes may be indicated. These can then be made by merely moving the stakes.

The main thing to start with is to delineate the yard area, garden, etc. Our house yard measures 100' x 115', on which the house is located somewhat back of centre, so that about three-quarters of the lawn area is seen from the front entrance. We fallowed our yard for a year, levelling and sloping it carefully before seeding down to a mixture of Kentucky blue grass and creeping red fescue. Prior to seeding, however, we built the fence, put in the foundation planting and laid the walk, which consists of a double width of concrete slabs measuring 13" x 17" and 2½" thick, laid flush with the ground level.

Having established a lawn, we then decided on the location for two flower beds. One near the entrance gate is a perennial border planting, approximately 7' x 35'. The other is a bed of tulips and annuals, measuring about 7' x 30' which, along with a twenty-foot sweet pea trellis, act as a background to the lawn area and partially hides the vegetable garden.

We have attempted from the outset to plan our grounds so as to keep the labor of maintenances at a minimum. The result has been simplicity of detail, which we feel blends well with the natural surroundings.

I would like here to add a word of discouragement against the use of whitewashed stones, old rubber tires, tractor wheels, etc., as flower bed borders or as edging for walks. To my mind such intrusions are out of harmony in a horticultural setting, and make the task of mowing the lawn more difficult, such ornaments should be retired to the scrap heap.

Since we have a considerable number of apple and other fruit trees in our orchard, it was essential that we have a



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fence which would afford some protection from rabbits, to whom apple tree bark appears to be as irresistible as the apples are to juveniles. So we chose one having 20 strands of woven wire. It is 4' high, topped with a strand of barb wire. It is rabbit proof to a height of about 16". In any case, a fence of some sort is essential on most farms, as nothing is more frustrating than to find a herd of stray cattle wandering over your lawn and flower beds.

A fence need not be elaborate nor expensive, but regardless of type, it should be neatly and well made using substantial posts of uniform size and height. The corners should be properly braced so that the wire will remain taut, as a badly sagging fence can mar the appearance of an otherwise attractive yard. Also be careful to avoid placing wire fences where they will be covered in winter with deep drifts of snow.

A good well placed shelterbelt is something which no prairie farm should be without. It not only can prevent snow drifts from piling around the buildings and yard, but makes the yard more pleasant to work in both winter and summer. It saves fuel in heating the home, attracts beneficial birds, and is absolutely essential if one desires to grow tree fruits, and to a lesser extent if one wishes to grow small fruits and vegetables.

One mistake which many people make in planting shelterbelts, is in leaving insufficient room within the sheltered area, and in bringing the windbreak too close to buildings and driveways. For this reason one should try to visualize beforehand what space the trees are likely to occupy when full grown. This applies equally in the planting of fruit trees, and particularly so in planting specimen and other trees adjacent to the house. Care must be taken also to avoid planting trees adjacent to power and phone lines.

No home grounds would be complete without some annual and perennial flowers to add color and interest. These plantings need not be extensive but should be carefully located so as to achieve the best effect from strategic points of view. They should not be placed in the lawn proper, but rather along the borders, preferably with shrubs as a background. Care should be exercised in the selection of varieties to ensure a good display of color throughout the season.

Some consideration should also be given to the establishment of what is commonly called the livingout area. This may consist of only a few lawn chairs placed in a convenient shady corner, or it can be more elaborate, depending on the

desires of the individual. We have a large oak tree adjacent to the rear door, under which we have our lawn chairs and a small concrete table set on a pedestal. The use which is made of our livingout area, however, can be said to be in direct relationship to the density of the mosquito population, so that until we can control these pests, as they do in larger urban areas, rural outdoor living will remain less popular than it might otherwise be.

Several years ago we had considered the erection of a small greenhouse in which to grow our own bedding plants, tomatoes, etc. However, after considering the initial cost and labor, as well as the chore of heating, etc., we finally decided on an arrangement which is relatively inexpensive, easy to maintain, and which adequately meets our needs.

In our basement which has a temperature of about 65°, we fitted together four fluorescent lamps with reflectors. These lamps are four feet long and are attached to the ceiling with pulleys and ropes, so that the entire unit can be raised or lowered over a table, on which we start our plants in early spring. Then having brought them to the stage where they have been transplanted into flats, the flats are left under fluorescent lights until they have become established, they are then taken out and placed in a cold frame in the yard. Our cold frame measures 10' in length by 3' in width, and is made of grooved planking. The back of the frame has a height of 26" while the front is only about 14" high, the slope is to the south and is covered with four windows which may be lifted off. On the ground inside the cold frame is a 60° heating cable evenly spaced and having a thermostatic control. Slats are placed over the cable to provide several inches of air space and the flats are placed on these. Our cold frame holds 14 flats, but they may be made of a size to suit individual needs.

In closing, I wish to emphasize again the need to plan the home grounds with due regard to simplicity of maintenance in order that what should be a pleasant diversion, may not become a chore.

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**Uranium City
and Eldorado Gardens**

By D. R. ROBINSON

University of Saskatchewan, Saskatoon

The Uranium City horticultural society was organized in June, 1958, and in September, 1959, I had the pleasure of judging the second annual show and the first garden competition sponsored by this group. Latest records indicate a membership of 50 gardeners operating under difficulties but filled with enthusiasm and determination to demonstrate that flowers and vegetables can be grown in the north. Some of the society members are located at Uranium City, — others live at Eldorado, a mining community, some six miles to the east. Uranium City is located on the north side of Lake Athabasca at approximately latitude 59° 30' north and longitude 108° 30' west.

The spring and summer of 1959 was rather cool in this area and the soil was slow in warming up. As a result most of the gardens were planted between June 8th and 15th and growth was not as good as it had been in former years. This late start in the spring is compensated for, in part, by the absence of early autumn frosts. The Uranium City flower show was held on September 7th and, during an inspection of about 20 gardens, frost damage was observed only once, — in a low spot. A little more than 100 exhibits were entered in the show. These were fairly evenly divided between annual flowers and vegetables. There were also several entries of house plants, — particularly African Violets, and a few fine arrangements of sweet peas and other flowers.

Vegetables entered at the show included potatoes, carrots, beets, turnips, parsnips, radishes, onions, peas and rubarb. In the gardens that were visited I observed Swiss chard, lettuce, parsley, beans, cabbage and cauliflower. In a few instances there were also plants of corn, cucumbers and tomatoes. For the most part the corn and vines were unproductive, — no doubt because of the cool season.

A considerable variety of annual flowers was on display in the various gardens. In general, those doing best, and pro-

viding plenty of color, were the old favorites, such as marigold, calendula, cosmos, bachelor's-button, California poppy, and shirley poppy. One gardener had a fine display of sweet peas and pansies. Among the bedding plants were stocks, petunias, alyssum, ageratum and snapdragons. At this time of year the perennials were past, but plants of columbine, delphinium and lilies were to be seen. A start had been made with shrubs; these included Tatarian Honeysuckle, spirea, Ural False Spirea, — also currant, gooseberry and crabapple. It is of interest to note that a native Mountain Ash, found growing on islands in Lake Athabasca, had been transplanted to some of the gardens. This is probably *S. decora* (*S. scopulina* Greene). These general comments indicate that a good many of the residents of Uranium City and Eldorado are interested in beautifying their home grounds. No doubt the horticultural society has played a part in stimulating interest. In addition to the flowers mentioned above, quite a few people have seeded lawns. Where commercial fertilizers have been used the lawns are doing well.

At Uranium City the soil is very sandy and lacking in fertility. A black peaty material, obtained locally, is being used on the gardens. This will no doubt add humus and increase the moisture holding capacity of this sandy soil but it will take time to build up the fertility of the soil. At Eldorado gardening has been carried on for a longer period and judging by the plant growth, soil fertility has been increased considerably in this community. Eldorado is located on a plateau overlooking Beaverlodge Lake. As a result there is good air drainage and this is probably a factor in warding off frost damage during the summer and early fall months.

Undoubtedly gardens in this northern community would benefit from annual applications of commercial fertilizer. It seems altogether probable that plant protectors such as cloches and Hotents could be used to good advantage during the late spring and early summer months. Likewise, the use of small home greenhouses would help greatly in getting strong, sturdy plants started for later transplanting to the garden. One such greenhouse was seen at Eldorado.

(It is of interest to note that the explorer and trader Peter Pond was perhaps the first gardener in the Athabasca territory. Quoting "Voyages from Montreal", by Alexander Mackenzie, "in the fall of 1787 Mr. Pond was settled on the banks of the Elk river, and had formed as fine a kitchen garden as I ever saw in Canada." It seems likely that Mr. Pond was located some 35 miles from the mouth of the Athabasca river — referred to as the Elk river.)

Hybrid Amaryllis (Hippeastrum)

by FRANK HARPER, Winnipeg, Man.

Who amongst us, having had the privilege (which indeed it is), of seeing the newer hybrid amaryllis, has not thrilled to the magnificence of this gorgeous flower? Imagine blooms 8 to 10 inches across in scarlet, crimson, rose, orange, salmon, pure white or striped red and white on 24-inch stems, raising out of straplike foliage and grown from a dormant bulb in from 6 to 8 weeks! And yet, to accomplish all this is simplicity itself.

The bulbs themselves command respect by their enormous size of up to five inches in diameter, with their unspoken promise of things to come. Their growth and productivity is amazing with six to eight blooms per bulb about average and it is not unusual for eleven or twelve blooms per bulb.

Originally the bulbs were discovered growing wild in South Africa, eventually finding their way to Holland, where, in the hands of these masters of bulb cultivation they attained the magnificence we know today.

The most famous of present day hybridizers is W. S. Warmerhaven in Holland and each year sees spectacular new varieties developed.

1959 introductions include Pink Beauty, a beautiful soft pink with flat eight-inch blooms, — Purple Queen, reddish purple with eight and a half-inch blooms. Earlier recent introductions include Beacon, a striking deep salmon bordered with a white narrow band on each petal with ten-inch blooms; Cherokee, a rich metallic red with eight-inch blooms; Red Majesty, brilliant clear red with eight-inch blooms and Royal Ruby, rich flowering light red, flat eight-inch florets on 26-inch stems.

All of the above will be available in Winnipeg sometime during February but supply may be limited. Prices sound fantastic, ranging from \$5 to \$10 each, but, when one considers that with a minimum of attention, bulbs will last for years, they are an excellent investment.

We might add here that these bulbs take about four years to produce (one reason for their high price) and this is done by the vegetative scale production method which assures that every bulb produced in a given color or variety blooms exactly like its parent. As explained to the writer by a Dutch bulb grower, this method is as follows.

Selected bulbs are chosen, and with a sharp knife divided into four pieces as one would quarter an apple. Each quarter is then taken apart scale by scale so that the original bulb

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would produce up to possibly twenty five or thirty scales. Each piece is then planted separately in warm sand and grown to produce the huge bulbs previously mentioned. All this is done, of course, in the greenhouse.

Hybrid amaryllis are also available in separate colors but unnamed and will easily produce huge flowers just as spectacular as the named varieties. These retail at about \$3.50 each and are worth every penny.

One of our cherished garden memories was a visit to the famous Bellingrath gardens in Mobile, Alabama, where the entrance to the beautiful home was flanked by dozens of pots of red hybrid amaryllis in full bloom with a background of white azaleas. Truly a magnificent sight!

As we mentioned before, culture is very simple and here is the method to follow.

HINTS FOR CULTIVATING HIPPEASTRUM (Amaryllis)

PLANTING TIME — JANUARY TO MARCH

Plant in a medium sized pot, so that there remains a space of about one inch between the bulb and the inner side of the pot. Use leaf-earth with pure sand, mixed with old, decayed cow manure. The bulb may be covered entirely by the earth, or half of the bulb may peep out of the earth; this has no influence on the development of the plant. After planting, the pot should be placed in a temperature of at least 65° F., but not higher than 78° F., in a sunny spot. Very little or no water at all during the first few days. As soon as development of flower or foliage is visible, the bulb needs more water, but the earth should not become too wet. Never pour water on bulb, leaves or flowers, but exclusively on the earth. Generally the flowers of Hippeastrum appear at the same time as the foliage. If the plant is growing too fast, the temperature should be lowered slightly during the last two weeks before flowering.

After blooming, cut off the flower head at the top. Continue watering the plants as needed. In the spring, after danger of frost is past, place the plant (in the pot) outside in a sheltered spot. Feed the plant at recommended intervals and water as required. In the fall, bring the plant into the basement and withhold food and water, place pot on the side and let the tops die back. Cut the withered tops off about one inch above the bulb and leave until growth starts and repeat the cycle as before. The top inch of soil may be removed and replaced when growth starts.

So, for those of you who have yet to experience the thrill of watching one of these beauties unfold, rush down to your favourite seedsman and be the first in your neighborhood to own what we believe to be the most spectacular pot plant you will see.

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Heat, Light and Humidity for African Violets in Your Home

By MRS. R. H. PRICE

Director Regina Horticultural Society,
Sec. Treasurer African Violet Group No. 3,
Regina Evening Group

African Violets are the most adaptable little plants. This is the logical reason for so many different conditions producing fine specimens. If you already have some method that produces lovely foliage and profuse bloom for most of the year don't change your ways. However, if you simply cannot seem to get blooming plants to stay in bloom, or that small gift plant to start blooming, perhaps you could improve some of your conditions.

Heat is perhaps the most easily controlled condition. For about six weeks from mid-July until the end of August we may be without bloom on our violets because the house is too warm, unless we can move them to a cooler place. A light, well ventilated basement is ideal. The balance of the year our homes are comfortably warm, or we turn on the heat and make it warm. Water your violets more often, but more sparingly during the mid-summer heat. Be sure that the house is well ventilated.

Light: Contrary to the first information we heard on African Violets, they do like some sunshine, early in the morning. Eastern windows are ideal, but they will grow in South or West windows with a glass curtain between the window and the violets. North windows are fine in the summer, but added light would be needed through much of the winter to produce blooming plants. Bloom requires more light than green leaves do. Consider the possibility of too little light if you have lovely green plants that simply will not bloom. The leaves can also indicate to you whether sufficient light is present. The leaf stems will be long and the foliage may be soft, should the light be insufficient. The leaves will appear yellowish and the centre of the plant may "bunch" or become tight, if too much light is given. Bunched or distorted centres can also be caused by pests, so if your violets still remain bunched and tight after adjusting the light, suspect insect trouble.

Fluorescent lights are ideal for growing violets under, either in the house or down in a warm well ventilated base-

ment. Somewhere between 12 and 18 hours of fluorescent light are required to grow healthy violets. Lights should be between 11 and 18 inches from the violets. If you are acquiring your first fluorescent light setup — try 14 hours and 11 inches from the top of the pot to the light tube. Either shelves 18 inches wide with 2 - 40-watt tubes or a bench not over 36 inches wide with 4 or 5 - 40-watt tubes are suitable. Wider benches are not so suitable, as it is too hard to inspect and water the centre plants. Plants can be grown entirely under lights, or if you prefer under lights during the extreme heat of the summer, in a cool location and under lights again from mid-November to mid-January. The balance of the year suitable windows will give sufficient light.

Humidity is just as necessary as heat and light, but is perhaps the hardest of the three to control. Relative humidity is the amount of moisture a volume of air can hold at a given temperature. The lower the temperature the less the moisture the air can hold. Generally speaking at 72° violets can grow with relative humidity of 40 and do very well. With our modern heating systems humidity is sometimes much too low for our plants. There are several ways we can increase the humidity. Perhaps one of the easiest is to place the pots on moist sand or vermiculate. Humidifiers, even small portable ones can raise the humidity near the violets. If your violets are in a basement during the dark cold months of December and January, it would be quite simple to have the pots standing in trays of gravel or vermiculate.

The higher the humidity around the violets the less evaporation of moisture from the soil, so beware of over-watering. During the hot, humid weather caused by thunder storm conditions it is well to let the violets be a little on the dry side, if they are in a warm location and be particularly careful at these times to have good ventilation without drafts for your violets.

If we are able to provide these conditions and start with healthy disease-free plants, we can have lovely violets in bloom most of the year. A regular program of feeding and spraying or dusting for insect pests is helpful and good pest-free soil is a must, but these latter provisions without proper heat, light and humidity will accomplish nothing. Fertilizer in any form should not be given to an unhealthy plant. Give your plants the proper growing conditions and when they become healthy, vigorous plants start your program of feeding and dusting or spraying and you will have violets to be proud of.

THE HEN OR THE EGG?

By F. J. WEIR

Provincial Horticulturist, Winnipeg, Manitoba

Frequently the question is asked, how can I join the Manitoba Horticultural Association? The answer, obvious to most gardeners, is "by joining a local Horticultural Society."

When the writer was asked to prepare a short article dealing with the relationship of a Horticultural Society to its "parent" group, it was felt due to the wider circulation of "The Prairie Garden", that in such an article an attempt might be made to point out differences existing in the Mother-Daughter relationships in each province. Theoretically, the idea is very sound. In practice, however, it is impossible, due to the fact that in Alberta there is no parent association. As the situation in the other two provinces is similar, we'll take a short look at the set-up in Alberta, first.

Horticultural Societies in Alberta are of two types and their program is regulated by two Provincial Acts. The usually smaller, rural society, is part of the local Agricultural Society, and under its wing may hold a bench show and qualify for a maximum grant of \$150.00 for such a show. No society can qualify for a provincial grant for more than four activities in any calendar year. The city societies in Alberta are incorporated under the Societies Act of the province and as such, do not qualify for government grants.

In Saskatchewan the setup is similar to that in Manitoba, in that Societies are organized under a "Horticultural Societies Act". This Act spells out in detail activities and powers of a Horticultural Society. Basically, the differences are slight, except that in Saskatchewan fifty members is the minimum for a Society, whereas in Manitoba it is thirty members.

Government grants paid to Societies fall into two categories. A membership grant of 25c per member (maximum of \$25.00 per Society) is paid to each Society in Saskatchewan, while in Manitoba the membership grant is 50c per member, but a maximum of \$200.00 per Society. In Manitoba an affiliation fee of 10c per member is withheld from the membership grant paid to each Society, and turned over to the parent Association.

A grant for a Horticultural Show and/or competition in Saskatchewan amounts to 50% of the prize money paid out.

In Manitoba, this grant has been increased to 65% of the prize money paid out.

In Saskatchewan each Society becomes a member of the Saskatchewan Horticultural Societies' Association on payment of the membership fee set by the Board of Directors. In Manitoba, each Society is automatically a member of the parent Association.

Generally speaking the duties of a Provincial Association are:

1. to unite the several societies throughout the province;
2. to hold provincial exhibitions, conventions and competitions;
3. to act as a clearing house for horticultural matters; to compile literature and arrange for the introduction and distribution of new and valuable seeds, plants, etc.;
4. to decide on affiliation fees of societies and to accept and administer them;
5. to confer honorary life memberships;
6. to carry on any other activities deemed necessary for the furtherance of horticulture.

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Projects for Horticultural Societies

By Mrs. F. W. McINTOSH,

President of Manitoba Horticultural Association, Manitou.

Since I have been asked by the Winnipeg Horticultural Society to write an article on projects suitable for Horticultural Societies, it gives me much pleasure to pass along a few ideas to the readers of the Prairie Garden.

Projects are just as important as well planned programs for meetings, if societies are to be kept active and interesting programs followed. Horticultural Societies have a useful community role that is particularly suited to the nature and purpose of their organization, in addition to serving the interests of the membership. Members must see farther than their own back yards by participating in projects that are of interest and benefit to the communities. The challenge of greater accomplishments through community efforts makes any project much more attractive.

Here are a few suggestions that might be considered:

- A. Improvement of public grounds. This could include landscaping and beautification of school grounds, civic buildings, roadside parks, picnic and children's playgrounds, and tree planting on boulevards.
- B. Landscaping of a piece of land at the entrance to the town or city.
- C. Exhibition garden of flowers in a local park. The planning of the garden could be done by the Horticultural Society members.
- D. Planting of trees in agricultural fair grounds to provide shade and to add beauty.
- E. A project to improve neglected cemeteries by planting beds of spring-flowering bulbs followed by annuals, to add color and beauty.
- F. The landscaping of hospital grounds — a joint project for various civic and social organizations in town.
- G. Conservation of wild flowers and natural beauty sites.
- H. Projects to assist physically handicapped and mentally retarded children. These could consist of planters or flower beds, and the children could assist in the planting and upkeep.

I. Sponsoring of outdoor Christmas decoration contests. This could serve to encourage neighbours, friends, and club members in the various areas to make their yards, doorways and windows resplendent during the holiday season.

J. Sponsoring of junior garden club projects. It must be remembered that junior gardeners of today are the Horticultural Society members of tomorrow. Horticultural Societies can give guidance to them by providing leaders, and by assisting in the program.

K. Participation in Litterbug campaign. The main purpose of this campaign is to promote public education and to enlist the active support of all individuals, businessmen, and organizations in the elimination of litter on public roadsides, streets, parks, and recreation areas.

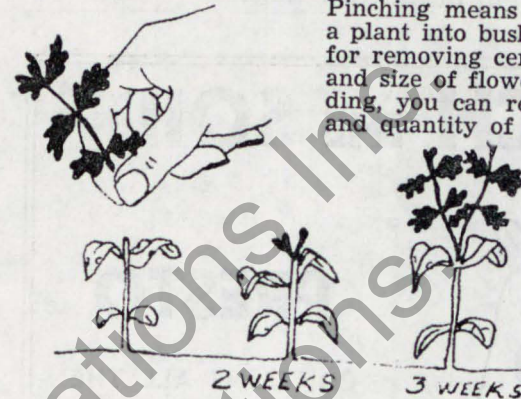
"It's twice as much fun to go for a ride
When the highways are nice and clean,
No trash near the grass, no dangerous glass,
To mar the beautiful scene."

The projects of a horticultural society will often determine the success of the society. Projects should be selected which are suitable to the size of the societies, and the abilities of the membership, and above all, they should be of interest to the members. Projects that are well carried out will be satisfying because they will show evidence of things accomplished and things that will bear fruit in the years to come. It is better for a society to make a good job of one project than to make a half-hearted attempt at several.

"The wind blows fair for the sailor who knows whither he is bound."

Pinching and Disbudding

Pinching means nipping top leaves to force a plant into bushier growth. Disbudding calls for removing certain buds to control number and size of flowers. By pinching and disbudding, you can regulate both the quality and quantity of flowers.



Pinch for massed color. Cut back to equal height in beds of similar flowers. Side shoots fill in gaps. Interlacing branches give mutual support. Beds are neater, have uniform coverage of bloom.

Remove leaf buds to encourage side branching. Pinch back often during their early growth. Bushier plants look better, have more flowers, withstand hard rains and winds. They will also choke out weeds.



Remove side buds for large single specimens. Disbudding diverts strength to single flower. Leave one bud per branch for largest flowers, longest stems. Provide support for heavy-headed flowers.

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Carnation
Chrysanthemum

Dahlia
Marigold
Peony

Rose
Tuberous Begonia

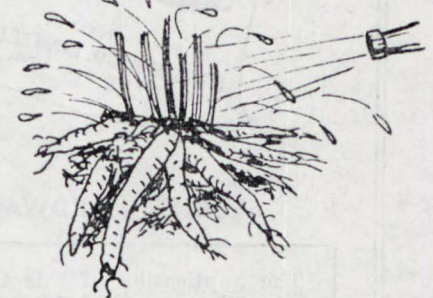
CAN BE PINCHED

Aster
Candytuft
Calendula
Cosmos
Dianthus

Marigold
Petunia
Phlox
Salvia
Scabiosa

Snapdragon
Stock
Strawflower
Verbena
Zinnia

Increase your plant supply by Division



A very economical way of building up your plant supply is by division; this is the easiest of all the methods for propagating plants. Most herbaceous (fleshy stemmed) perennials, and some of the shrubs, can be divided without difficulty by the novice. Certain plants—iris and chrysanthemums, for instance—must be divided regularly to prevent overcrowding. Divide plants when they're dormant — fall is usually the best time. In separating plants with clumps of roots (peonies, phlox, etc.) take sufficient roots with each part. When you divide tubers, make sure you have at least one bud in each section. With dahlias, include part of the stem with every tuber. Cut rhizomes of plants like iris into small sections and root in sand.

1. Wash plant with hose. Separate with hands when possible. With perennials and shrubs, each shoot with roots will form new plant.



2. Use knife to cut small, thick clumps that can't be broken apart with hands. Make sure each division has roots and top growth.

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Lilies	•									
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Peonies										
Roses	•									
Ranunculus	•									
Tigridia										
SECTION A										
Alyssum										
Balsam										
Bell of Ireland										
Calendula										
Coreopsis										
Candytuft										
Corn Flower										
Sweet Sultana										
Clarkia										
Cleome										
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Scabiosa										
Sweet William										
Stocks										
Sweet Peas										
Sweet Peas, Dwarf										
Zinnias										
SECTION B										
Ageratum										
Snapdragon										
African Daisy										
Asters										
Carnations										
Caster-Oil Bean										
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ADVENTURING IN SEED

MRS. JEAN ERICKSEN

(Mrs. Ericksen's hobby is Plant Breeding in her farm garden at Wauchope, Sask.)

As an amateur home gardener, I can qualify as a veteran grower, if one ever acquires that title. Through the years I have had my joys and sorrows, successes and failures as is the way of gardening. In view of my past experiences I offer these comments in the hope of encouraging rank and file gardeners to raise new plants from seed.

Horticulture is still in its infancy on the great Prairies of this Continent, and yet the young grower of today has many advantages over his predecessors of thirty years ago, especially in the form of advice, seeds, etc., from Government sources.

Most people and especially farmers, can allot a piece of land to sow seeds and keep the seedlings until they are large enough to judge their merits.

Don't ever be discouraged by being told you cannot grow new and better plants, I know you will get that wet blanket pitched at you when you try for new seeds or plants because it is the seeds or plants you are after and not the wet blanket, so stick to your guns, remember that a major part of fruit and ornamentals introduced during the last fifty years were selections from enthusiastic amateur growers. A notable example is Heyer No. 12 apple, raised by the late Adolph Heyer, a Saskatchewan farmer.

At present many new varieties are being introduced by Experimental Stations, nurserymen and amateur plant breeders, although in my point of view there is still a lack of fragrance in our prairie garden flowers, yet I consider that to seventy-five per cent of garden lovers, fragrance is half the beauty of the garden.

Hardy lilies have to date been notoriously without perfumes, which is a source of sadness to me, who love the "Lovely Ladies".

There is work to be done in extending the flowering season of ornamentals, bulbs, shrubs and hardy perennials. The answer to these problems is in acquiring tender, longer

flowering or fragrant varieties and crossing them with hardy stock.

Varieties of small evergreens in all species are worthy of trying from seed for selection. True, it is a tedious exacting business, but with peaty growing soil always kept damp and planted in an orange box frame, with slatted covering, you could succeed.

There is an open field for breeders to experiment with Siberian squills, tulips, Ixiolirions, Hemerocallis, alliums, iris, lillies, lilacs, tamarix, spiraea's, flering currants, philadelphus, viburnums and a great many others.

There is also a multitude of wild plants close to one's home, where by keeping one's eyes open, better selections can be found. Plants that are bigger and lustier than their fellows, that colour up better in fall, have better habit of growth, or may have different coloured flowers.

Do not be discouraged if you have to grow hundreds of seedlings to find one outstanding new form, that one new one will be worth the trouble, in personal satisfaction and perhaps financially, too.

As for me, I am spurred on to more reckless sowing seeds of all sorts, gaily thumbing my nose to caution, and hopefully visioning each new seedling as some future million dollar Cinderella of the plant kingdom.

My heartfelt advice to keen Prairie Gardeners — seed your "adventure corner" in your garden and see what comes from your seed, fruit, flower or fence post material.

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



SPRING FLOWERS

by H. F. HARP, Experimental Farm, Morden, Man.

In the region of the prairies the rapid transition from winter to summer is always noted with some regret by those gardeners and plant lovers who have known spring in the milder climates, where winter blends into summer through the months of March, April and May. A change from the frigid temperatures of winter is, of course, most welcome but usually it is so sudden that too soon the earliest flowers are over and done with and only the knowledgeable gardener will have sought them out and enjoyed them.

As a general rule the early flowering hardy plants are best given a site protected from the north west winds. It is not good practice to use the borders next to the house for early flowering plants or the extra heat and protection will excite them into growth far too early and more than likely they will be cut down by late spring frosts. This happens frequently to early flowering tulips and bleeding hearts.

Among the earliest flowers to bloom — often before the last of the snow is gone — is the dainty Bloodroot (*Sanguinaria canadensis*). Its roundish scalloped leaves are an excellent foil for the pure white, cup-shaped flowers. Bloodroot is a native plant rarely found in prairie gardens although it is offered for sale by at least one local nurseryman. At Morden it is usually in bloom in late April, enjoying a shady nook where the soil is rich in humus but it is a modest thing and will put up with the discomfort of less suitable soils.

Another spring harbinger is *Adonis vernalis*. The Spring Adonis with its foot high ferny foliage and bright yellow flowers deserves a quiet corner where it should remain undisturbed for years. It will thrive in partial shade or full sun and has no special soil requirements.

A taller plant is *Corydalis nobilis*, the Siberian Corydalis. It makes a handsome May-flowering hardy perennial with attractive foliage and yellow, brown-tipped flowers. By mid-summer the whole plant will have died down and nothing more will be seen of it until spring comes again. Because of this early starting, early finishing habit, Corydalis should be planted adjacent to late flowering perennials such as Michaelmas daisies or the hardy chrysanthemums, which will fill in the space left by the Corydalis.

The Guinea Hen Flower (*Fritillaria*) is an early flowering lily-like plant. Not all species are hardy in prairie gardens

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but several are reliable if given their basic requirements, which are well drained soil with adequate supplies of humus and a partially shaded spot. *Fritillaria pudica* is a charming dwarf about nine inches high with pale sulphur-yellow, bell-shaped flowers. *F. pallidiflora* is taller and the nodding flowers are more freely borne. A dark maroon species, *F. ruthenica*, is useful to associate with the pale flowered sorts.

The Crimean Flag Iris (*Iris pumila*) are interesting early-flowering, sun-loving Iris. There are whites, purples and pale blues, all flowering in May. Full sun and very well drained soil are necessary. A corner of the rock garden will suit them or the front of the perennial border as they are only six inches high.

Primulas are plants that enjoy cool, moist soil conditions and welcome a bit of shade. A few species are reliably hardy at Morden. *Primula pallasii* is a form of Oxlip with pale green leaves and flowers in yellow umbels. *P. cortusoides* is a dwarf primrose with rosy lilac flowers. *Primula auricula*, sometimes known as Dusty Miller, is hardy and a very showy plant with flowers of yellow and red shades. Auriculas prefer soils that contain plenty of sharp sand, plenty of moisture, but they abhor any excess moisture about the crowns of the plant in early spring.

Virginian Bluebells (*Martensia*) is a plant of great charm with sky-blue nodding flowers in May. It is tolerant of partial shade and has a preference for soil that is rich in humus.

Several Phloxes are early flowering. *P. divaricata*, the Blue Phlox, puts forth its dainty flowers in May. *P. subulata*, the Moss Phlox, is a common enough plant in many perennial borders or may be seen spilling down among the stones in the rock garden. They may be had in red, pink, mauve and white colors. The mossy phloxes form evergreen mats that are attractive the whole season through. It is good gardening practice to cover the plants in winter with evergreen boughs or damage from desiccating winds may result.

A bold plant with large leathery leaves and dense heads of magenta coloured flowers in May is now called *Bergenia crassifolia*. Formerly, it went by the name of *Saxifraga*. The handsome foliage is attractive throughout the growing season and especially colourful in autumn.

There are many spring flowering bulbs that are fully hardy and easily established in prairie gardens. Among the species tulips the following are recommended: *Tulipa tarda*, creamy white; *Tulipa kaufmanniana*, the waterlily tulip, pale yellow suffused red; *Tulipa praestans*, with several

orange-red flowers on each stem. The species tulips flower well in advance of the Darwin and Cottage tulips which are dependent upon to give the main show of bloom.

Other suitable spring flowering bulbs include Muscari or Grape-Hyacinth with small dense heads of royal blue flowers and Scilla sibirica (Squills). These are very hardy and easily grown bulbs that can be readily naturalized at the base of shrub plantations. Their intensely blue flowers are among the first to appear. A white form is obtainable but less desirable than the blue.

All these early flowering plants and bulbs are hardy, of easy culture and readily obtainable from local nurserymen. They will provide early interest to the perennial border and rock garden and added joy to those who eagerly await the call of the wild goose and the first gray opening crocus.

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PERENNIAL PAGES

By PETER VOGELS, Gardener, Assiniboine Park

PEONIES

Peonies seldom have to be moved, as long as the plants keep vigorous, leave them alone. Sometimes however, they need to be moved and the best time is in early August. If you have to divide the roots, leave them exposed in the sun for a few hours until they get soft and pliable, then you can divide them with less damage. Early Spring is a good time to buy Peonies as well as early Autumn, never be too late in Fall or Spring, good soil and sun are all peonies need.

IRIS (Bearded Type)

Best transplanted in July. When you have to move Iris, lift them carefully and cut off about half the leaves like a fan. The roots can be divided into pieces with a fan of leaves attached. Keep from getting too dry. Bearded type Iris like well drained soil and full sun, in a sheltered place, where the snow will protect them in winter. Plant with about one inch of soil over the roots. Check the roots in Spring in case the frost has heaved them. The Siberian Iris moves well in Spring, can be divided like the others. This one grows nearly anywhere but does very well on the edge of pools or streams.

LYTHRUM

One of our showiest plants. Morden Pink: Morden Gleam, two good varieties. Have hard dry roots on old plants and don't like to be moved. It is easier to take cuttings and root them in a glass of water.

DAY LILLIES

These have not got bulbs but fleshy roots. Spring is the best time to transplant and divide. The newer kinds are sometimes slow to get growing but once they start need little attention. Like sunshine and good soil, will grow in a bit of shade. Choose the early blooming kinds.

CAMPANULAS

There are several Bellflowers that do well. Can be best moved in Spring. Divide roots carefully. Never plant the creeping or European Bellflower (Campanula Rapunculoides)

it becomes a terrible weed and it is nearly impossible to get rid of.

PHLOXES

We have two or three tall Phloxes that are perfectly hardy and several of the dwarf rock garden Phloxes grow well and make nice green mats that are a blaze of color in June. All Phloxes are best moved in Spring. The tall ones are easily divided, even the smallest piece will soon grow into a big plant. Best to wait till there is some new growth, it is easier then to break them up. They like good soil and sunshine. Should be planted where there is lots of fresh air. The Dwarf Phlox like to be on slopes, should have shelter for winter protection. Divide also in the Spring time.

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One of our nicest perennials does not need much attention. Easily moved in Spring and increased by root division, sun and good soil.

DELPHINIUM

Delphiniums are best planted in the Fall. Good drained soil and shelter from wind. After the shoots are about one foot high in the Spring, thin them out and leave about four stems on one plant, and with proper staking the flower spikes will grow to eight feet. Seeded indoors in February will give you bloom the first year. Seeded outdoors just before freeze-up will bloom the second year. Here you find, very often, trouble with mildew but a dusting with sulphur now and then will keep them clean.

LILLIES

Fall is a good time to move most lillies, however the white, pink and yellow trumpets are best moved in Spring. They don't seem to take hold before winter like the hardier Orange, Red and Yellow types. Thick clumps of lillies should be moved every three or four years. When left too thick they are subject to disease. It is good to lift the clump, thin them out and re-plant in a new spot if possible. Different lillies should be planted at different depths. A simple rule for depth is twice the depth of the bulb. Plant lillies from 6 to 12 inches apart depending on the size of the bulb.

When you transplant perennials, make sure that you plant them the same depth as you took them out. A lot of plants get killed by too deep or too shallow planting.

Garden Peas are Always Popular

Dr. CHARLES WALKOF

Experimental Farm, Morden, Manitoba

Changing trends in vegetable gardening may limit the kinds of vegetables grown by the home gardener, but it seems certain that green peas will always remain backyard production favorites. This is because folks generally like peas preferably fresh from the garden. Peas also have a distinctive sweet flavor acceptable in combination with other cooked vegetables or alone as a separate dish. Large quantities are also eaten fresh out of the pod and often tempt visitors to raid the garden patch. The distinctiveness of the flavor of green peas grown on prairie soil is noteworthy because it has been referred to in favorable reports by food inspectors who sample canned peas grown and packed in a diversity of localities. The rich soil and long days of summer sunshine are thought to contribute notably to good pea flavor.

Peas require moist and cool growing conditions to produce a desirable crop. Early seeding, beginning preferably during the last week in April, is therefore essential to provide ideal conditions. Normally, the weather is cool in spring on the prairies and the soil moisture from melting winter snow is adequate to germinate the seed and to provide vigorous seedling growth.

All varieties of peas are not adapted to cold soils and the seed may rot if the weather is cold after the seed is planted. The smooth-seeded kind such as Wisconsin Early Sweet is resistant to cold soil and should be planted in April. This variety is early and although it lacks the green pea flavor of the better varieties, it is acceptable as a first harvest garden pea in June. The wrinkled-seeded varieties, such as Tiny Tim, Arctic Sweet, Progress No. 9 and Little Marvel are not tolerant of cold soil and, therefore, should be planted after May 1st. Chemicals are available for treating pea seed to protect it against soil rot organisms, but these are not recommended for use in the home garden because the poisonous nature of the chemicals poses a danger potential for children.

In addition to the recommended early pea varieties already mentioned, a new variety, Earligreen, will soon be available to prairie home gardeners. This variety, developed at the Morden Experimental Farm, is an early variety comparable in maturity to Tiny Tim and producing somewhat

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taller plants, larger pods and sweeter peas than those of Tiny Tim. Earligreen is considered the earliest garden pea with a deep green pea color. Its dwarf plants are easily picked and they yield bountifully.

Planting peas at intervals of 7 to 10 days beginning on May 1st and continuing until June 15th will assure the home gardener a constant supply of green peas from mid-June until August 1st. Most varieties can be used in this manner although Earligreen and Arctic Sweet appear to be best suited to this practice. A system of succession planting requires a planned schedule and a marked calendar indicating the planting dates is a helpful reminder. A garden area must be allocated for this purpose and left vacant until required for each seeding. Fall seeding of garden peas is not recommended because of the difficulties encountered with diseases such as powdery mildew, that are encouraged by the long, damp autumn nights.

Double rows of peas spaced 6 inches apart save space in the small garden. Moreover, the pea plants tend to cling together, when this method is used, and thus remain upright for easy picking. Even the dwarf varieties such as Earligreen, Arctic Sweet and Progress No. 9 benefit by the support provided in close planting.

Water peas thoroughly in dry weather. Be sure to soak the ground well. The plants will respond with big yields and large, well-filled pods.

Picking garden peas properly requires a special knack that everyone can acquire. Do not pull the pods off the plants in a tearing motion. In most cases, this injures the plants and may stop further pod production. A simple and effective method that will promote a prolonged harvest of peas is to hold the plant in one hand and pull off the pea pods firmly with the other hand.

The only insect pest of garden peas is the green aphid. This may be serious in some seasons. Spray the plants with a solution of Malathion prepared as directed on the container. Do this when there are more than five green aphids per plant. These insects are not prevalent in all years. Constant checking of the plants during late June and early July is essential to guard against an outbreak of the pest.

Garden peas are popular because of their freshness and fine flavor. To be assured of good quality the gardener must heed the recommended variety lists and plant desirable kinds. Succession plantings also insure a continuous supply of green peas during the summer. Careful harvesting also is compatible with good gardening practices to facilitate a good pea harvest.

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Growing High Quality Sweet Corn

Dr. CHARLES WALKOF

Experimental Farm, Morden, Man.

Sweet Corn is in best quality when it is prepared for eating as soon as possible after it is picked from the plants. Because of this situation ears of corn high in sugar and flavor are most likely to be found in the home garden. Accordingly, arrangements should be made to have a 'corn patch' in the backyard or in a nearby field where it is easily accessible to the kitchen. This article suggests things the gardener should do for a prolonged harvest season of high quality and tasty corn ears.

In selecting the varieties to grow, choose several, each with a different time of ripening. For example, if small ear size is not too important, and usually it is not during July, plant seed of **Arctic First**. This is a low growing variety, its ears are approximately four inches long and they are ready to use about July 20th. Plant some seed of **Dorinny**, an early variety, very sweet and with deep kernels, that will have roasting ears by August 1st. Then also, plant some **Spancross**, a large-, heavy-eared sweet corn that satisfies the desire for something substantial in corn ears and is ready about August 6th. **Sugar Prince** follows in succession and will provide sugary ears by August 12th. The fifth recommended variety to complete the sequence is **Golden Beauty** which may be harvested about August 18th. All of these varieties should be planted at the same time so that each will follow the harvesting sequence indicated. Planting time in the climatologically favored localities in the southern parts of the Prairie Provinces is May 18 to 20th. Farther north, the seed should be planted May 26th.

Sweet corn will tolerate some frost injury after the plants are 6 to 8 inches high. In fact they may freeze to the ground and grow again without much loss in total seasonal growth. However, this should not encourage gardeners to plant earlier than the suggested dates because the soil may be too cold and cause seed rotting. Chemical treatment will protect the seed against rot organisms under these conditions but it will not germinate until the soil approaches a temperature of 50° F. Accordingly, it is better to adhere to the recommended planting dates.

To grow good corn it is advisable to plant the seed in a deeply tilled seed bed. A desirable practice is to plow the garden or field 5 or 6 inches deep in the fall. Then place a

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2 or 3 inch layer of compost or partially rotted manure on top of the plowed land. Leave it in this way until spring. Early in May harrow the field or rake the garden with the objective of mixing the manure with the surface soil. A rototilling machine, if available, is preferred to the plow for turning over the garden land in fall. It also assures proper mixing of fibrous material, such as manure, with the surface soil. Set the rototiller to work up to 5 or 6 inches deep.

Chemical fertilizers may be of value for growing corn in the home garden or small field if spread broadcast just before the soil is harrowed or raked in the spring. The two-wheeled lawn grass seeder is excellent for this purpose. Apply approximately one pound of 16-20-0 ammonium phosphate per 100 square feet of garden surface.

In planting sweet corn seed prepare drills 2 inches deep if the soil is sandy and 1½ inches deep if it is heavy clay. The drills or rows should be 36 inches apart. Close the drills after seeding and firm the soil by tramping. In dry weather water immediately if facilities are available.

Thinning the corn plants to stand 12 inches apart when they attain a height of 10 to 12 inches is essential for good plant development. Draw the soil toward the plants that remain after thinning to provide support and encourage upright growth. The unthinned plants sometimes tend to bend over for lack of the support from the plants that were removed or because the soil has been loosened when thinning.

Sweet corn does not require much moisture for desirable growth. In dry weather watering thoroughly once every 2 weeks is generally adequate. Frequent shallow surface cultivation to conserve soil moisture and to control weeds is recommended.

Recognition of optimum maturity when quality is at its best is not difficult. The approved method is to open the top of the ear husk — just enough to expose one inch of the ear tip. A pale yellow color and a dull surface on the kernels indicate high sugar content, tender pericarp texture and excellent flavor. Corn ears that do not have these visible characteristics should have the husks carefully stroked back into position. Be sure to use harvested ears of corn within the hour after picking to obtain the best quality and reap the maximum reward for a season's hard work.

The most desirable sweet corn quality is available to all gardeners providing close attention is given to the choice of recommended varieties that will mature in succession for 4 to 5 weeks. Also, the use of cultural practices that promote optimum growth is essential for success. Finally, learning to recognize stage of ear maturity possessing the best quality is necessary to obtain the desired satisfaction.

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Preparation of Vegetables for Exhibition

by T. A. SANDERCOCK

Vegetable Specialist, Extension Service, Province of Manitoba

The exhibition of vegetables at the various shows throughout the country over the past years has been a very interesting and rewarding hobby for many home gardeners. It has served as a finale to their time and efforts spent working with their favorite crops. On the other hand, the exhibiting of vegetables has given very disappointing results to others. Perhaps at this time I might discuss a few points to be considered in exhibiting vegetables.

To be successful with one's exhibit preparations must start at planting time. Only well prepared land will produce quality specimens of red ribbon calibre. This is especially true of the root crops. Well kept soils of high fertility will produce more uniform, well formed roots than worn out soils lacking in organic matter. Soils with poor physical structure are common in home gardens, as there is little possibility of moving the location due to lack of space.

Seeding rates and proper thinning can simplify the task of selecting specimens for show. Improper spacing can cause oversized or undersized produce. Crops such as cabbage if thinned excessively will produce oversized heads, that in most cases will crack before they reach maturity. With proper thinning medium sized, compact heads will result. Extra large vegetables are generally coarse and tough and should be avoided.

Insects and diseases partially damage or destroy many of our more promising specimens if proper controls are not exercised. Regular dusting or spraying with recommended insecticides and fungicides will protect prize selections until exhibition day.

We can always expect a certain mortality in the various crops, therefore, plantings of sufficient size should be undertaken to ensure a good selection.

When it comes time to make the actual selections for the exhibit, care should be taken to check the requirements specified in the prize list of the particular show where they are to be exhibited. The number of specimens needed and the type and size of produce is generally indicated. If it is carrots, they could be the long or short type, if turnips it could be summer or winter type, 4 inches in diameter or 6 inches, waxed or unwaxed. If factors such as these are not taken into con-

sideration when making the final selection, the exhibit would be disqualified even though the quality was exceptional.

Preparation too far in advance of the show can destroy the chances of winning. Freshness of product should be maintained at its highest peak. In certain instances though it may be necessary to harvest the exhibit early so that the specimens do not become overmature. Crops such as cauliflower and broccoli come under this category. This is only possible if cold storage facilities are available for storing. The home refrigerator is quite satisfactory for this purpose.

Care should be taken to prevent injury of any kind during harvest. Vegetables are living organisms and bruised tissue turns into unattractive blemishes that will discredit the entire exhibit. Many exhibitors have experienced disasters of this nature while transporting their exhibits to the show. To overcome this difficulty they wrap each specimen individually and add one or two extra specimens in case of damage.

Cleanliness is a must in presenting an exhibit or display. Washing is not permitted so cleaning with a soft cloth is the next alternative. If this task is done immediately after harvesting the soil is removed much more easily than waiting until it dries and becomes caked onto the specimens. This especially is true with root crops. Most vegetables have a fine waxy outer film which takes on an attractive glossy appearance when polished with a soft cloth. Eye appeal plays an important role in the exhibiting of vegetables.

Uniformity in size, shape and color of all specimens in an exhibit come next in line of importance to quality. One off-color or off-sized specimen in a strong class will eliminate any chance of success. It is very disappointing to a judge when he finds a plate with four excellent specimens and then has to pass it up because of an off-type fifth specimen in the exhibit.

I have not dealt in detail on the individual characteristics to consider in the selection of the various types of vegetables. This information can be obtained from the publication No. 244 "Preparation of Vegetables, Fruit and Flowers for Exhibition" available from the Publications Branch, Department of Agriculture and Conservation, Room 169, Legislative Building, Winnipeg, Manitoba.

In summary, I might say that a great deal of enjoyment and satisfaction can be had from the home garden activities by the exhibitor taking a little extra time to select and prepare exhibits for the local and regional vegetable shows. The friendly competition brings one in contact with many new friends and an opportunity to discuss the many interesting experiences of the home garden.

Winter Freezing of Roses in the States in 1959

By E. S. BOERNER

Jackson and Perkins Co., Newark, New York

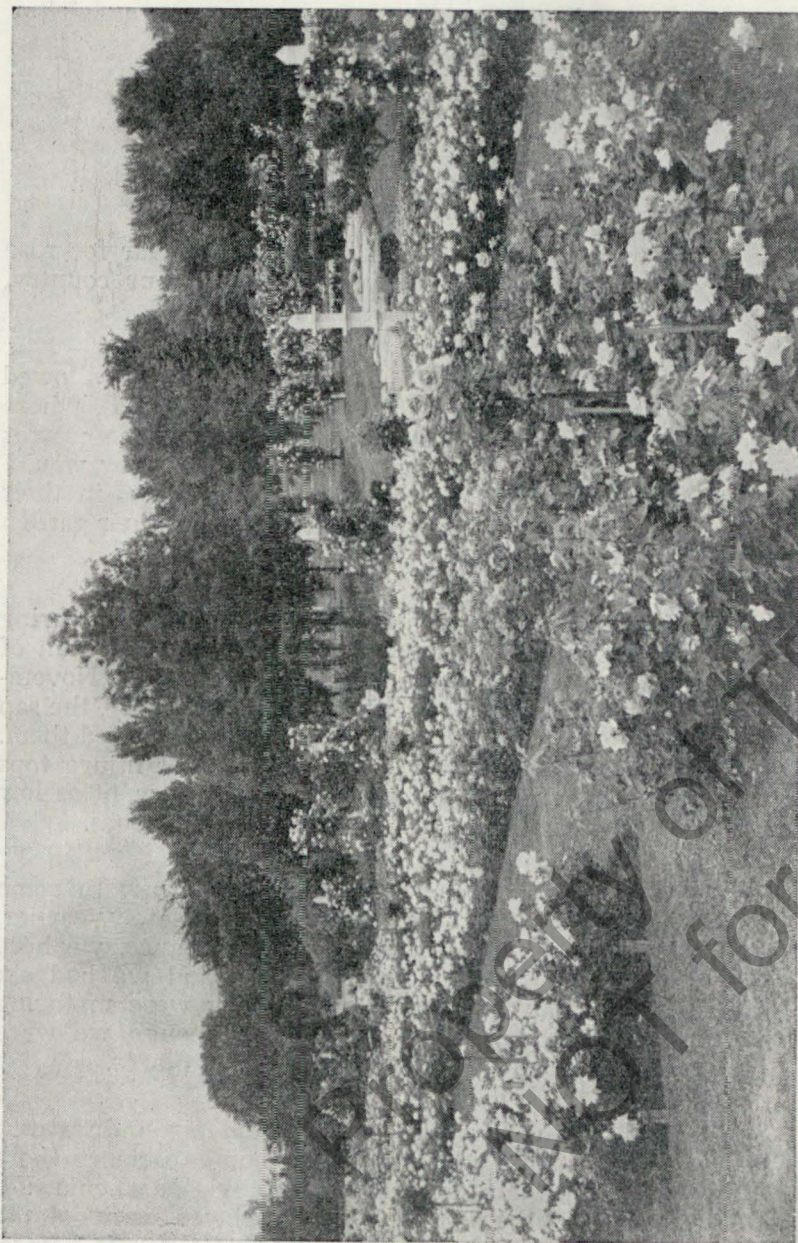
Last winter was a particularly disastrous year for rose growers in most of the temperate regions of our country. And there were many severe losses in many places.

However, those people who had patience and who allowed their roses to stand found that in 90% of the cases, where the roses had been held, new buds came out of the crowns and they did not lose the plants as they feared they would. By the late fall they had some very good displays in their garden even though the first impression was that their garden had been entirely frozen out.

The freezing was not due to sudden extreme cold during the winter but actually was due to a very severe spasm of cold temperature which went down to seven above in November when the plants had not yet hardened completely, the sap was still in the tops and it caught those tops and blasted them. We here feel that anything 25° or below will injure tops that have not ripened and of course when they went as low as they did it was absolutely death to those branches.

There are a few exceptions to this freezing. In some instances people had hilled and covered completely, earlier, and their roses were in good shape. For instance, we here started hilling the first week in October and we had six inches of soil against our roses while they were maturing and our loss here was only about 2%, although we were fearful of 30% when we first uncovered the plants.

We had another very interesting and again disastrous freeze in California. The first time in our experience there that we were injured by freezing was last winter when a sudden drop to 14 degrees in November injured many of the plants. Since that had never happened in California before, no one realized that it was liable to happen and very little attention was paid to the fact that the temperature had drop-



JACKSON and PERKINS ROSE GARDEN.

ped so low. As a result a great many plants were shipped that had been damaged and the damage did not show up until after the plants arrived and were planted in people's gardens.

There is one proven thing, that is a plant which has been badly injured by freezing will work its way out better if it is not removed from the ground. If, however, it is removed from the ground the chance of survival is very much less. These two bad examples of freezing should really have a bad effect of discouragement for the rose growers, but it does not seem to have affected people's interest in adding roses to their gardens at all.

We have just had reports in the past week of November 30th that the breath of fresh air which you folks sent down to us reached all the way down as far as Texas and there has been some damage in the fields down there in this past month's freeze. The California, Arizona and New York State areas were not affected because here the roses have all matured.

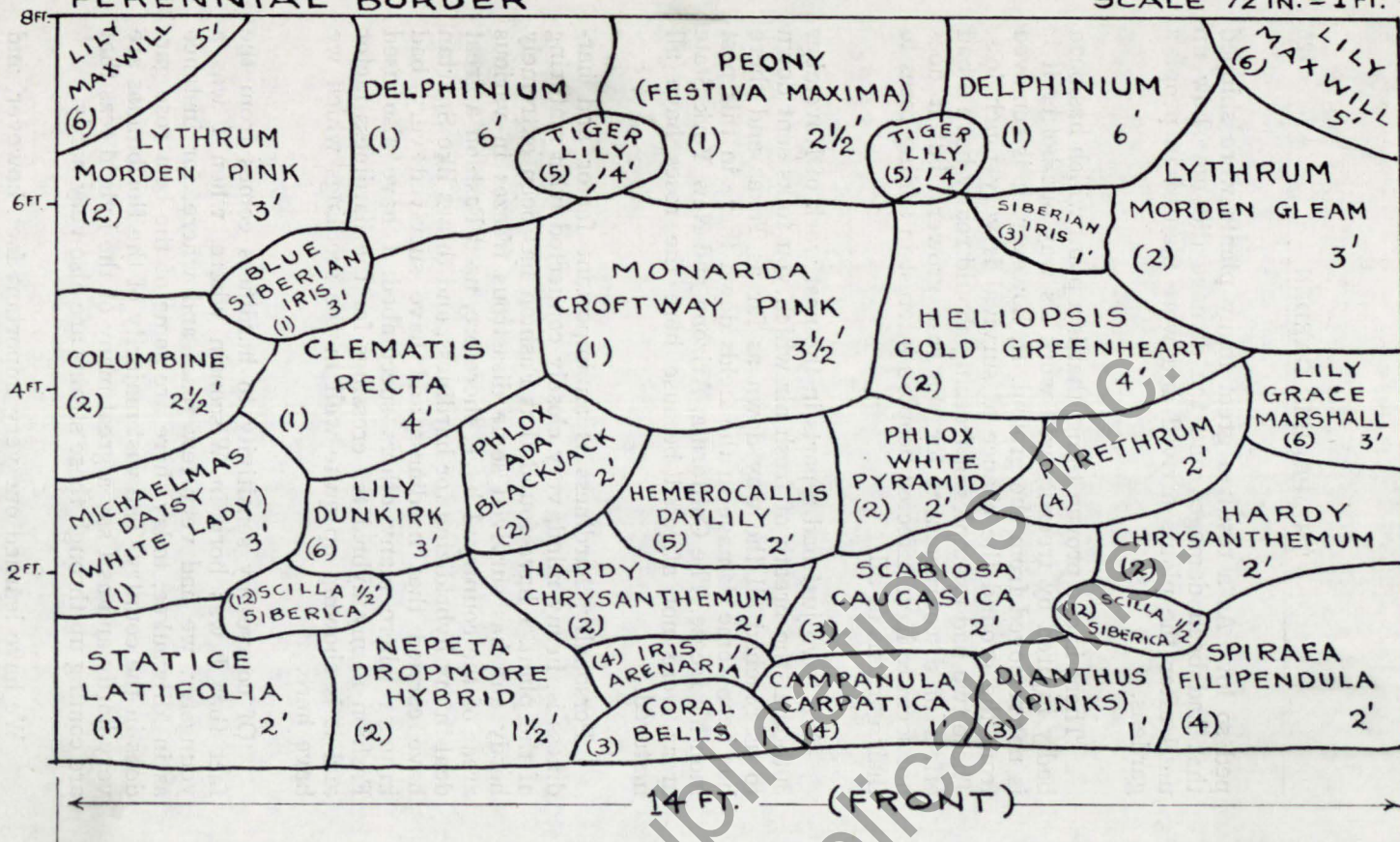
Personally, hardiness is an important factor and hardiness is, in my mind, very closely connected with maturing of the plant. I have found that Fashion has been extremely hardy and has survived some disastrous freezes in various areas of the country. I have, therefore, used Fashion a great deal in my hybridizing for hardiness, and things like Spartan have carried that hardiness and have survived very bad injuries where many others succumbed. I have also used Fashion in my hybrid tea crossings for the hardiness factor and it is showing up quite well in the seedlings which we have here.

Of course my sensitivity to hardiness comes from the fact that I was born in Wisconsin where, when I was a youngster, we had very few roses and where, for instance as in Milwaukee, today there are some of the best rose gardens in the country. The vast majority of the floribundas are very hardy and as I say a great many of the hybrid teas that are coming up through these strains are also very hardy.

We have learned one very important fact, however, and that is that no matter whether a rose is the height of a hybridizer's dream for hardiness, if it is not beautiful and attractive to the people who plant it, the hardiness will not alone help to bring the rose into people's yards.

PERENNIAL BORDER

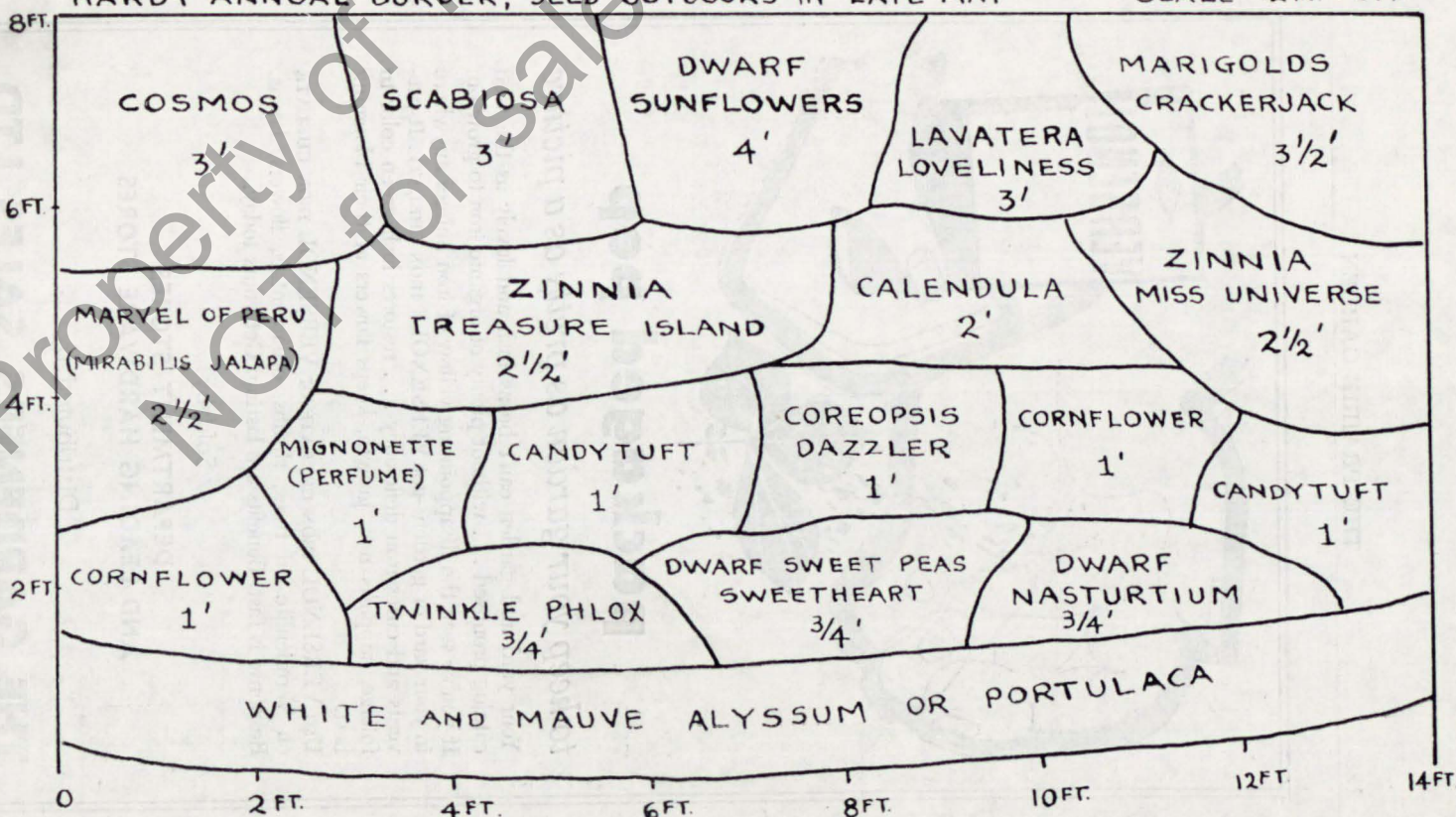
SCALE 1/2 IN. = 1 FT.



HARDY PERENNIAL BORDER PLAN
 Varieties selected to provide a succession of bloom from May till killing frost. Suggested locations of varieties is planned so that plants finished blooming and ripening foliage will be hidden by later flowering clumps. In some cases, later growing varieties will spread their growth over earlier sorts. Numbers in brackets indicate the number of mature plants required for each clump. This plan can be used as a planting guide for borders, four, six or eight feet wide.
 H. MCD.

HARDY ANNUAL BORDER, SEED OUTDOORS IN LATE MAY

SCALE 1/2 IN. = 1 FT.



HARDY ANNUAL BORDER PLAN
 Varieties selected germinate freely outdoors, in the location where they are to bloom. In very dry weather, watering will aid germination. Seedlings should be gradually thinned out, leaving enough to fill border without crowding. This plan can be used as a guide for borders, four, six or eight feet wide.
 H. MCD.



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Hobby for Mr. Pleverhume, Age 79: Indoor Gardening Under Lights

From The Health Newsletter,
Saskatchewan Department of Public Health

John Gabriel Pleverhume, an enthusiastic gardener for many years, found the going rough. At the age of 79, digging the garden in the spring and bending to dribble the seeds into the little furrows wasn't the same as it had been a few years back. And the weeds! They infuriated him. He couldn't keep up with them any more and they seemed to taunt him.

TIME TO SLOW DOWN

"The time has come to slow down," John's doctor told him. "Leave the heavy gardening chores to others. Hoeing in a hot sun isn't for you any more, and you shouldn't be pushing a barrow."

"This is the only hobby I have, other than reading or looking at television," John protested.

Then the doctor told John of a new kind of indoor gardening, free of spade work and not plagued by bugs, frost, drought, hail, or marauding dogs.

"Why don't you try indoor gardening under light?" the doctor asked. "It's ideal for oldsters and handicapped people. You can find out all about it in books and the initial expense isn't big."

BOOKS AVAILABLE

John sent to the Public Information Library in Regina for the books — for instance, "Gardening Indoors under Light" by Krantz, and "Growing Plants under Artificial Light" by Schulz. With a little help from a neighbor, he built narrow benches in a free part of his basement. He managed to pick up several used fluorescent fixtures for very little money. Before freeze-up last autumn, he got in the basic materials — a few flats of garden soil, a bag of peat moss, a few precious pails of leaf mould, and he was ready to start a new hobby.

The light fixtures, equipped with ballasts, were plugged into a spare outlet in the laundry place. They were suspended seven or eight inches above the seed flats, providing sufficient light for green things to grow.

Very soon he had all sorts of green things growing in his

basement where the temperature was a pretty constant 65 degrees — ideal for many plants.

Outside, winter reigned, but it couldn't have mattered less. John grew radishes, raised "mums" from slips, had violets blooming from the seed he had gathered outdoors in late summer. John had himself quite a time. He spent many happy hours in his basement tending his new kind of garden, and without any physical strain. His happiness contributed to his feeling of well-being.

John's wife kept an anxious eye on the light bills, but the expenditure of electricity seemed to make very little difference.

Indoor gardening is ideal for those who must conserve their strength and for those whose gardening is inhibited by physical handicaps. And it can be a poor man's hobby, too, because you can make indoor gardening as simple or as elaborate as you please.

P.S.—If you want to know more about indoor gardening under lights, ask your public library or write the Provincial Library, Regina.

The Morning Garden

Let's get a breath of freshness
From the early morning air,
Let's walk around the garden
And see what's doing there.
The birds keep singing gently
In the early morning hours,
There's a little bit of fragrance
From the newly opened flowers.
The air is calm and tranquil
And the leaves are shining green,
The flowers have brightest colors,
Softened by a dewy sheen.
It's bonny in the garden
In the early morning sun.
The freshness and the sweetness
Of a new day just begun.
But we cannot stay much longer
We must be on our way,
But we've gained a bit of uplift,
To start our working day.

—H. McD.

The Certificate of Merit — 1959

By **D. R. ROBINSON**

University of Saskatchewan, Saskatoon

A few years ago the Saskatchewan Horticultural Societies' Association decided that it would be appropriate to give some recognition to individuals who had achieved something beyond the ordinary in the field of horticulture. The Certificate of Merit was made available in 1957 and two awards were made in 1958. Very briefly this certificate is awarded only to non-professional or amateur gardeners for outstanding achievement in horticulture. In 1959 two further awards were made, — one to Mr. Harry Poulton of Quill Lake, the other to Mr. D. H. Barton of Beechy. A brief review of their horticultural accomplishments are given below.

Mr. H. Poulton was born in London, England, in 1894 and came to Deloraine, Manitoba, in 1910. In 1913 he homesteaded southwest of Aneroid, Saskatchewan, in township 1. His early experiences on the prairie make interesting reading: quoting one of his letters, "I rode a bicycle from Hazenmore down to township 1, section 11, W. 3rd, and located the homesteads, then returned to Swift Current and wired my brothers to come and file. This was a trip of some 300 miles over buffalo trails by bicycle." During the winter of 1913-14 Mr. Poulton made seven trips with oxen, hauling lumber and supplies, from Vanguard to the homesteads. This was a 77-mile trip one way. Farming operations were interrupted by World War I; he writes, "I spent Christmas Eve, 1916, under severe shell fire in the Somme." He returned to the homestead in 1918 and extensive tree plantations were set out in 1921. Flower gardens were planted in 1922. Many of the original trees are still growing despite neglect.

Following seven years of crop failure Harry Poulton and family moved to Quill Lake in 1934. Here they cleared a quarter section of bush land and payed off the debts on the half section in the dry belt. A part of the native tree growth was left standing around the buildings and cultivated trees and shrubs were planted in 1936. These plantings have been added to from time to time until now Mr. Poulton's homesteads, and those of his son Don, are beautifully landscaped.

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The skillful use of native material combined with cultivated varieties provides a setting which is both interesting and unique. Quite a number of different shrubs may be seen, including lilacs, spirea, rosybloom crabapples and roses. The evergreens are also represented. A considerable area has been retained in lawn — this includes a natural runway which has been grassed. In midsummer perhaps the outstanding feature is the perennial border. Here may be found peonies, monkshood, lilies, delphiniums, dianthus, columbines, the native yellow ladyslipper and other plants. Likewise, the annual border has not been neglected. While many farm gardens depend mainly on annuals seeded out-of-doors, the Poultons' flower border includes scores of bedding plants. Petunias, snapdragons, alyssum, carnations and other annuals are on display. The secret here is a small greenhouse, operated efficiently. In addition to flowers a few hundred tomato plants are started indoors, also other vegetables. The vegetable garden is large and remarkably free of weeds. A small acreage of potatoes is grown each year. To a large extent the vegetable garden is planted and cultivated by a gas powered garden tractor. This was built in the farm shop by Mr. Poulton's son, Don. Fruits are represented by plantings of strawberries, raspberries and gooseberries. It may be noted that these gardens are grown without irrigation.

The Poultons are strong supporters of the Quill Lake Horticultural Society, Mr. Poulton have served both as director and president thereof. In 1954 he exhibited at the Wadena agricultural fair, and since 1952 he has exhibited regularly at the Quill Lake horticultural show. This past summer he won the grand aggregate at the Wynyard horticultural show. One project undertaken by the Quill Lake society is the landscaping of the local hospital grounds. Mr. Poulton has been an active worker on this project.

As was mentioned previously Mr. D. H. Barton of Beechy, along with Mr. H. Poulton of Quill Lake, received the Certificate of Merit in 1959. It is of interest to note that the other three recipients of this award were born in England, Hungary and Ontario. Mr. Barton, however, is a native son, having been born in Saskatchewan in 1917. His parents came from Texas and North Dakota. Beechy is located some 90 miles southwest of Saskatoon, within the "Palliser Triangle", and not far from the site of the old Matador ranch. This is an area of relatively low precipitation, and considering this fact one cannot help but be amazed at the variety of horticultural plants being grown by the Bartons. The home place where Mr. Barton lives is called "Fertile Acres" and the first tree plant-

ings were made by his father in 1916. A caragana hedge was set out in 1925, and a four-row shelterbelt of Manitoba maple and caragana was established in 1929. The most recent tree plantings were made by Mr. and Mrs. D. H. Barton in 1949. These consisted of American elms planted in check rows, 16 feet apart each way. In addition to trees other plantings have been made on the Barton farmstead and much could be written about these attractive home grounds. Three features stand out rather prominently; these are, (1) a fair sized farm orchard, (2) an extensive plantation of ornamental shrubs and (3) an excellent lawn maintained by an irrigation system. Flowers in variety are also grown. In the Barton orchard some of the more prominent fruits are the Rescue, Dolgo, Florence and Siberian crabapples, and the Heyer 12 apple. Plums are represented by the varieties Pembina, Assiniboine and Opata, and seedlings of *P. nigra*. Chief, Madawaska and Latham raspberries make up the balance of the orchard. A variety of ornamental shrubs and trees have been used for landscaping purposes. The dwarf shrubs include Pygmy Caragana, Shrubby Cinquefoil, Russian Almond, Hansa and Betty Bland roses, flowering plums and three varieties of spirea. The taller growing shrubs are represented by Mountain Ash, Cutleaf Elder, lilacs, pyramidal cedar and rosybloom crabapples. Ornamental trees including Weeping Birch, Colorado Spruce and May Day Tree. In addition there is a Missouri Currant hedge. In the perennial border one will find Morden Pink Lythrum, *Lychnis*, *Gaillardia*, *Chrysanthemums*, *Violas*, *Columbines*, *Delphiniums* and *peonies* in variety. The annual flowers also are represented. Quoting from a letter from Mr. Barton, "we plant annuals every year, mostly the frost resistant kinds such as *Petunias*, *Alyssum* and *Stocks*, and other to suit our fancy." It will be noted that many of the hardy shrubs and perennial flowers are represented in the Barton plantings. These shrubs and flowers have been used effectively and artistically in landscaping the home grounds. The farm lawn is a mixture of Kentucky Blue, Creeping Red Fescue and White Dutch Clover. It is maintained by irrigation and would compare favorably with most urban lawns. Mr. Barton specializes in forage crop seed production. At the present time he is one of the leading producers of Russian Wild Rye seed in Saskatchewan. He has served for a number of years as director of the Victory Agricultural Society and was nominated by this society for the Certificate of Merit.

The Poultons and Bartons are highly regarded by their neighbors. Undoubtedly the example they have set with regard to home beautification in particular, and gardening in general, will serve as an inspiration to many people in their respective communities.

The New African Violet

By A. W. SELLERS

There has been a remarkable improvement in the African Violet in recent years. Each year there are new innovations brought forth. Attendance at any African Violet show is a treat for the African Violet lover, but the International African Violet Convention held in the United States each spring is a spectacle that is breath-taking. It consists of large commercial exhibits of exhibitors creations, their new seedlings and other well grown specimens made up into an artistic exhibit. Included is an amateur show of exhibits entered by members of the society. These plants are grown for exhibition purposes and have been grown with great care and attention. The scientist, the professional hybridizer and the hobbyist hybridizer meet here on common ground, all with one interest, the African Violet. There is keen interest to see what the other fellow has come up with since the last showing, and we also see to what perfection African Violets can be grown.

The scientist's ability to look into the future with their understanding of plant cells, nuclei, chromosomes and genes have worked wonders, as well as the professional hybridizer who is working to give us what we want. The men and women who hybridize the African Violet as a hobby also have produced many of the most sought after plants each year. African Violets are easily multiplied and so this new material is available to all to work with in new lines.

Mutations come about naturally, but also can be induced artificially. It is from these "breaks" that the present day African Violet has come.

There are types that reproduce reasonably true to form. One, designated "Supreme" is an extra large plant whose leaves are inclined to be coarse. It has a full range of variations in foliage with single and double flowers. It is the ideal type to be put on a table by itself near a window getting the owner's personal attention. A mature plant is at home in a four-inch pot.

Then, we have the medium-sized plant, by far the most popular and greatest in number. Its place is on the window sill or an arrangement in color combinations as table or room decorations. It lends itself to artistic grouping. They are the preferred show type. Three inches is the maximum size pot recommended by most experienced growers.

The miniatures have a dwarf appearance but can be grown to perfection in symmetry of foliage with single and

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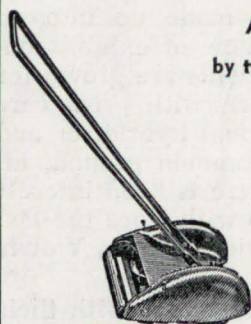
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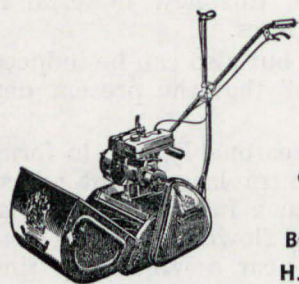
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double flowers in good range of form and color. When one looks at well grown plants, "Aren't they cute?" is a natural exclamation. Don't over-pot this type, two and one-half-inch pots or less are desirable.

In the past, there are many flowers that have caught the fancy of the public, but as a house plant, none have reached the popularity of the African Violet of today. All old violets are not necessarily poor plants, but the tendency each year is to improvement. In talking to one of the leading hybridizers, the writer asked: "What do you do with the hundreds of plants in your crosses that aren't better than their parents?" The answer was: "We destroy them". Each year he produces one, two or three, maybe a few more that are tops. Nothing that is not better, survives. They are easy to grow if just a few are to be looked after. Every home has some spot in which several will do well. Just remember, they are living things and need some attention. If peculiarities show up, ask your local African Violet Society and they will be only too glad to share their knowledge with you.

Now, for the type you would prefer, and for convenience we will discuss the medium size as it has the greatest range of foliage and variations with color, and form of flower.

Do you prefer singles? If so, keep in mind that they do not hold their blossoms as long as the doubles. There are good single whites and colors of all shades of pink, blue, purple, wine and some very close to red. Many of the base colors have picotee edges, deep pink on light pink, white on blue or purple, lacy fringed edged petals most delicate in appearance.

One of the most recent "breaks" is a chartreuse edge — green, yellow or gold in appearance depending on shade according to age of blossom. This introduction is being used extensively in this year's hybridizing, and something is sure to come of it. It is very attractive and some think it will lead to the illusive yellow.

Two of the leading hybridizers residing miles apart and not knowing that each were working on the same project, came up with the "Stars". The flower has a distinct "Star" appearance and is very attractive. Some of the "Stars" have very small undeveloped petals in the centre that serve the purpose of holding the blossom on the stems much longer than the true single.

As to the doubles, they have everything the singles have with this in addition, the blossoms stay on until the mature and dry up. The demand has been for doubles, therefore the

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professional hybridizer has produced what we asked for. The writer has visited some of the leading commercial greenhouses specializing on African Violets. Their benches are scenes of indescribable beauty, a mass of color that only the double violet can give in its size and profusion or blooms. The advance in the double blossom plant is in semi-double to good form of blossom — large, fully double and made up of evenly sized, overlapping petals borne on straight stiff stems holding the flowers well above the foliage. It was only a very short time ago that the great fault the prolific double bloomer had, the weight of the bloom was too heavy for the stems and they would lie down. This has been overcome.

The foliage of the original African Violet has been changed until it has been said: "It is no longer a violet". It is true, there has been a drastic change, but for the better. It is what violet lovers wanted and any changes found ready markets.

Leaves are divided in two types — girl and boy. They both can be classed dark, medium and light in shades of green on the surface. The underside ranges from almost white to reddish maroon.

The hybridizers have worked up some very beautiful foliage in both singles and doubles, from light fringed to heavily ruffled edges. Many exclamations of delight are heard from viewers at the beauty of the foliage before the blossom is noticed.

It may have been that you were not successful in your attempts to grow African Violets. It is being done with marvelous success giving great happiness to many people for little effort. Perhaps you didn't have the right one for your environment, or a local condition is now corrected. Try some of the new introductions — most of the 1959 releases are available. Our importers know they have a demand for the new ones and cater to our wants. Any person interested in African Violets can grow them successfully.

San Francisco is the site of the 1962 convention. A prominent grower says they will have a selection of yellow and all green flowers on exhibit. We have been waiting for just that, so let us plan to see them.

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F. L. Skinner, M.BE., LL.D.

Dropmore, Manitoba

Mail from all over the northern hemisphere finds its way to the above address, even from behind the Iron Curtain. Dropmore, Manitoba, is a small rural community, Post Office, General store, two elevators, hall, school and gasoline pump, off the main highways and railroads, yet it is known far and wide as the home of Dr. F. L. Skinner.

Almost all Prairie Gardeners have heard about him and his accomplishments and the honours he has earned. Many are growing plants that he has introduced, but we are not all acquainted with the man himself.

Frank Leith Skinner was born seventy-seven years ago on the rugged coast of Aberdeenshire, Scotland, where as a small boy he was keenly interested in flowers. He came to Canada at an early age, with his parents, brothers and sisters, the youngest of a family of nine. The family settled between



Dr. and Mrs. F. L. Skinner and family
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the Assiniboine and Shell Rivers some twenty miles north of Russell, Manitoba.

In the early days their neighbours were few and far between. The boys grew up in the saddle, herding cattle from early morning till dark, there were no fences then and the cows roamed far and wide. Dr. Skinner soon knew all the native plants for miles around, his keen eyes always alert for a new species. In his leisure hours he read all he could find about plants, and wrote to all parts of the world for seeds and plants. Soon he realized that hardier types of garden plants were required for Manitoba. Thought is never far from action with Frank Skinner, he dreams of new plants and proceeds to make his dreams come true by breeding new varieties, and through the years he has given us many good things for our gardens.

In the middle twenties, Skinners Nurseries came into being — thus dividing his time between farming and horticulture. Gradually the nursery has replaced the farm to a great extent, although one can still see good cattle and fine crops at Skinner's.

Well past the allotted span, when most men are taking life easy, this still young man puts in a long day from early morning till dark, in the fields when the weather is at all possible, and it takes real rough stuff to chase him to his office.

His talents are many, he can write a learned paper on horticulture, graft a rose bush, construct a granary or a garage. He was the first to receive the Stevenson Memorial medal, was honoured by the University of Manitoba in 1947 with an LL.D., is a member of the British Empire and has numerous other honours to his name.

His greatest joy and interest, however, is his young family, shared by his gracious wife, Helen. Three boys and two girls keep the Skinner home lively. Leith and Hugh, the older boys, show a love for growing things, and while hardly in their teens are trying their hands at crossing plants. Sisters Isobel and Heather are next and toddler John is very much a growing concern.

This, then, is a little peek into the life of one of our most illustrious neighbours, a man of the soil and a friend to all gardeners.

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Landscaping for Fall and Winter

By H. T. ALLEN, Horticulturist
Experimental Farm, Lacombe, Alta.

No one need be reminded about the length of our Prairie winters or the comparative shortness of the growing season. In the landscaping of our home grounds, however, much thought can be given to selecting plant material, especially shrubs and trees, which possess special characteristics that modify the bleakness of the off-season. Too much variety may take away from the harmony of the picture and it is thus important to know these special characteristics so that one can choose a balance that will provide interest during all four seasons.

Evergreens do much to satisfy the requirements by providing contrast in form and foliage throughout the growing period and becoming dominant features during the winter. Needless to say their locations require considerable thought. So do such plants as the Golden Elder, Purple Leaved Plum, Purple Leaved Barberry, Variegated Dogwood, Schubert Chokecherry and Ninebark which are all noted for their colorful foliage. The variety of shrubs that possess floral characteristics are abundant indeed and whereas such kinds as the Lilacs, Flowering Plums, Spireas, Potentillas, Mock Oranges and the foliage plants mentioned previously, provide a landscape with abundant beauty during the growing period, none give much ornamental value in the late fall or winter. All of these plants have their uses, and should be used, but other plants can be chosen to supplement these to provide interest in the off-season.

The requirements of the fall are the easiest to meet and although nature herself may provide sufficient color in the surrounding landscape to meet the desires of many people there are a great number of shrubs and small trees that may find a place on the small property to supplement the beauties of the native stands. In the group of small shrubs we might include the Peking Cotoneaster, Dwarf Euonymus, Alpine Currant, Redleaf Rose, Redosier Dogwood, Purpleosier Willow, Cherry Prinsepia, Smooth Sumac and the Securinega for foliage color. There are several large shrubs and small trees that are also noted for their fall coloration such as the native Pincherry, Silver Buffaloberry, Amur Maple, Ohio Buckeye, Common Horsechestnut, Highbush Cranberry, Hawthornes, Mountain Ash and Ussurian Pear. Another grouping would include those kinds that produce colorful fruit as do the Rosybloom Crabapples, Hawthornes, Red Elder, Highbush Cranberry, Silver Buffaloberry, Dogwood, Cherry Prinsepia, Dwarf Euonymus, Alpine Currant and European Cotoneaster. It will

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be noted that several of these have a twofold value in that both the foliage and fruit are ornamental in the fall.

After frost has removed the leaves from most of the trees and shrubs, the dominant features in the landscape are provided by the evergreens and those deciduous species that retain their fruit either singly or in prominent clusters. Most notable at this time would be the Mountain Ash, High-bush Cranberry, Red Elder, Hawthorns, Shrub Roses, Ornamental Crabapples, Cotoneasters and Silver Buffaloberry. Special mention should be made of two kinds in particular, the Mountain Ash and Silver Buffaloberry. Several species of Mountain Ash are available to prairie gardeners and all have considerable value as ornamental subjects but one of the most striking species is the Showy Mountain Ash, *Sorbus decora*. It is especially noted for its uniform rounded habit of growth and is excellent where a tree-like shrub is desired. Although the Silver Buffaloberry has the fault of suckering rather extensively, it is unique in that it is about the only plant that retains both its foliage and fruit for an extended time into the winter season.

The ornamental value of those plants that hold their fruit for a time into the late fall and winter comes to an abrupt halt with the annual visit of flocks of Waxwings and other winter birds. The first plants to succumb to the ravenous appetites of these birds are the Mountain Ash followed by the Cotoneasters and other species with the Ornamental Crabapples about the last to lose their fruit, generally towards the middle of January.

The landscape now until spring becomes one of contrasts with the evergreens playing the most important role. The colorful bark of the Golden and Red Dogwoods becomes more noticeable and the red and black hips of the Betty Bland, Scotch and other varieties of roses are prominent features. Forms that were overlooked in the overall greenness and abundant growth of the summer season come to the fore; the fan-shaped formation of the Purpleosier Willow, the umbrella shape of the American Elm, the mushroom effect of the Weeping Caragana or the graceful pendant branches of the Weeping Birch. Even the seed panicles of the Lilacs, the clusters of seeds on the Green Ash or large buds of the Elders are distinguishing features of the landscape. Towards spring, the Red and Yellow Dogwoods become brilliantly colorful and perhaps reach their climax in landscape value at this time.

Perhaps a second look at the trees and shrubs landscaping our home grounds will reveal one or two points that might be improved by the addition of some plant that will extend the ornamental value of the plantings beyond that of the summer and early fall seasons. Recommended variety lists should always be consulted.

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DON'T BE A SUCKER

By STAN SHEARD, Horticultural Specialist
Saskatchewan Department of Agriculture

Prairie gardeners spend thousands of dollars every year on non-hardy and unsuitable nursery stock. Tree and shrub varieties which have no chance of survival under our climatic conditions are imported in large numbers each spring from eastern Canada and the U.S.A. These are quite often sold as 'absolutely hardy' and 'guaranteed to grow' to amateur gardeners and new home owners who are not familiar with varieties adapted to western conditions, but who are anxious to plant and beautify their home grounds. While many of them may grow and some even flower during the first summer, the large majority of them are unable to survive the rugged prairie winter. Consequently, planters are both disappointed and 'out-of-pocket' when it becomes necessary to replace dead plants the following spring.

With the many thousands of new homes in western Canada at the present time, the market for ornamental plants is a rich one, with the result that more and more unsuitable nursery stock is being offered for sale each year. Most of this non-hardy material is sold in the larger cities, with chain grocery stores being among the prime offenders. However, large quantities also come into the province by mail when the gardening public falls prey to the 'bargain offers' widely advertised by nurseries in eastern Canada.

Anyone not familiar with tree and shrub varieties which are adapted to western conditions should obtain the advice of a competent local horticultural authority before purchasing such materials for home beautification. Horticultural Societies, City Parks Departments, Experimental Farms, Agricultural Representatives, local nurseries, the Provincial Departments of Agriculture and the Universities of Manitoba, Saskatchewan and Alberta are all willing and able to provide the gardening public with accurate and reliable information concerning hardy plant materials.

Trees and shrubs for planting in prairie gardens should be purchased from one of the many reliable nurseries located in western Canada. Lists of nurseries which cater to the prairie trade are available from most of the above sources. **Don't waste your money on non-hardy plants offered by unreliable and indiscriminate dealers.**

FIELD AND GARDEN WEEDS



CURLED DOCK
Perennial, to three feet. Leaves to twelve inches. Moist soil.



LAMBS QUARTERS
Annual, to three feet. Leaves mealy — Everywhere.



RED ROOT FIGWEED
Annual, to five feet. Leaves rough. Root coloured red.



WILD MUSTARD
Annual, to two feet. Seeds can germinate after many years in soil. Needs moisture.



SHEPHERD'S-PURSE
Annual, to one and one half feet. Rosette type plant. Mostly in gardens.



PEPPER GRASS
Annual, to one and one half feet. Lower leaves deeply notched, upper leaves heart shaped.



WILD RADISH
Annual, to two and one half feet. Lobed leaves to eight inches in length.



HOARY CRESS
Perennial, to one and one half feet. Spreads by seed and deep running roots.



BLADDER CAMPION
Perennial, to two feet. Very persistent, with white flowers.



TUMBLING MUSTARD
Annual, to three feet. Rosette type plant when young. Dried plants blow with the wind.



VETCH
Perennial, trailing native plant.



WILD CARROT
Wild form of garden vegetable.

Control for all weeds, is clean vigilant cultivation. Where and when drift damage to crops is not a problem, chemical control, (2,4.D. etc.) can be utilized, especially on lawns. In most gardens, hoeing and digging is safest and best. Annual weeds must never be left to produce seed. Perennial weeds may need digging to remove the least particle of roots.

FIELD AND GARDEN WEEDS



FIELD BINDWEED
Perennial, trailing, spreads from white roots.



RUSSIAN FIGWEED
Annual, to two and one half feet. Bushy. Two types of seed on same plant.



PLANTAIN
Rosette type plant, common lawn weed.



RAGWEED
Annual, to three feet; often on roadsides. Cause hay fever.



CANADA THISTLE
Perennial, to three feet. Spreads by seed and running roots.



GREAT RAGWEED
Annual, to three feet. Divided leaves with greyish undersides.



DANDELION
Perennial, Rosette type plant. Active growth in spring and late summer.



WILD BUCKWHEAT
Perennial, trailing, common in or near cultivated land.



RUSSIAN THISTLE
Annual, to two feet. Small sharp leaves. Plant when dry rolls with the wind.



STINKWEED
Annual, to one and one half feet. Very early in spring. Unpleasant smell.



SOW THISTLE
Perennial, to five feet. Bad weed in grain fields.



FALSE RAGWEED
Annual, to five feet. Tall rough plant with sunflower habits.

Chemical applications are safest applied at the end of August or in early September on lawns or near gardens. Good control of dandelions, plantain, thistle, etc., can be obtained by late summer spraying. Early annual weeds can often be killed before vegetable crops or perennials are in growth in early spring by spraying.

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Dahlias and Their Culture

By **J. F. ALLAN**

Agricultural Representative, North Battleford, Sask.

The dahlia is truly an American flower, we read of it growing in Mexican gardens as a flower when the Spanish invaded that country.

It was a native of the mountainous regions of that country as well as other parts of Central America as a single-blooming insignificant plant.

The many beautiful types of dahlia blooms which we now possess have come through the efforts of the plants breeders in the last 75 to 85 years.

Its name comes from the Swedish botanist Dro Andreas Dahl, but many English, Dutch, Australian and American workers have added to his original work to give us the many versatile forms we now have.

Space will not permit me to deal with these various forms of beautiful flowers, but I am sure that any gardener will certainly find a type to suit his or her liking somewhere between the lordly large-bloomed decoratives and cactus blooms down to the dainty miniature pompon.

CULTURE

In its native state the dahlia is found growing in a light loamy soil where it has good drainage and lots of humus. There it has abundant moisture from frequent rains, but because of high altitude between the showers the air is dry and the nights are cool. The dahlia cannot stand searing heat nor drought, nor can it stand frosts, and for these reasons our prairie city and town gardens are ideal for its growth where water is used on the garden.

The plant certainly likes lots of humus, such as leaf mold, peat moss or rotted manure but cannot take very much in the line of commercial fertilizers, but some bone meal does help a great deal. Large applications of nitrogenous fertilizers should be avoided as it tends to encourage too much rank growth that does not bloom well and produces tubers that are hard to winter.

Bone meal can be applied at the rate of five pounds per 100 square feet and dug into the soil. (Our soil is rather sandy.)

All the taller, large-flower types will require staking. These stakes should be put when planting as driving the stakes after planting can damage the roots badly.

It certainly is helpful to sprout the tubers before planting. I usually sprout them in cans of ground moss and soil and

plant the whole mass in the ground when taken out of the can. If planted without sprouting they are often too late for effective bloom under our north Saskatchewan conditions. Sprouted tubers should not be set out until about one week after setting out the tomato plants, particularly if the young shoots have attained any height. If planting earlier than the time suggested hot-caps should be used.

STORAGE IN WINTER

After heavy fall frosts occur the plants should be dug for storage. The plants should be cut off about two inches from the ground, taking care not to bruise or cut the tubers. Insert the name labels into the two-inch stem stumps and dry for an hour or two and then put them in temporary storage to dry for one or two days. There are several good methods of storage. Vegetable baskets or light wooden boxes should be lined with roofing paper or newspapers and the tubers packed in these containers in coarse peat moss or spagnum moss. Some growers use sand, but the tubers sometimes dry out too much in sand. The whole secret is that the tubers must not completely dry out and they must not get wet or they will rot. It is very important that storage temperature is kept down to 40-45 degrees Fahrenheit.

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SLUGS

By Dr. W. R. LESLIE, Winnipeg, Man.

Mastery calls for understanding. The gardener is most successful and open for maximum satisfaction in his field operations when he has knowledge of the pests which compete with him for the produce he is growing. Among the pests that have immigrated from Europe, few are more annoying than the slug, a little slimy invertebrate animal that revels in moist shady places. The slugs are mollusks, being a form of snail and hence belonging to the class Gastropoda, which means bellyfooted.

The common GARDEN SLUG, *Deroceras gracile*, is about an inch long, shell-less and seems to walk on its abdomen. It makes a silver trail along the garden by exuding secretions from glands in the feet. The purpose seems to be to smooth the passageway for travel. The creature prepares its own roads and carries with him a superior liquid surfacing. When the secretion dries the trail takes on a tell-tale silvery glint. It is this shell-less land snail that infests more and more of our gardens.

These slugs possess two pairs of feelers on their heads. Their eyes are found on the tips of the longer pair. Both male and female sexes are in each individual but there is reciprocal mating. A slug will lay 500 to 800 white eggs, about one-eighth inch long, in groups of about 50, among roots of plants in moist soil. Eggs hatch in about 3 weeks and the young may over-winter. Wintering slugs may lay eggs in May and from these develop little animals sufficiently mature to mate and lay eggs by October. Some of the adults may come through the winter successfully.

Slugs thrive during wet seasons and make use of trash and low growing plants for concealment.

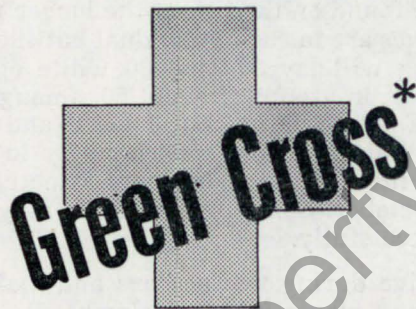
COMBATTING SLUGS: The first precaution is to keep the garden as free of sticks, fallen foliage and other surface cover as possible. Deprive them of resting places. They may be collected at night, using a spotlight to bring them into the open and then dropping them into a tin of old oil. Spreading dust, such as dry ashes, about the plants causes them to secrete mucus in such quantity that they exhaust themselves to death.

Poisoning is in two forms. One is to dust the surface of the garden in autumn with 5% DDT powder, and repeat in

spring prior to planting. The commonest of all treatments is to spread prepared poison baits. Most used are those containing the poison metaldehyde. Various commercial slug baits are sold at garden counters. The gardener may make up his own. One form is to use stale beer and Paris green on lettuce and cabbage leaves. The moistened baits are spread in the evening, in cakes about the size of a fifty-cent piece, close to plants preferred by the slugs. Gather unused baits in the morning. The baits are made greatly attractive by flavoring them with a grated orange peel. The little animals have remarkable sense of smell and seem to find orange scent irresistible.

Reduce them by traps. Place shingles, half potatoes, grapefruit shells, and other harbors on the ground, in moist condition. Turn them over in the morning and collect the enemy.

There is one further method that may assist you in combating this pest. A metaldehyde 20% liquid formulation came on the market last summer. There are reports that it gave good control. It is mixed one ounce one gallon of water and applied over the ground with a fine spray. It can be toxic to slugs up to a week.



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WEED NO MORE—Butyl Esters of 2,4-D	GARDEN GUARD—Rotenone
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POTATOES*

Potatoes are grown to keep the vines from blowing away, the grower from going astray and the buyer from throwing away his money on Wall Street, loaded dice, pumpkin games and the simpler games of gambling.

Potatoes are handled as though they are worth a million dollars. They're sprayed over by the grower, prayed over by his wife, and preyed upon by the buyer. They are nitrated, freight-rated and berated. They are thinned, washed, rinsed, sized, wiped, dissected and rejected.

They are graded by the grower, regarded by the inspector and ungraded by the provincial experts. Any man that can think of a new way of rejecting potatoes is called a horticultural expert and is given a \$5,000 job by the province.

Same but broker

After the grower does all this and gets what potatoes are left in the freight car, he turns them over to a broker. He is called this because he is the same as the grower, only broker. This man sends them 2,000 miles away and has them looked at by a color-blind confederate who telegraphs back that they can't handle this car at any price on account of lack of color and so on. Try to get a half dollar off per cwt.

Then they call in the grade guesser. The grade guesser is called an inspector by the authorities, a crook by the buyer and a darned fool by the grower. After two more phone calls the grower says "All right. Do the best you can for me" and goes out to load up another car.

The broker brings them back to the neighboring town, sells them for 10% less than the price and deducts freightage, storage, towage, breakage, spoilage, postage, and his own age, and that leaves the grower's children entering the orphanage.

*From Valley Potato Grower

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Potatoes give you lots of nourishment. One medium-sized potato, cooked plain, gives you one-fourth of your daily quota of vitamin C and some of the B vitamins, iron, and other important minerals. Penny for penny, potatoes are on top of the vegetable list in energy-giving food value.

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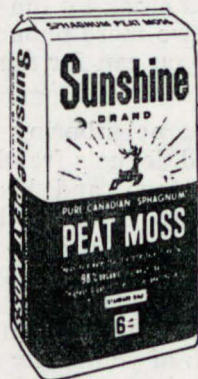
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Birds in Your Garden

By J. H. MARTIN

Medora, Manitoba

A home garden without a bird-bath, well! to me there is something missing. I encourage birds by leaving my hedges untrimmed, keeping the bird-bath full of water, and coarse sand available, too, the latter being as necessary to birds as water is.

Some day, when you know there are young birds in the nests in your garden, sit down on the lawn and count the trips the parents of the thrush family make with bugs of all sorts from garden to nest, or if it's parents of the warbler family, count the trips from tree to nest with aphids, leaf-rollers or other small insects. If human parents and offspring ate in proportion, they would have to kill an ox daily. Later, watch the flycatcher family in action. I once saw a kingbird chasing a winger grasshopper, and saw the hopper dodge under the clothesline, with the bird so close that he had to thrust his feet out and grab the wire, only to swing a complete circle three times before regaining his balance on the wire.

This is how I constructed my bird-bath. I made a small concrete base, set a two-foot length of flue-lining on this, wrapped chicken-wire around this, flaring out the top, and plastered this with cement plaster and sand (2 to 1). I then filled the post with concrete and stones, forming the inside of the bowl as I went. I added a little cement flaring the next day to make the shallow bowl hold a pail of water. To keep dogs from drinking the water, I made a little flower bed around the bath, fenced with 18-inch wire fencing with a barb-wire on top.

As to location, set about five feet or more from a tree, in full sight of your favourite window, being sure there are no tall flowers or tall weeds near, where a marauding cat could hide. Place a loose stone in the bowl for little birds to wade on.

You must keep the location of the bird-bath fairly well secluded, especially during the migration seasons, for "eternal vigilance" means life itself to creatures of the wild.

Like myself, I doubt if you will ever become an "ornithologist", but once you are bitten by the bug, you will soon

get acquainted with the large family of warblers, and almost as large family of perchers, the wee hummingbirds, kinglets, creepers, etc., to the larger jays, woodpeckers, grosbeaks, crossbills and myriads of the in-between sizes; by this time you will be getting acquainted with the individual songs of each bird, from the silvery tinkling of the horned lark, yellow warbler, white-throat sparrow. The rasping voice of the yellow-head blackbird, that will almost start your store-teeth aching, or the croak of the raven and black-billed cuckoo.

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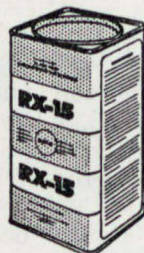
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This season how would you like to make your flowers bloom by the thousands weeks ahead of your neighbors — double the growing power of undernourished shrubs, trees, hedges, vegetables? Grow a richer, thicker, greener lawn in just 7 days with just 1 sprinkle from a watering pail?

Now you can turn your garden into the show-place of the community with thousands of colorful, flaming blossoms — luscious vegetables — thrifty roses and shrubs — and a velvet rich lawn — not two, three, or five years from now — but right now — fast — even if your soil is undernourished.

You can amaze the so-called experts in your neighborhood with a rich, thick carpet of lawn — and you won't even have to dirty your hands. You can revitalize your whole undernourished lawn or

garden . . . get results you never dreamed possible.

This water soluble plant food, RX-15, is so fast-acting that it is absorbed by roots and reaches into every leaf, stem and tissue almost immediately.

Because RX-15 rapidly feeds plants all the life-giving soil minerals they need for healthy growth and bloom, it means that merely sprinkling with RX-15 can make starved, undernourished lawns, trees, shrubs, houseplants start to spring back to new life quickly!



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RX15 Miracle Applicator will properly proportion RX-15 Plant Food Solution through any garden hose nozzle, sprinkler, sprinkler system, or soaker — regardless of back-pressure — and will apply a proper solution of RX-15 water soluble plant food accurately (without being affected by variations in normal water pressure) safely, and without burning.

AT GARDEN SUPPLY DEALERS AND HARDWARES

OLD FAVOURITES

By WILLIAM GRAY

Florist, Winnipeg Board of Parks and Recreation
President, Winnipeg Horticultural Society

These days it seems that nearly all the catalogues which we receive in the mail, or articles we read in the papers, feature "new" material for home or garden. They either forget or give very little space to some of the proven "old-timers"—plants that were popular in grandmother's day and are still very useful now. Many of these plants, grown very easily with just a very little attention, become beautiful specimens. I realize that home and office building designs have changed greatly in the last decade, but, even so, many of these plants would add much beauty to their interior decoration. I will not try to pick out the best, but merely mention some of my favourites.

BOSTON FERN (*Nephrolepis bostoniensis*)—This graceful old-timer is still very common, its popularity is, no doubt, due to its beauty and the ease with which it is grown. It requires good drainage and a soil mixture of two parts rotted sod, one part manure, one part leaf soil, one-half part peat moss and one-half part sand. To water keep damp, but not too wet, never allow to dry out. It does very well in an east or north exposure. It is very easy to propagate by division or by pegging down the runners.

MAIDEN HAIR FERN (*Adiantum*) — This is a truly beautiful fern with several types or varieties, but they can all be grown the same way. The only trouble with this fern is that it will need to be trimmed right down periodically, when the leaves start to turn yellow or brown cut it down to about 1/2"-1" from the top of the soil (like a brush-cut), top dress with a mixture as used with Boston Ferns and keep on watering, new leaves will start to shoot up in about two weeks. It likes a warm situation but not direct sunlight. Water freely, but do not allow to stand in water. It can be propagated by division.

ASPARAGUS FERN (*Aasparagus sprengeri*)—This plant is very easy to grow from seed and does equally well either in pots or in baskets. It has long, feathery branches in a fern-like appearance, although it is not a true fern, it is always called Asparagus Fern. It likes almost any temperature from

50 degrees to 70 degrees, and will take lots of water, or could be missed for a day or two without much ill-effect. It produces a very small pink flower which turns into red berries. It does not like direct sunlight.

FLORIST'S-TYPE ASPARAGUS FERN (*Asparagus plumosus*)—This plant is also very easily grown and is used by florists in corsages and with cut-flowers — it is also referred to as "Rose-fern." It is grown in pots and is a very ready climber, unless it is trimmed down it will soon get out of hand. There is a dwarf variety called *Asparagus plumosus nanus* which grows no higher than 12 to 15 inches and is most suitable in small quarters. These plants like a warm temperature and the soil should be damp but not wet, never allow them to stand very long in water. It likes a good light but not direct sunlight.

ASPIDESTRA—This tough old-timer is one of the most common of all house plants, because of its ability to do well almost anywhere, and of being able to stand any degree of shade almost indefinitely — it is often referred to as the "Cast-iron Plant." The most popular is the plain green leaf variety, but it also comes in a green leaf, striped with white and a less known one of green leaf with yellow spots. It must have good drainage but, even so, takes only moderate watering. Very old, well established plants sometimes bloom, but the flower is quite inconspicuous, being purplish-brown and appearing at soil level. It may be propagated by division of the roots.

SNAKE PLANTS (*Sansevieria*)—Snake plants are usually grown successfully in semi-dark places, but if given a chance they will become very attractive and will eventually produce a long stem of sweet-scented creamy blossoms. There are two common varieties, the most popular having long, narrow, leathery green leaves striped with grey (resembling a snake's back, hence the common name "Snake Plant") or the same leaves with a yellow band along the leaf edges. It likes a fairly light, sandy soil; don't overwater as these plants can't stand wet soil. They are not too demanding for light but require some sunlight to produce flowers, an ideal place would be in an eastern exposure. Propagation for yellow-edged variety is better by division of roots; other variety can also be done by division or leaf cuttings. Cut leaf into pieces about 3 inches long and place upright in any good rooting medium (soil, sand, or zonolite), the young plants will appear near the cutting, pot when large enough to handle easily.

North Dakota Horticulture

Harry A. GRAVES

Secretary, North Dakota State Horticultural Society
Fargo, North Dakota, U.S.A.

The economic pulse of a region can be recorded with some degree of accuracy by observing the phase of Horticulture being stressed at any given time.

During World War II, and the years immediately following, emphasis was on food production, grow your own and other catch phrases. Home gardens fitted this situation like a glove. As a result there was a great upsurge in gardening. Flowers were de-emphasized in the backyard gardens in favor of vegetables, Victory gardening was the thing to do, and large community garden plots were developed to encourage the man with the hoe.

Many folks first became acquainted with gardening during this era of Victory gardening enthusiasm. Some of them are still at it. Dollar and cents return is not always the motive. They found that gardening can get in your blood like fishing, golfing or collecting salt and pepper shakers.

Following World War II, most people found they had a bit more money to do with. Almost all of our farms became electrified through our Rural Electrical Administration. Kitchens were modernized, water and sewage systems were installed and many new homes were built.

Once the home interiors were made so attractive folks began to take a hard look at the untidy appearance of their yards. Nursery salesmen began to be seen in the land, and a boom in home grounds improvement began. 1947-50 saw a 5-state contest in Farm and Home Improvement launched by one of the radio stations in the area. The states were the two Dakotas, Nebraska, Iowa and Minnesota. There were annual winners in each state, plus a grand prize for the farm family showing the most improvement, both indoors and out during the 3-year period. This grand prize was won by a North Dakota farm family. Farms from all sections of the state made a creditable showing in this activity.

Along with this general interest in plantings, there has been an upsurge in the interest in garden clubs, flower shows

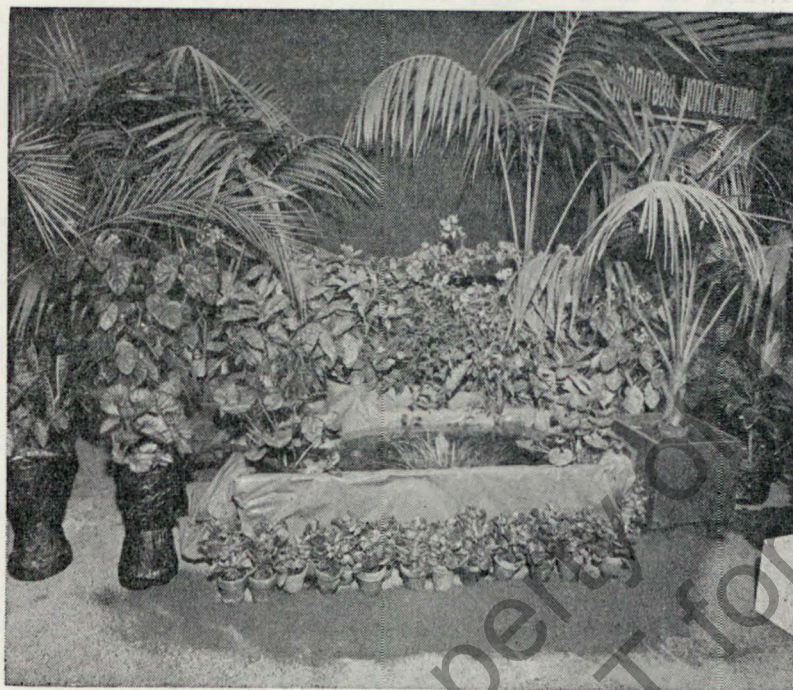
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and societies dedicated to some special flower such as African Violets, Pentstemons, and Gladiolus.

The most recent trend is toward small plantings of fruit for home consumption. Nurseries began offering "package deals" in fruit trees a few years back. The idea caught fire and now is popular throughout the state. A recent survey indicates that over 2,300 of these fruit tree "packages" were sold in North Dakota in the past two years. All of these programs are aided and abetted by our County Extension Agents at the county level.

Fruit growing under our Northern Great Plains conditions is not all gladness and light. Rabbits and mice are the worst hazard the fruit trees have to contend with. For small orchards, Poultry netting wrapped around the individual trees will discourage Peter Cottontail. A 5-quart can slipped around the trunk of the tree and worked into the soil about one inch will protect against mice.

In the insect and disease realm, apple seed chalcids are a nuisance, fireblight is a plague, and apple maggots are a curse. This latter insect has only appeared in southeastern North Dakota in recent years. It can be controlled by about three sprays at the right time, but they better be at the right time!

The North Dakota State Horticultural Society was organized in 1923. Such men as the late George F. Will of Bismarck, the late E. C. Helborn of Valley City and Dr. A. F. Yeager, now retired, were active in the organization and the first 20 years of this Society. Although the membership of our society has seldom exceeded 500, and more often is around 300, the membership has been the hard core of horticultural interest throughout the state. In return for \$1.50 in dues, members of the North Dakota Horticultural Society get the society newsletter 11 times each year, share in the Annual Meeting and Non-Competitive fruit show, and render service as co-operators in testing new horticultural varieties. This year, members will get seed of the Sheyenne tomato, a 1960 introduction of the Department of Horticulture, N.D.A.C. Their results, tabulated next fall, will be a statewide picture of how this variety will be received by home gardeners.

Television has hurt a great many other forms of amusement and recreation, but it has scarcely turned the head of the man with the hoe.

COMMERCIAL NURSERIES CATERING TO THE PRAIRIE TRADE

(Lists provided by the Provincial Nurserymen's Association)

March 1959

ALBERTA

Alberta Nurseries (Berggren Bros.) Bowden	GENERAL
Banff Trail Nursery (E. J. Lord) 311 - 19th St. N.W., Calgary	GENERAL
Beaverlodge Nursery (John Wallace) Beaverlodge	GENERAL
Haddock and Sons, Calgary	GENERAL
Parkdale Nurseries (M. MacAdam) 506 Dieppe Blvd., Lethbridge	GENERAL
The Lacombe Nurseries (J. McDonald) Drawer U, Lacombe	GENERAL
The Mayhew Nursery (Carl Larsen), Midnapore	PERENNIALS, SHRUBS

SASKATCHEWAN

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

MANITOBA

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

*Member Manitoba or Saskatchewan Nurserymen's Association.

Sunset Western Garden Book

By FRANK MARKHAM

Florist and Nurseryman

Past President, Regina Horticultural Society

The publishers of Sunset magazine have given gardeners and "do-it-yourself" enthusiasts a number of most excellent books on related horticultural subjects. As a professional gardener I have found them most useful and reliable, and I would urge you to add to your bookshelf "Western Garden Book."

The word "Western" must be explained at the outset as it refers not to our Prairie Area but rather to a large portion of the Western States which, however, includes a zone of forty below winter reading. Forget this, since this book's 383 pages open up a whole world of gardening "know-how" that has no geographical boundaries.

It has an individual encyclopedia for Annuals, Perennials, Bulbs, Vines, Ground Cover, Shrubs and Trees included in its three hundred and eighty-three pages. Ninety-one pages are devoted to "How to Grow Plants," with such valuable reading as How Plants Grow, Garden Care, Soil, Watering, Pests and Disease, Pest Control Chart, Pruning, General Maintenance, Starting Plants, Seeds in Flats, Transplanting, Seeds in Open, Vegetative Propagation, Cold Frames.

There is a section on "How to Use Plants," starting off with four fascinating pages concerning Gardeners' Language, then six pages on Containers.

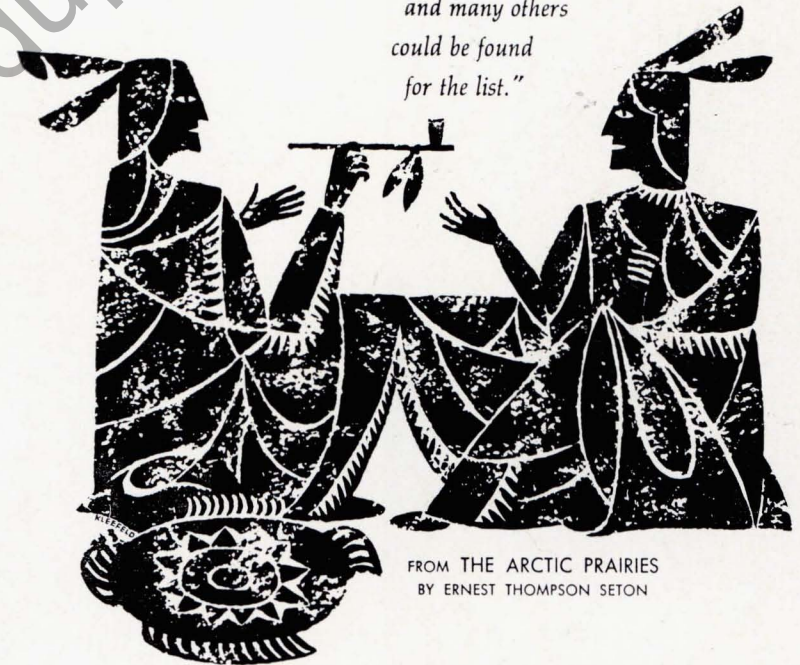
Cultivation of Annuals, Perennials and Bulbs is covered with special reference to Chrysanthemums, Tuberosus Begonias, Dahlias, Iris, Lilies, Roses, etc., etc. The Home Food Garden section includes advice on Vegetables, Small Fruits, Fruit Trees and Herbs. Indoor Gardening part is brief but interesting. The book can be bought from "Lane Publishing Co., Menlo Park, California." Send \$2.95 in American funds for spiral binding or \$3.95 for hard cover.

For further regional information contact your Provincial Horticulturist, Extension Service, or Publications Branch.

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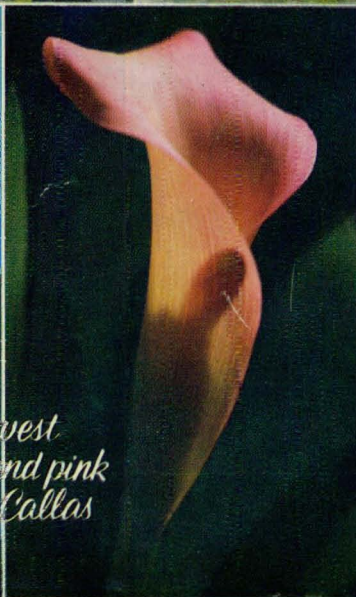
FREE

*Two of These
New-yellow
Cape Callas*

SEE INDEX PAGE 6



*Newest
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