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THE WINNIPEG FLOWER GARDEN

PRESENTED BY
The Winnipeg Horticultural Society
1942

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The Winnipeg Horticultural Society

ESTABLISHED 1930

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To Our Members . . .

This is the first opportunity I have had to thank you all for the honor conferred on me and the confidence you have placed in me in electing me as your President for 1942. Give me your wholehearted co-operation and I KNOW we can forge ahead and make this a record year.

Up until quite recently many of our citizens did not quite realize there was a war on. We went about quite normally, as a matter of fact, we were better off than the people in any other country in the world. But, of late many things have occurred to make us realize just how serious the situation really is. No more new cars, no more new tires, gasoline to be rationed, taxes are going to be heavier still. This simply means that we are not going to be able to run about as we were accustomed to doing. We will have to stay closer to home. We will have to spend less. Your business and my business is going to be seriously affected. We are all going to face some difficult problems. However, we can carry on. The people in England have learned to take it and have been going through all this for a considerable length of time and still have their thumbs up. We must protect our health and be on the job all day long, working out our problems. True, they will create considerable worry, but, one thing we must guard against and that is taking our business worries to our homes at night. There must be a period of relaxation or it will be a case of the survival of the fittest. If we worry all day and worry all evening we will lose our appetite for sleep. We will get up in the morning like a wet rag and in no shape at all to face the problems of the new day. Yes, we may be due for a nervous break down.

Supposing we take on a hobby and cultivate the habit of leaving our worries at the office and making things more pleasant for our wife and family by relaxing in the evening. I suggest that one of the best hobbies, one that will pay big dividends in contentment is gardening. It will also give us the needed exercise. It will give us an appetite for sleep and I am sure we will wake up in the morning in far better shape to face another day's trials.

I really believe that a great many of our citizens will do this. I think there will be hundreds who will beautify their home sites this year that probably never had a garden tool in their hands before. This occurred during the last great war. Remember the "War Gardens" of 1914-1918?

Granted that this will happen again, then is it not up to us to tell these people how to save money—how to avoid expensive and disappointing mistakes? Thousands of dollars are thrown away every year by amateurs who do not know how to grow flowers. We have seen sufficient annuals planted in a small garden to cover half an acre. We have seen flowers planted in wrong exposures. We have seen others give it all up as a bad job because they have made it a hardship instead of a labor of love. They have tried to do in two or three days all which with a little system could have been spread without hardship over a longer period. We have seen twice the money spent on a garden that has been necessary. Yes, there will be a great opportunity open to us this year in telling these people just how to do it. Our meetings should be bigger and better than ever.

"After all there is no substitute for the reflection of our Creator's handiwork as mirrored in a beautiful bouquet of flowers."

Look around then. Let each member interest a friend and get a new member. If we do this we can easily double our membership this year again. Let our objective be seven hundred members in 1942. If it is a thousand so much the better and even this is out of all proportion to the field open to us.

It CAN be done. If we are to make our Society worthy of its name it MUST be done. With your co-operation, of which I feel assured, it WILL be done.

Sincerely,

THEODORE E. HOWARD,
President.

HOW DOES YOUR GARDEN GROW?

by

W. J. SHEPHERD

"There's not a pair of legs so thin, there's not a head so thick,
There's not a hand so weak and white, nor yet a heart so sick,
But it can find some needful job that's crying to be done,
For the Glory of the Garden glorifieth every one."

—Rudyard Kipling.

I think most of us love a garden, especially a flower garden. Instinctively we love to grow something, even though it's just a tiny plant. Everyone knows, too, the sailor's dream of a little cottage and a garden when he retires from the sea.

Gardening is one of the most interesting of hobbies. Plenty of fresh air and exercise also makes gardening one of the most healthful. Two other salient features add to gardening's attractiveness: both young and old can enjoy it and it can be as expensive or inexpensive as one may wish.

This is the time of year when we are reminded of our gardens. But the enthusiast does not wait for Spring. All winter long he has been busily engaged poring over seed catalogues, gleaning inspirations and looking for new varieties. During this time new designs for the garden are also planned because the garden made by one's own hands becomes a part of one's self and expresses one's personality. So a poor garden of one's own gives greater joy than a good one belonging to someone else.

Some people contend that the season in this country is so short a garden is not worth the trouble. If the season were as long as in England or down South, then they would go in for gardening. They think of June, July and August, as the gardening season. But this is a mistake, for we can have a succession of bloom from the time the snow disappears until snow falls again.

How? By planning your garden so that you have flowers blooming every month from April to November. Charming little Scilla or Squills, planted in the fall, will pop up their pretty blue or white bells almost before the snow has left the ground. Once planted the bulbs need not be disturbed as they will multiply and flower year after year. They can be planted at the foot of trees, in the rockery or almost any place to give early bloom. The Squills may be followed by Tulips. The little Johnny Jump Ups with their tiny

smiling faces appear about this time followed by the Lily of the Valley, and the beautiful Iris, sometimes known as Poor Man's Orchid.

Many perennial plants such as Sweet Rocket, Pyrethrum or Painted Daisies, Viola Cornuta, bloom in May, as well as the Columbine, a native of Canada and therefore very hardy. I think the Rocky Mountain Blue is the choice of all Columbines, the flower being larger and a free bloomer. Arabis, with a pure white flower, is another early bloomer and makes a good edging or rockery plant. Iceland Poppies will come out in early June and also the well-known Peony that makes such a fine show.

Then we come to the Annuals that flower from June to September. The Annuals are the great stand-bys of the summer garden. We have for edgings the well-known Sweet Alyssum, Nemophila, Nemesia, Phacelia, Ageratum, the old-fashioned Dwarf Nasturtiums, or the Blue Lobelia. There is also a Lobelia in a lovely shade of red or wine but the seed of these can only be obtained in England. They bloomed in my garden last summer, and very pretty and dainty they are and quite a novelty.

What garden would be complete without Pansies with their lovely little faces in every conceivable shade? Nothing looks more beautiful in a garden than a bed of Pansies and they are so hardy they can be set out about the middle of May.

Snapdragons make a gorgeous display in a garden and I do not think many people would like their garden without them. They come in such a variety of colours, they are ideal for cutting and their gorgeous flowers will continue well into the cold weather. There are three types, dwarf, intermediate, and tall.

Petunias are so well known they need no description. The pink Celestial Rose is about the most popular of all. The newer variety Glow, is very good, except that in exceedingly hot weather it may fade, but will return to its original color when the days become cooler again. Three new introductions which have been widely acclaimed elsewhere, and will be tried here this season, are; Martha Washington—ruffled light pink, with dark veined throat; Theodosia—fringed rose pink, with golden throat; and Setting Sun (Dwarf Erfurts)—fringed brilliant deep rose, with compact habit.

Phlox Drummondi, Salpiglossis, Zinnia and the Golden Gleam Nasturtiums all must have a place in the flower garden. These Nasturtiums are double and semi-double, exquisitely sweet scented, will thrive in almost any kind of soil and can stand drought quite well. The Portulaca, or Moss Rose, is another lovely annual

that can stand drought. It shows to best advantage when massed in a bed by itself.

In addition to the early blooming perennials already mentioned, there are hundreds more that flower throughout the summer. A few should be in every garden although they need careful attention because some spread more rapidly than others, often encroaching on their neighbors. There is the gorgeous Oriental Poppy with its wonderful blazing red flowers that bloom in July, the stately Delphiniums with their tall blue spikes, and Hollyhocks that provide such a wonderful background. You would choose for your garden Achillea, the Pearl, with its myriads of white buttons looking like a mound of snow, or Dahlias, Gaillardia, Monk's Hood and Michaelmas Daisies. The Daisies bloom when all other flowers have finished and the garden is beginning to look bare. The white Daisies bloom in late September and October but do not stand the hard frosts as well as the purple, which bloom in late October and November and continue to bloom until the snow lays it low. But the list is far too long to tell of all the flowers that can be grown in our prairie gardens. I have not told of the climbers, Sweet Peas, Morning Glories, Canary Bird Creeper, or the Scarlet Runner with its beautiful scarlet flower that later forms a pod of beans a foot long. These beans are delicious when cooked. I have not mentioned the lawn, a subject in itself, for a garden without a lawn is like a picture without a frame.

To tell all that can be done to make the garden a thing of beauty would fill a volume, but you can see now that our garden season is much longer than June, July and August.

A word or two about obtaining plants. Many people purchase their bedding plants from the nurseryman, while others buy the seed and grow them in boxes. The latter has advantages over the former in that there is a wider choice of plants, as the nurseryman grows and sells only the most popular and well-known varieties like Snapdragons, Pansies, and Lobelia,

When you buy your own seeds, lesser known plants and novelties may be chosen. Besides being more interesting and fascinating, it is more economical. A greenhouse is not a necessity although it is a great advantage, but seeds may be started in pots or shallow boxes and kept in the windows provided you are master in the house. When growing from seeds do not make the mistake of starting those first that germinate rapidly. Some seeds take longer to germinate than others and become long and spindly before the time arrives to plant them outside. When buying seeds we should remember the following lines from one of Edgar Guest's poems:

"In this bright little package, now isn't it odd?
You've a dime's worth of something known only to God!"

I have not used the long botanical names of the flowers as, knowing and using botanical names does not necessarily make the gardener. The good old-fashioned names are more easily pronounced and better understood. Like the farmer who said, "When a feller has to know the botanical name of what he raises, the entomological name of the bugs that eat it, and the pharmaceutical name of what he sprays on it,—things is bound to cost more."

Some time ago a friend of mine told me of damaging his finger rather badly when working in his garden. He said he wanted to give vent to his feelings in man's privileged way of using strong language. "But," he said, "Do you know, when I looked around saw those innocent looking, beautiful flowers, I could not use a bad word in their presence." Truly someone has said:

"The kiss of the sun for pardon,
The song of the birds for mirth,
You are nearer God's heart in a Garden,
Than anywhere else on earth."

—Courtesy "Silhouette."

adensis? An English peer, Lord Petre, collected all sorts of American flowers for his garden and had a Quaker friend, Peter Collinson, in close touch with Philadelphia Quakers amongst whom was John Bartram, a great naturalist and collector, later described by Linnaeus as "the greatest natural botanist in the world." So it is easy to see how Collinson became celebrated in the Linnaean way.

I must close with a final nice touch in Linnaeus' way of naming plants. There is a Brazilian order known as Gesneriaceae. Why? In the sixteenth century there lived a learned Swiss, Conrad Gesner, who wrote a quaint treatise, Historia Animalium, a dictionary of zoology. So Linnaeus honoured him even though long dead.

A garden should be judged not alone for its beauty, but also for its general usefulness as an outdoor living room.

DECORATIVE NATIVE PLANTS

HECTOR MACDONALD

Most of the native plants listed below are easy to cultivate in ordinary garden soil. All are perennials, and if planted in suitable locations should be well worth the small amount of attention they require. Watering is usually unnecessary after the plants have become established unless conditions are very dry. Some species require shelter from the sun and strong winds, the majority prefer full sun and are indifferent to wind.

Nurseries in Manitoba now list Native Plants, and purchasing young stock from local nurserymen will prove the cheapest and most satisfactory method of obtaining native species. It is difficult to dig a plant growing wild without damaging the roots, and as early spring and late autumn are the best transplanting times, most plants are hard to find and identify at these seasons.

Many of our wild flowers are not well enough known to have a common name, however where possible it is given. As a guide to height and habit the list is roughly divided into three parts, Rock Garden Plants, Perennials suitable for Beds and Borders, and Shrubs.

ROCK GARDEN PLANTS

Common Polypody, **Polypodium vulgare.** Evergreen fern, about one foot high. Requires shelter, shade and leaf mold. Makes an attractive clump.

Oak Fern, **Dryopteris deciduous,** spreads by underground runners, resembles Maidenhair Fern, six to eight inches in height. Grows in decayed leaves and rotted wood in a shady sheltered spot.

Trailing Juniper, **Juniperus communis.** Mat shrub. A splendid ground cover, few weeds can find their way through this evergreen. Branches creep along the ground, and produce roots along their undersides.

Bear Berry **Arctostaphylos uva ursi.** Evergreen Mat Shrub. Similar in habit to the above. Flowers, small heather like bells followed by red berries. The leaves in spring are bronzy purple, dark green later.

Skunk Currant, **Ribes glandulosum.** Prostrate Shrub, suitable for shady locations where more showy subjects are difficult to establish.

Catsfoot, **Antennaria campestris.** Mat Plant, with silvery leaves about the size of a dime. Makes a dense carpet and is suitable for planting between stones in crazy paving.

Antennaria microphylla, more silvery in color, leaves smaller, an ideal rock garden plant.

Phlox Hoodii, sometimes difficult to establish, likes a sandy loam in full sun, where it can creep around the base of a rock. Prostrate habit, with short spring grey foliage, the entire plant is covered with white blossoms in early spring and occasionally in fall.

False Mallow, **Malvastrum coccineum**, a spreading plant, with greyish deeply cleft leaves, and salmon pink flowers throughout the summer. Sometimes difficult to establish, does best in gravel.

Prairie Crocus, **Anemone pulsatilla,** the first wild flower of spring. Gravel soil in full sun. Move in fall after leaves have ripened.

Allium reticulatum, one of the wild onions, blooms in May, white, six inches high, easily grown from seed.

Hoary Puccoon, **Lithospermum canescens.** Sometime called Prairie Cowslip, a familiar sight in early summer on dry banks, this beautiful, yellow flowered, sweet scented plant does well in cultivation; six to nine inches high.

Pentstemon albidus. One foot tall, glossy green leaves, spikes of showy white flowers in mid-summer.

Potentilla tridentata. Dark evergreen leaves, trailing habit. White flowers, about half an inch across, on wiry four-inch stems, sandy soil.

Broom Weed, **Gutierrezia Sarothrae.** When in bloom, July, the plant is covered with small yellow blooms, compact, bushy habit, ten inches.

Prairie Smoke, **Geum triflorum.** Showy purple flowers in May, followed by pinkish seed heads in mid-summer, gives this plant a longer period of decorative value. Flower stems about fifteen inches rising from a rosette of large leaves.

Wild Sage, **Artemisia frigida.** Finely cut gray foliage and bushy habit. Leaves aromatic. The flowers are greenish, but the foliage and habit make for a good rock garden plant.

Prairie Lily, **Lilium philadelphicum.** The familiar orange lily of the prairie, does well in the rock garden; best moved in fall, likes sandy loam and full sun.

Purple Cactus, **Mammilaria vivipara.** Pin Cushion Cactus, blooms nearly one and a half inches across. Likes a well-drained spot.

Prickly Pear, **Opuntia fragilis.** A striking plant, with large lemon yellow blooms. Must have sun and good drainage.

Blue Bells, **Campanula rotundifolia.** Height eighteen inches, the slender flower stems rise from a rosette of glossy leaves. Blooms from mid-summer on. If the seed capsules are removed from time to time the flowering period can be extended till late in fall.

Crowfoot Violet, **Viola pedatifida.** Flowers in May, blue. Leaves deeply cleft. Four to five inches high.

Golden Aster, **Chrysopsis villosa.** About a foot high. Greyish foliage, large yellow daisy-like flowers, freely produced in August and September.

Silky Aster, **Aster sericeus.** One of our best native asters, small grey leaves, and large purple flowers on wiry stems. About a foot in height.

Upland Aster, **Aster ptarmicoides.** Similar in habit to the silky aster, flowers smaller but more numerous, white in color.

Dwarf Golden Rod, **Solidago juncea.** More showy than the common Golden Rod, more compact and of neater habit. Eighteen inches.

PERENNIALS FOR BEDS AND BORDERS

Anemone virginiana. This plant with white flowers more than an inch across, is very common on vacant lots and waste ground around Winnipeg. When grown in large clumps is quite attractive.

Meadow Rue, **Thalictrum dasycarpum.** We have three species of Thalictrum in Manitoba, of which this is the largest, four to five feet tall. A woodland plant, likes full sun and shelter from wind.

Cow Parsnip, **Heracleum lanatum.** A handsome plant, for large borders or woodland planting, up to six feet high, large leaves and flower heads, must have shelter from wind and lots of room.

Phlox pilosa, two feet. Large clusters of purple red flowers, one of our most colorful wild flowers.

Lungwort, **Mertensia paniculata.** A plant of open woods, requires shelter and partial shade. Small, china blue flowers on graceful stems.

Aster laevis. About three feet, varies considerably, the best forms produce numerous bright blue flowers, a large plant in bloom is very showy. Flowers in August and September.

Perennial Sunflower, **Helianthus Maximiliana.** Four feet tall; bright yellow flowers, two inches in diameter. Does not spread by runners as many perennial sunflowers do.

Swamp Milkweed, **Asclepias incarnata.** Fragrant pink flowers, three to four feet in height, requires a cool moist spot.

Rough Ox Eye, **Heliopsis scabra.** Covered with golden blossoms throughout the summer. A large robust perennial about three feet tall.

Gaillardia, **Gaillardia aristata.** Although there are many cultivated and improved forms of Gaillardias on the market, our native species is worth a corner in the border. Likes a sandy soil and blooms for a long time.

SHRUBS

Common Juniper, **Juniperus communis.** Evergreen, spring leaves, white lines on undersides. A dense bush, two to three feet high, suitable for foundation planting.

Potentilla fruticosa. A beautiful little shrub about two feet high. Net habit, yellow flowers throughout the summer. Suitable for large rock gardens, borders, or foundations.

Lead Plant, **Amorpha canescens.** Two to three feet. Grey foliage and purple spikes of bloom make a pleasing contrast.

Amorpha nana, Smaller than above, dark green leaves and purple flowers. A neat little shrub.

Speckled Alder, **Alnus incana.** Large shrub, up to fifteen feet, dark green foliage, requires moisture, suitable for banks of streams or lake side.

Dwarf Birch, **Betula glandulosa.** A bushy shrub, six to ten feet, small glossy rounded leaves, and slender twigs.

Red Osier Dogwood **Cornus stolonifera.** One of our commonest and most decorative shrubs. The bright red bark inwinter makes a bit of color in the winter scene, and in summer is quite handsome, three to five feet.

High Bush Cranberry, **Viburnum opulus.** It is doubtful if a better shrub than the High Bush Cranberry is available to Manitoba gardeners. The young leaves in spring are tinted with pink and reds, the autumn colors are vivid, the flowers are creamy white in clusters, while the brilliant redsfruits are much in demand for preserves. Should be sheltered from strong winds, but likes sunlight.

Arrow Wood, **Viburnum pubescens.** A medium sized shrub, four feet, free flowering, pure white blooms. Upright habit.

NEW HARDY CHRYSANTHEMUMS

F. L. SKINNER F.R.H.S.

For many years now the show of Chrysanthemums in the Assiniboine Park has been an event that has attracted thousands of visitors each year and giving some indication of the interest taken by the people of Manitoba in one of the finest of autumn flowers. Unfortunately, until the advent of Pink Cushion it was impossible to grow Mums in our gardens, very few ever survived our winters and fewer still flowered early enough to escape killing frosts.

Pink Cushion though it does not always survive our winters, is a lovely thing and it usually commences flowering in August. It is well worth the trouble of carrying a plant over winter indoors just in case. Pink Cushion (known also as Azaleamum and other trade names) together with the Korean hybrids has stirred up a great deal of interest in early flowering and hardy Chrysanthemums and much work has been done by the U.S.D.A., the Universities of Minnesota and Chicago, and various private firms in the United States with the result that there are several varieties now under test that are very promising from the Manitoba gardener's viewpoint. In this Chrysanthemum breeding that is being done in the United States an East Asiatic species (C. koreana) has played an important role. Chrysanthemum koreana is hardy in Manitoba but flowering as it does in October is really too late for our conditions.

We have, however, several species that have proved hardy at Dropmore, and flower at various times between May and August. Probably the most promising of these that are likely to assist us in producing a hardy race of early flowering hardy Chrysanthemums, are C. cinerariefolium from Dalmatia and C. Zawadskyi from Austria. The former has nicely formed and quite attractive white daisies on long stems during late June and July while the latter has rather thinner looking flowers white with a pink tinge, in August.

In 1940 I had quite a collection of the earliest flowering garden varieties of the Chrysanthemum in bloom and as I also had both C. cinerariefolium and C. zawadskyi in bloom at the same time I potted up a representative lot and set to work in combining these two species with the garden forms. Pollen of both species was used freely on the garden forms and what pollen of the garden forms could be secured was used on flowers of these species. The result of this work was that I was able to raise over 300 hybrid seedlings during the winter of 1940-41. About 90% of these hybrids had foliage intermediate between the parents while the balance looked very much like the garden "Mums." Many of those with ordinary

Chrysanthemum foliage flowered within 3 to 4 months of the time the seed germinated and among them were three varieties that were even better than the best forms I had used as parents. All these three were fully double and ranged in colour from white flushed and tipped pink to deep yellow and rose with a cream center. Some of the seeds did not germinate until April and among the good forms that flowered out of doors in August were a double pink pompon that was in bloom in mid-August and formed a mound 12 inches across and 9 inches high and an 18-inch high pure white form that also was in full bloom by mid-August.

Of those with finely cut foliage intermediate between the parents there were many that did not flower, following in this respect the habit of many hardy herbaceous perennials; those that did flower all were either white or pale pink in colour and only one had double flowers. Many of them were heavily honey scented and they stood up much better to the very heavy frost of September 20th than any of the older garden forms. That many of the characters of the wild species parent were dominant in the first generation of the hybrids was to be expected and future generations will probably give a wide range of colour, form, season, and hardiness and eventually give to the Chrysanthemum the important place in prairie gardens it has in the gardens of Britain. The first and most important step in Chrysanthemum breeding, that of bringing in the blood of hardy and early flowering species, has now been made and the future of the Chrysanthemum as a garden plant is merely a matter of hard work and careful and intelligent selection.

Garden furniture should be practical and comfortable.

Garden ornaments have their place but their use should not be overdone.

SOME RECENT INTRODUCTIONS IN PERENNIALS

WILLIAM GODFREY

For those who use cut flowers extensively in their homes there are three new Babysbreaths which should be of interest. These are Gypsophila Bodgeri, G. Rosy Veil, and G. Rosenschlier. They bloom successively in the above named order, commencing in early June, and ending in late fall. For those who speak both the German and English language, it may be well to emphasize the fact that, although the two last mentioned variety names have reference to the same article of ladies' wear, the respective plants to which the names have been applied are quite dissimilar in plant habit and time of blooming. The flowers of all three are pink in colour and double.

The common Babysbreath, G. paniculata, and its double white variety, Bristol Fairy, have but a short season of usefulness in mid-summer, and these new sorts are designed to provide a full season's supply of this elegant associate of cut flowers for table decoration.

G. Rosenschlier seems to be a hybrid of G. repens and, like it, makes a good rock garden subject.

There has been a group of dwarf chrysanthemums introduced under the titles of Azaleamums or Wynonamums. They are very hardy and bloom from September onwards. Light frosts are endured freely, and they remain bright and cheerful until the more severe frosts usually experienced at the end of October. The plants are exceedingly floriferous and form bright cushions of bloom about nine inches in height. White, yellow, apricot, and pink are the colours at present obtainable, and more may be on the way.

It is suggested that the name of cushion mum be given to this group in place of the more ponderous ones used above. There is little resemblance to an azalea in their appearance and the other is a trade name.

The above belong to the C. indicum species of chrysanthemum, and there are two worthy additions to the Shasta Daisy, or C. maximum species. One is Esther Read, a variety with double white flowers somewhat similar in appearance to a double Pyrethrum. It belongs to the King Edward group, whose large daisies are so much appreciated for home decoration. Like the entire group it may not be hardy everywhere, but where it succeeds it

makes a very handsome plant in the flower border. At Morden it survived the winter of 1940-41, but succumbed in 1939-40. The other sort is May Queen, which belongs to the Dog Daisy, or C. leucanthemum species. It appears to be Dog Daisy with a dash of Shasta Daisy in its make-up. Hardiness, large flowers on stiffer stems, and early June blooming are its chief merits.

Tunica saxifraga in its double form is not a very new plant but it deserves much more recognition that it is receiving. In general, the flowers are much like those of the double Babysbreath, and pink in colour. For the front of the border and sunny position in the rock garden, it is well adapted.

Since the use of colchicine in breeding work, attention has been directed to the plants from which the drug is derived. These are Colchicums. There are many species, some of which may not be hardy enough for the West. At Morden, C. speciosum is apparently satisfied with its environment, and is making progress. The bulbs should be planted as soon as procurable in August, and will bloom in late September and into October. A sunny ledge in the rock garden will meet their needs, and as the blossoms appear without any accompanying foliage they should be provided with a ground cover of a dwarf Thyme or Veronica. A not too prominent position is preferable as the leaves which appear early in spring assume a very untidy appearance by mid-summer when they turn yellow.

Perennial Asters are not really new, but there is strong evidence that they need introducing to the notice of garden makers once again. This station welcomes another opportunity to sing their praises.

In October, and sometimes even into November, when most other flowers have been killed by frost, and even the hardiest of them show some damage, these Asters, or Michaelmas Daisies, are capable of providing a display of beauty equal to that experienced at any other season of the year. For cutting purposes they are invaluable. New varieties, many of which are hybrids of two or more species, are becoming more frequent. Of the following varieties some are recent acquisitions, others older favourites, but all are good:

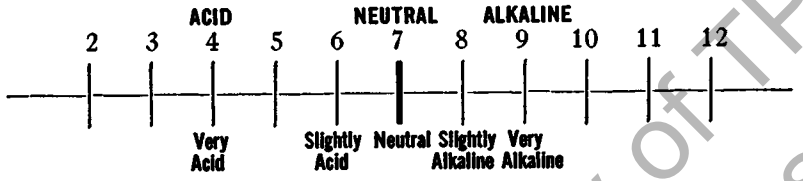
Mount Everest, Beechwood Challenger, Lil Fardell, Chas. Wilson, Elta, Maid of Athens, Margaret Ballard, Olga Keith, Little Boy Blue, and Chastity.

SOIL MANAGEMENT

H. A. GREEN

Soil, being the storehouse of the plant, cannot receive too much attention regarding its composition and characteristics, and the importance of soil reaction has become acknowledged more and more in recent years. The layman is often confused when he reads that certain plants thrive where the pH. value is 6.5 or 7, or whatever the figure may be. I will try, in a non-technical way, to explain this.

Our local soils, generally speaking, are on the alkaline side and an understanding of soil reaction may explain some of the failures we have observed in our own gardens. We have often seen instances where our neighbor has grown wonderful heads of bloom, which, with all our efforts, we have not been able to duplicate. The reason for this may well be that we are trying to grow an acid-loving plant in soil that has a definite alkaline reaction, or vice-versa, and these very local conditions are often caused by the fact that little care is given to the type of soil used to fill city lots, so long as a dressing of fairly good soil is spread over the surface. This makes the garden look nice, but after all, the plant roots drive deep into the soil and must receive nourishment from the soil below the surface.



The above scale is used to express the degree of acid or alkaline reaction of the soil. This system, known as the pH. System, uses the figures from "0" to "14," with each whole figure divided into tenths for more accurate rating. The figure 7.0 is used to indicate neutral soil and the figures below 7.0 show the acidity, while alkalinity is shown from 7.0 to 14.0. The general pH. range of soils is from 3.5 to 9.0; thus plants growing well in soils having a pH. rating of from 3.5 to about 6.0 are said to be acid-loving, or acid tolerant. Those which enjoy an optimum range from pH. 6.5 to about pH. 7.5 like a neutral soil, and plants that thrive where the pH. rating is over 7.5 enjoy alkaline soil.

In good soil management, the pH. perference of plants cannot be taken as the sole factor in success or failure, as plants need correct soil texture, adequate plant food and moisture and suitable temperature, in fact, many plants tolerate a wide pH. range,

though others show definite preferences and rarely will one variety of plant grow equally well in acid and alkaline soils.

Many of our common garden vegetables, such as beans, carrots, beets, cabbage, peas, corn, etc., like slightly acid to neutral or slightly alkaline soil, pH. 6.0 to pH. 7.0 or 7.5, while potatoes like soil with definite acid reaction, pH. 4.8 to pH. 6.5. Blueberries grow best in soils that are very acid, pH. 4.0 to 5.5, while the optimum range for cranberries is between pH. 6.0 and pH. 7.5.

Marigolds, African, French and Scotch, are acid tolerant, pH. 5.0 to pH. 7.5. Gladiolus and Dahlia like neutral soil, pH. 6.5 to 7.5, and Roses, Hybrid Tea and Rugosa are at their best in soils varying from pH. 5.5. to 7.0.

If your soil is more alkaline than you desire, it may be made more acid by the use of a good type of Sphagnum Peat, finely ground, so that it will mix readily with the soil.

Where it is desirable to make the soil more alkaline, lime may be used to advantage. The best and most economical form is hydrated lime, which is a fine powder and is packed in bags.

Organic matter in garden soil is used up far more rapidly than it is accumulated, and the gradual depletion of humus is largely responsible for the fact that cultivated land becomes poorer year by year.

It is a well-known fact that properly processed Sphagnum peat will absorb up to 19 times its weight in water; therefore, when mixed with the soil, it greatly increases the available moisture supply. The fine threads of Sphagnum peat mix well with the soil and last far longer than other known types of humus. Its cellular construction is ideal for water storage purposes. Small sacs are formed at each joint in the stems of the peat, which absorb moisture until they expand to many times their size. As the surrounding soil dries, this moisture is released and used by plant roots which come into its sphere of influence.

There is no odor to air-dried Sphagnum peat that is in a proper state of decomposition for horticultural purposes, and is it is an excellent carrier for chemical fertilizers, thus providing the correct amount of the necessary plant food, it is very desirable for use in home grounds and gardens.

As a dressing for lawns it serves several purposes: Its fibrous nature retains water and retards evaporation, thus providing a more even distribution of moisture. It is acid and assists in neutralizing the alkaline nature of our local soils. Early thawing, followed by frosts in the spring, seriously damage lawns. This

may be avoided by fall dressing them with a very light coating o Sphagnum peat, which will afford insulation and keep the soil temperature better balanced, so that premature spring growth is retarded until danger of heavy frosts is past. A light surface dressing of Sphagnum peat on newly seeded lawns stops the rapid drying that makes seeding lawns so precarious, and provides a soft cushion between the tender new grass and the hard lumps of soil. When top dressing either old or new lawns with peat, care should be taken not to spread the peat more than a quarter of an inch deep, because when more material is used the air will become excluded and the young plants, being too tender to force themselves through, will suffocate.

Heavy clay soil will be made friable and easy to work, if Sphagnum peat is spread over the ground and well mixed with the soil; sandy, or light soil will be better able to retain moisture and resist evaporation, blowing, or drifting.

Cuttings set in Sphagnum peat and sand in equal proportions, have shown marked improvement over those set in sand and soil composts.

It should be clearly understood that Sphagnum peat is not a fertilizer, but its fibrous character and acid nature make it an excellent soil conditioner. Its cellular construction provided a good carrier for chemical fertilizers, and where soil is lacking in available plant foods, these may be used to far greater advantage when they are mixed and spread with finely ground, properly processed, Sphagnum peat.

Do not forget that the first thing you and your friends see is your front gate.

AVOID ERRORS IN GARDEN PLANNING AND PLANTING

JOHN WALKER

Competitors in garden competitions are often puzzled to know on what basis gardens are compared, what the weaknesses in their own gardens are, and what steps they might take to remedy them. The following notes from experiences and observations in judging Winnipeg gardens for a number of years may, in part, provide an answer to these questions.

Interest centers chiefly in the Beautiful Home Surroundings Competition, which, for the past few years, has been sponsored in the Greater Winnipeg area by The Manitoba Horticultural Association. Entries in this competition are, for the most part, the winning gardens in local society competitions. In the Greater Winnipeg Garden Competition, there have been sections for gardens of three different sizes; (1) those with a frontage up to 33 feet, (2) those with a frontage from 34 to 66 feet, (3) those with a frontage over 66 feet. Gardens of a particular size are therefore judged on an equitable basis.

Basis of Comparison and Faults Most Frequently Encountered

LAWN

First let us consider the lawn. The lawn in beautified home surroundings is considered as representing the carpet of the outdoor living room, with the plantings and garden features symbolizing the walls and furnishings. Conditions looked for in the lawn are: Evenness of grading, freedom from plantings which mar its extent or continuity, complete and uniform covering, neatness in upkeep including trimmed edges, and freedom from weeds.

What faults we do find: thin bare spots, flowers and shrubs growing over the edges, edges poorly trimmed, surface uneven, lawn cut up by flower beds, weeds (large and small), patchy grass mixture, bad spots poorly repaired, ant hills, clover too prominent in the mixture. Seldom will many of these faults be found in a first class lawn, but competitors should bear in mind that each fault or weakness found results in lost points on the score card.

Arrangement or Layout of the Garden

Under this heading judges look for no overcrowding or scarcity of plants, proper spacing and arrangement of plants (governed by

size of plants and width of the border,), an attractive color scheme, satisfactory foundation plantings, and the provision, and suitable placement, of special features which may include rockery, water pool, window boxes, arbor, trellis, sundial, bird-bath, specimen trees and hedges.

Faulty arrangement of flowers as to height and quality of bloom, has been the most common criticism under this heading. Others have been: Formal pools in informal surroundings, too much sameness in the arrangement and appearance of flower beds, arbors detached from walks or shrubbery, rockeries without suitable background, insufficient foundation plantings, lack of balance between borders on opposite sides of lawns, flower beds too flat, poor selection of plants to give continuous bloom, tall shrubs insufficiently "faced" with dwarfer material. As with faults of lawns, in few gardens will, the aforesaid weaknesses all be found. However each influences the final placing of the garden in the competition.

Variety and Material

Variety and material in the garden is next considered. This takes into account the suitability of the plants used in relation to the extent of the home surroundings. Unusual or rare plants should be inconspicuous, and the suitability of the material used to give an effect is far more important than having any particular variety or type of plant. Naturally the larger grounds have an advantage over the smaller grounds. In gardens of equal frontage, other things being equal, judges favor that in which is found the most suitable material.

Condition

Condition of material greatly influences the placing of gardens in a competition. Vigor and health of the plants, freedom from damage by insects and diseases, and the amount of bloom are considered under this heading.

Weaknesses found are: unhealthy foliage color (petunias, geraniums and roses), faded blooms and developing seed pods, insufficient bloom, insect damage to blooms (snapdragon, gladiolus), plants inadequately supported to make a good display, border plants spreading over the edge of the lawn, window box plants not trained, flowers past their best, other flowers not yet in bloom. Competitors should see that none of these faults develop in their gardens.

Cultivation

Lack of cultivation is often a source of criticism of gardens in competitions. Judges know it is difficult to cultivate among flowers growing closely together in a border, but there is no excuse for weeds being present.

What is looked for under cultivation? Freedom from weeds, no signs of soil baking, cracking or washing from lack of cultivation, or indications of soil improvement by the incorporation of manure or other beneficial ingredients are points that need no further enlargement, and should be remembered by competitors.

Appearance

Lastly, appearance is considered. Are window boxes, flower beds, shrubs, creepers, dividing lines, walks, hedges, fences, used as effectively as possible to present a pleasing appearance? Is the proportion of lawn to planted areas and the size of house correct? Are the walks, hedges, arbors, fences, greenhouses (if present) neat and tidy? Are there too many large trees or shrubs for the well-being of other plants? Could the appearance of the garden be improved by raising the level of the lawn in keeping with the flower beds on the margin? Is the garden cut up too much by walks or drives?

These are questions which competitors should ask themselves as they consider their gardens for next year's competition.

The hedge is to the garden what the frame is to the picture.

The corner that is most remote should be just as neat as those at the front.

The garden should be the place for the children—not the street.

Grass between paving stones gives a warm effect.

THE CONTROL OF FLOWER GARDEN INSECTS

W. A. CUMMING

In order to have a better understanding of the insects which take a heavy toll from his garden each year, the gardener must thoroughly acquaint himself with their habits and life histories.

A careful study of the feeding habits of an insect will generally give a clue to the best method of controlling it. Broadly speaking, insects are separated into two main groups for this purpose; namely, those which eat parts of the plant—for example the grasshopper, and those which suck the sap from the plant in much the same way as a mosquito works on humans—for example, aphids or plant lice. While the first group is generally easily controlled by the application of what is termed a stomach poison; that is, a poison which is spread on the plant and taken into the system of the insect when it feeds, it is quite evident that the second group which sucks the sap from the interior of the plant presents a wholly different problem, and for the control of this latter class we have a group of poisons known as contact poisons.

Of course there are some insects which do not fall into these classifications; the borers which work entirely on the inside of the plant cannot be reached by sprays and are therefore quite a serious problem, often necessitating the destruction of parts of the plant or the whole plant, to keep the insects from spreading.

Of the stomach poisons, or those used against insects which actually eat parts of the plant, the arsenicals are by far the most important, and three of these are in common use; namely, Arsenate of Lead (Lead Arsenate), Arsenate of Lime (Calcium Arsenate) and Paris Green.

Paris Green has long been the standard and best known stomach poison, but because it burns tender foliage, and washes off very easily, it is being replaced to a large extent by either calcium or lead arsenate. Calcium arsenate is cheaper than lead arsenate, but has a slight tendency to burn foliage and does not stick to the leaves quite as well as the latter. All in all, lead arsenate would seem to be the best stomach poison for the flower gardener to use.

If Paris Green is used, the addition of lime to the spray lessens the tendency to burn foliage; add twice as much lime as Paris Green to the spray.

Lead Arsenate may be used either as a dust or liquid spray.

When applying poison sprays or dusts, a thorough coverage of the foliage is essential.

Of the contact poisons, Nicotine Sulphate is the one most generally used. Commercial preparations usually contain 40 per cent. nicotine sulphate and should be used according to the directions of the manufacturer. One ounce of soap added to each gallon of spray helps it to spread and adhere better.

Pyrethrum and various extracts of pyrethrum are also extensively used as contact poisons.

In recent years Derris dust has gained much favour; although essentially a contact poison, it has been used with marked success against various leaf feeding insects.

When using contact insecticides, as the name indicates, it is absolutely essential to so direct the spray or dust that it actually hits the insect.

PANSY, OR HEART'S-EASE

"———— Pray you, love, remember,
There's pansies,—that's for thoughts."
—Shakespeare.

THINK OF ME

Go, where the water glideth gentle ever,—
Glideth by meadows that the greenest be;
Go, listen to our own beloved river,
And think of me.

Wander in forests, where the small flower layeth
Its fairy gem beside the giant tree;
List to the dim brook pining, white it playeth,
And think of me.

Watch when the sky is silver pale at even,
And the wind grieveth in the lonely tree;
Go out beneath the solitary heaven,
And think of me.

And when the moon riseth, as she was dreaming,
And treadeth with white feet the lulled sea;
Go, silent as a star beneath her beaming,
And think of me.

WHITE LILY

"How chaste yon lily' robe of white."—Wm. Peters.

PURITY

Pure as an infant's heart that sin ne'er touched,
And guilt had ne'er polluted; and she seemed
Most like an angel that had missed its way
On some kind mission Heaven had bade it go.
Her eye beamed bright with beauty; and innocence
Its dulcet notes breathed forth in every word,—
Was seen in every motion that she made.
Her form was faultless, and her golden hair
In long luxuriant tresses floated o'er
Her shoulders, that as alabaster shone.
Her very look seemed to impart a sense
Of matchless purity to all it met.
I saw her in the crowd; yet none were there
That seemed so pure as she; and every eye
That met her eye's mild glance shrank back abashed,
It spake such innocence.
—John S. Adams.

LARKSPUR

"Lobelia attired like a queen in her pride,
And the Larkspurs, with trimmings new furnished and dyed."
—Mrs. Sigourney.

CAMOUFLAGE WITH VEGETABLES THAT CLIMB

THOMAS O. GRAHAM

Climbers hide the bare spots and make the yard area look as if nature has taken over, and the mistakes of man have been either corrected or covered up. Many a city wall, fence, or porch is delightfully enhanced when overrun by rampant green climbers.

A few climbing types have pods or fruits that can be put to culinary use. While the war is on these are the most important. Chief among such climbers are the members of the pole and runner bean group. This family will set pods only when the weather is cloudy. As a result, during dry sunny seasons in the Winnipeg area, pole beans have not been heavy-bearing and this class of climber has not been in good favor. There is one method that can be used which will help in making the flowers set, and cause many pods to form. This method is to take the garden hose and lightly dampen the pole bean vines just at dusk.

Pole beans are grown with ease. The large seeds are sown outside, after all danger from frost is over, about four inches deep and three to six inches apart. The date of outside sowing at Winnipeg to be on the safe side should be close to May 28th. After the plants germinate they are thinned so that they stand in the row at least a foot apart. They trellis easily with light rope, poles, slender branches, etc., up the side of the garage, wall, or fence.

The most popular ornamental pole bean is the Scarlet Runner. It is delicious as a butter bean when the pods are young. It can also be used in the green shell state the same as one could a Lima bean. The seeds when mature are very large, and as they are mottled with a deep red they appear extremely handsome. The writer has been told that these large mature seeds bake well, although he has heard others question this point.

During a cloudy season the Scarlet Runner will climb ten feet in height, and the glossy green foliage when carefully grown will be enhanced by many large attractive vivid scarlet flowers. At its best it is one of the most striking of all vines. The pods are long, in fact very long, grow upon occasion to over six inches in length, and are dark green and packed with good food.

While not as ornamental as the Scarlet Runner, the choicest-flavored bean now growing in Western Canada is the variety, Oregon Giant. This pole bean if given support will climb to a height of seven feet. Where all types of beans are concerned this sort has no equal for meatiness. Those growing Oregon Giant

with success report that they have a table delicacy well worth the work its proper culture entails.

If one gardens for a hobby it would be of interest to try out the new pole bean, Decatur, which will be catalogued for the first time this year. As its pods are stringless at all stages it should find a place in the home canning programme.

In cucumbers there is also a variety, Japanese Climbing, that is robust when grown on a trellis. Mr. George Bonny, President of the Horticultural Society at Morden, grew this climber one year over his back yard fence. He found only one fault with it, this being that it pulled down the fence.

Two other vegetable types are often advertised as worthwhile climbers, these being the climbing watermelon, and the climbing tomato. The writer has tried these two types at Winnipeg on a number of occasions but they were not a success. Either our soil is too rich, or our season is too short, as there are territories in which both these varieties meet with praise.

Lately many gardening centres have become enthusiastic over the growing of the long-season climbers known as Gourds. Owing to its northern locality Winnipeg has escaped this fad. However, there are branches of the Gourd family that succeed well in the Red River Valley, and this is especially the case with the small fruiting Gourd types such as the Nest Egg, Apple, Orange, Striped Pear, Onion, Small Striped, Miniature Pear, and Warted. There is a special reason why one should look carefully into the possibilities with Gourds. This family really hides any object it climbs over. They grow rank and very fast, and if you have an unsightly spot the Gourd tribe can be looked upon with reliance to cover it up. There is no need to go further into the growing of this vine as its culture has been ably discribed in a splendid bulletin, just issued by the University of Minnesota. One of the authors, Dr. A. E. Hutchins, has often been in Winnipeg and he would gladly send free of charge a copy of this valuable work to any member of the Winnipeg Horticultural Society. Those wishing to receive a copy should write to Dr. A. E. Hutchins, Horticultural Division, University Farm, St. Paul, Minnesota, and ask him to send Bulletin 356 on Gourds.

In planning your garden this spring do not forget the back fence or the side of the garage. Load these bare spots with robust dark green ornamental and yet dividend-paying vines. Remember the market gardener this coming season will be hard pressed for help. Vegetables for a year or two at least are not likely to glut the Winnipeg market. If your back yard area is small use every available inch. No matter how much you grow you may find your country needs it.

MY BIRCH

A birch tree grows beside my door,
It is as shapely as a lass,
I feel its beauty as I pass,
Each day I sense it more and more.

I found that birch long years ago,
A supple wand upon a slope
And to myself I said, "I hope
My tender protege will grow."

A queen my birch now is to me,
A lady dressed in white and lace,
Immaculate and full of grace,
Embodiment of chastity.

Though other trees give shade more dense,
To it I go on summer days
And find protection from the blaze
And bless its cool beneficence.

And as summer zephyrs sigh
Among its shimmering leaves o'erhead,
My soul delights in what is said;
We are in love, my queen and I.

For our deep secret would you search?
It always will elusive be,
Until you learn to love a tree
And by your doorstep plant a birch.

—George Batho.

HEDGES

C. RAY URE

Hedges, when well grown and properly used, have a very definite place in the landscape picture. However, they are frequently misused. How often we see tall, rough, unkept hedges of rank growing shrubs like caragana, lilac and even Manitoba maple surrounding a small 33-foot lot in box-like fashion. To put it mildly they are very unsightly.

USES—Hedges are not as popular in Winnipeg today as they once were. The tendency is away from their extensive use on new home sites, particularly on the smaller lots in the newer sections of Greater Winnipeg. One sees fewer hedges on the front lawns, while those used are of lower stature. When one is able to look down a street and not have his view obstructed by rows of hedges it gives an air of spaciousness to each front yard. This is one feature we try to achieve on all small lots. We try in every respect to make our grounds as natural as possible. Hedges on every property line tend to be too formal.

The front area or town and city homes is the public area or the show grounds. It should be as attractive and natural as possible. There are better ways of accomplishing this desired result than tall hedges. Grouping of shrubbery or use of occasional specimens to mark boundary lines is gaining in popularity.

Although sometimes misused, hedges fulfil a number of essential purposes. The chief of these is as screens to give seclusion, particularly in the backyard, and to hide unsightly areas and objects. They are used as boundaries between property and for this purpose are well adapted to large lots. According to one's desires they are used as low edges along walks.

PLANTING and CARE—A hedge to be satisfactory and a pleasure to the owner must be dense. Compactness or denseness results from a combination of factors, which include good soil, proper planting and clipping, frequent cultivation and watering, and proper kinds of plants.

Satisfactory growth and bright color is quite dependent upon good soil. Remember that once a hedge is planted it will be expected to remain for many years and produce much luxurious growth. A considerable proportion is removed each season in clipping and along with the dead leaves is taken away. This removal means that little organic is returned to the soil from the plants. Once the hedge is established the job of improving the soil fertility is much more difficult than if well done before planting. Prepare the soil thoroughly. In the heavy clay soils of Win-

nipeg a trench should be dug and a liberal quantity of well rotted manure or peat moss dug in to a depth of 18 inches to 2 feet, or 2 depths of the shovel. Put the top soil, to which has been added a goodly portion of rotted manure, to one side so that it can be put in the top of the trench. The time and energy spent in this operation will be amply repaid.

Choose plants 1 to 3 feet high for planting. These should be set from one to one and a half feet apart in the row depending upon the kind used. The smaller growing shrubs like pygmy caragana and barberry should be placed at 10 to 12 inches, while the taller sorts, spirea, cotoneaster, prinsepia and honeysuckle are set at greater distances. Trees used for tall hedges may be given up to 2 feet. Plant slightly deeper than the depth they grew in the nursery, and tramp the soil firmly around the roots when transplanting. Do not hesitate to tramp the soil thoroughly. Generally a single row of plants is preferred to the double row.

CLIPPING—Early pruning is important. Immediately after planting do not hesitate to cut the newly set plants back severely. A dense hedge with the foliage carried right to the ground is the desire of everyone but is difficult to attain unless started properly. If one allows the plants to grow 3 or 4 feet tall before starting to clip it is next to impossible to force new growth at the bottom and you have a top-heavy, mushroom-like hedge with the bottom open. Cut the newly set plants back to 4 or 6 inches above the ground level, or leave 5 or 6 buds. Each bud will throw out a new branch close to the ground. Early the second spring cut all of last season's branches back to leave only 4 to 6 inches. More branches will be forced out. Some prefer to cut back to 18 inches the third spring. These recommendations may seem drastic but are necessary if you want a first class hedge.

What shape are you going to trim your hedge? It is customary to see most hedges in Winnipeg trimmed perpendicular on the sides and generally flat on top. This is not the best style to maintain dense foliage down to the ground. The width should be widest at the base and taper in towards the top, or the end view of your hedge should present a more or less triangular shape with the apex at the top. This type permits the sun to reach the branches near the ground and keep them alive and vigorous. How the top is trimmed is a matter of taste. Some prefer to have them flattened, some rounded, and others like the hedge quite pointed.

Experience indicates that the time of clipping has little influence on the health of the plants. Hedges are trimmed at all seasons of the year with apparent equal success. One good practice is to delay the first clipping till about the end of June or until the main

flush of spring growth is completed. Labor is reduced when cut at this time because very little growth takes place during the rest of the season. Usually there is just enough to cover the wounds and fill up any gaps. One may need to go over some hedges a second time to remove straggly second shoots.

Weeds must be kept down by occasional cultivation. The hedge will thrive better also when the grass is removed to a distance of 1½ to 2 feet on each side. The odd top dressing of well rotted manure and a little complete fertilizer will prove beneficial.

SHRUBS TO PLANT—There are a host of plants to choose from when selecting a hedge for your grounds. For a low hedge use a shrub which naturally grows low. It will be easier to keep in bounds. Where a medium height is desired plant shrubs which reach 3 or 4 feet when mature. The same principle applies for a tall hedge.

In the low class we have Pygmy Caragana (Caragana pygmaea); Japanese Barberry (Berberis Thunbergii); Scotch Rose (Rosa spinosissima); Native Gooseberry; and Artemesia. Of the medium tall sorts there is a great selection. Many kinds will produce some bloom, making for added beauty. Any of the hardy spireas can be used—Spirea media sericea, Spiraea Van Houttei, Germander Spirea (Chamaedryfolia); Spirea trilobata and Spiraea arguta are a few that have given good results. Then there are the cotoneasters—Cotoneaster lucida and Sharpleaf cotoneaster (C. acutifolia); the bush rosesOThe Purple Leaf Rose (Rosa rubrifolia) and the Altai Rose; the Cherry Prinsepia; the Sweetberry Honeysuckle (Lonicera coerulia edulis); and the Red Osier Dogwood. For dry, tough situations the Silver Buffaloberry (Shepherdia argentea) makes an excellent grey-foliaged hedge to 4½ feet.

The Common Caragana (Caragana arborescens); Tatarian Honeysuckle (Lonicera tatarica); Common Lilac (Syringa Vulgaris); and native Hawthorns (Crataegus) all make fine hedges. The Russian Olive (Elaegnus angustifolia) has been used occasionally but tends to be somewhat open. The Chinese Lilac (Syringa villosa) makes a fair non-suckering lilac hedge. Its chief drawback is the rather coarse dull foliage.

Space does not permit mention of evergreens.

Eat at least one meal a day in the garden.

Do not forget the birds, they are your friends.

A FEW NEWER SHRUBS

by W. R. LESLIE

Manitoba gardens are gaining steadily in charm. This is in considerable part due to the expanding choice of small amd medium-sized shrubs. Most of the new things have come from China, Manchuria, Korea, Mongolia and Turkestan. There will be pause in trek of plant immigrants in the period while wars rage. However, new shrubs are coming in expanding flow from our own plant breeders.

Home grounds make a favourable setting for many of the fine things produced by Manitoba's F. L. Skinner of Dropmore. His Betty Bland rose is esteemed far and wide. The rich bright bark of the young shoots makes Betty Bland an arresting feature on the winter landscape. Mr. Skinner has developed and named a number of other shrub roses that add beauty to summer borders. This group includes George Will, John McNab, Mrs. John McNab, Wasagaming, and Fanny Heath. His hybrid lilacs, honeysuckles, daphnes, willows, and cherries are being welcomed across the Great Plains.

At the Morden Experimental Station may be seen a dozen imported new shrub roses. Some of these are notable only for their flowers. Some are attractive in their fine foliage, showy red bristles, and bright bark. Ruskin is a rugosa hybrid with bright red flowers. Grootendorst Supreme in an improvement over the type with richer red colour. The popular extra-hardy vigorous shrub, Altai, with pale lemon yellow flowers, has a family of seedings differing from it in colour and number of petals. Double white Altai has about twenty petals and a rich sweet fragrance. Single Pink Altai, as sold in the trade, has a flower similar to that of our common wild rose. Some Manitoba developed seedlings are superior to it. Rosa primula is valued for its red wood, brighter red showy thorns and prickles and dainty foliage. Karl Foerster has very large semi-double pink to white fragrant flowers that keep developing through much of the summer.

The Rosybloom crabs are drawing much acclaim. Colours range from flesh pink to dark maroon. Red Silver is one of the darker types. That variety has the further merit of deeply tinted foliage. The Morden Experimental Station has propagated 45 rosy-bloom selections. Some of them are dwarfs with small leaves and multitudes of small flowers. Scugog, an Ottawa triumph, is attractive in bloom and outstanding as a red flesh large crab apple for culinary purposes. The well-known Hopa is still good but rates lower than some recent introductions.

In hybrid lilacs, Skinner has produced many of distinction. Assessippi is first early with Argyle purple blooms. Excel has very large flower clusters of mauve pink. Hiawatha is one of the reddest of all lilacs. Pocahontas is a valuable single dark purple. Coral, introduced by the Morden Station, is a late clear pink that glistens in the sunlight. Royalty is a late rich purple. When cut in the bud stage it provides a quality centre piece for more than a week. Redwine, a third Morden lilac, is a deep red that fades to red-violet.

A new strain of Tamarisk is red rather than pink. It is admired by visitors as being richer than the commercial strain of Amur Tamarisk.

Morden 800 cherry hybrid is an arresting cherry hybrid. Resulting from sand cherry crossed with Siberian apricot pollen, it is shapely and very showy.

The Many-flowered Cotoneaster has large white fragrant blossoms. The bush is large, round headed with arching branches. The scarlet fruits are brighter than the woolly, and the European cotoneasters.

Mockoranges are available in a score of varieties. A group of 2500 controlled crosses at the Morden Station promise some improved additions. Virginal, Mount Blanc, Girandole, Glacier, and Enchantment are very good. Some of their daughters may be superior in some important characters, such as bush type, size, shape and fragrance of flowers, and in drought tolerance.

The Amur Maackia is an interesting small tree of the pea family. It is abundantly hardy and deserves employment as a lawn specimen.

The Amur Cherry is a candidate for placement as a shade tree. The tree is rounded, healthy and attractive in bark, foliage, blossom and fruit.

When it comes to dwarf ornamental evergreens, the Western Red Cedar (Juniperus scopulorum), seems outstanding for Manitoba gardens. It differs to the common Red Cedar in taking two years to ripen its blue fruits, and in its dwarfer habit. A number of selections are named. Among them are Pathfinder, Mission, Welchii, and Funalis. Foliage colour is from dark green to blue silver. These junipers stand shearing with comfort and often show to best advantage when thickened by terminal twig pruning.

Two leading broadleaf evergreens are the popular Rose Daphne and the taller Dwarf Spindle-buch. The latter makes an acceptable substitute for the clipped English Boxwood hedge.

THE ORANGE FLARE COSMOS

GEORGE BATHO

Horticulture without enthusiasms is like love without any wish for courting. So I believe in enthusiasm.

My present warmth is for that hardy and charming annual, the Early Klondyke Orange Flare Cosmos.

In general appearance and foliage it is quite unlike the common Cosmos.

The seed germinates quickly; the seedlings are strong; the plants grow readily. The seed may be sown indoors or outdoors. From open sowing there should be blossoms by the end of July.

The blooms are a rich orange, and they follow in unbroken succession until fall frosts kill the plants. The flower stems are long. Bouquets are graceful and attractive, but the deep orange pigment may stain table covers if they are crushed. New blooms may be gathered frequently, as they last only about 36 hours.

The plants grow to 3 to 3½ feet. This is a flower of strong, rich color, easy of culture, and adapted to mass planting. It does not "volunteer" the next year.

VEGETABLE VALUES IN WARTIME

by FRANCES I. McKAY

Vegetable Values in Wartime—The word value will naturally bring different thoughts to the minds of different individuals; to some of you as growers it will probably make you think of the market value, the ease with which you can produce and turn over to the consumer your vegetable crop or in other words a dollar and cent basis. Others of you will think of green shoots coming up through the ground and eventually finding their way to the table. Today I want you to go a step further with me and to consider why vegetables are an important food and in what way vegetables meet the needs of the human body.

Startling Facts on Health Situation

Due to the war, facts are being revelaed about the health of the Canadian nation and people are asking questions such as this—Why are 40% of your young men 21-22 years of age who were examined for cumpolsory service turned down as physically unfit for category A? Another interesting fact is that the picture is quite different in various sections of Canada. Prince Edward Island had 80% go into category A, while Quebec only 44%. What about Manitoba? Manitoba's was just about equal to the average for all the military districts, with 61% in category A. The next thought which comes to mind is—What were the chief causes of disabilities? "Glasses needed" headed the list, then stomach and intestinal troubles and poor teeth. Many of the disabilities were traced back to lack of proper food for growth and development; and remember these were the 21 and 22 years of age young men who should have been in the healthiest period of their lives. The reaction of many people is something like this—"I cannot see how it could happen here in a land of plenty." But it has happened here and perhaps it is just one of the many lessons we have to learn from this war to face the fact that we are not a healthy nation and to realize something must be done about it.

Food and Health

What can be done about the question of food and health? At one time the medical profession was concerned with curing diseases but during the last 20 years the tendency has been towards prevention with the result that a great deal of advancement has been made in the study of food and health. In 1935 the League of Nations set up an Internationl Nutrition Committee and the techinical knowledge of the scientist was interpreted into amount of food essential to promote good health. Fortunately for us these essentials are the common everyday foods and the majority are

produced in quantity in this country,—milk, eggs, vegetables, fruits, whole grain cereals, meat or meat substitutes, and butter. The amount of each needed being:

Dairy Products:

Milk—1½ pints daily for children.
½ pint daily for adults.
Butter—3 tablespoons each day.
Cheese—Used as a meat substitute once or twice a week.

Vegetables and Fruit:

Potatoes and two or more other vegetables daily—one raw and one cooked.

Two servings of fruit each day. Canned tomato or tomato juice may be included as either a fresh fruit or vegetable. One serving should be a fresh fruit and one canned or cooked.

Use dried peas and beans as a meat substitute once a week.

Cereals and Grains:

Use two servings of whole grains each day.

Meat and Fish:

One serving each day or more.

Eggs:

An egg per person per day.

Fats, Sugars, etc.:

May be used as desired for flavoring.

Since the foods essential for good health are grown in abundance, what causes this malnutrition?

Ignorance of the value of food to the human body and food likes and dislikes can probably be blamed for the lack of proper food in many homes. It has been proven that many low income families could be better nourished by spending their money on the essentials rather than non-essentials. Money does not assure proper eating habits. The Homemakers of Canada have a big responsibility in feeding their families and helping them to form good eating habits with everlasting benefits.

Not Only a Canadian Problem

The question of food and health is not only a Canadian problem. In Great Britain 1,000 men who were rejected by army medical boards were taken to a camp provided by the army and fed a special diet for six months. Eighty-five per cent. were accepted by the British army at the end of that time. In the United States one out of every three called up for compulsory service was turned

down. Realizing something had to be done about educating the American people, President Roosevelt called a nation-wide conference on nutrition last May. The medical profession, nutritionists, producers, wholesalers, and consumers were all represented with the result a big national nutrition programme is being carried on in U.S.A. In Canada various groups throughout the Dominion have been studying the question of nutrition. Some have recognized the problem sooner than others. In rural parts of Manitoba during the past 12 years 12,000 women have belonged to food study groups but even that is only a beginning; there are still many more to be reached. Last spring a "Health for Victory" nutrition programme was put on in Greater Winnipeg and has been continued this winter. In November the Dominion Department of Pensions and National Health established a nutrition department—the immediate job of the staff is to study and make recommendations regarding the food habits of people working in war industries; why—because it is a recognized fact that proper food is vital to maximum production and to the morale of the workers.

Where and How do Vegetables Fit into the Picture?

The Food Rules given listed:

Potatoes and two or more other vegetables to be used daily—tomatoes to be included as either a fruit or vegetable.

Vegetables and fruits are rich in two essential food materials, namely—minerals and vitamins. These are needed by the human body for growth and maintaining many of our body processes. The building and maintaining of our bones and teeth, the beating of the heart, the circulating of the blood, the digestion of our food, proper functioning of our nervous system, and many other body processes, if they are to function properly, must have adequate minerals and vitamins. Therefore, it is necessary that generous supplies of fruit and vegetables be eaten 365 days of the year.

Fruits and vegetables are not all equal in value; some are richer in certain minerals and vitamins. Only by including a wide variety of vegetables in the daily meals can we be sure of having the needed minerals and vitamins.

The potato, because of the quantities that are used, is considered as a fairly good source of iron which is necessary for good red blood, and also Vitamin C—an essential for maintaining a good healthy condition of our teeth.

Leafy vegetables are usually richer in minerals and vitamins

than the root vegetables and many of the leafy vegetables are eaten raw, therefore avoiding the loss in cooking.

Green and yellow vegetables have more vitamins than white vegetables. Experiments show that green celery is richer than white celery, the outer green leaves of head lettuce and cabbage are richer than the inner white leaves, yellow corn richer than white corn, and yellow turnips richer than white turnips.

The reason why tomatoes and tomato juice may be classed as either fruit or vegetable is that it is probably most frequently used as a vegetable, but it can be used to replace a serving of fresh fruit. Tomatoes and oranges are excellent sources of Vitamin C. In this country we can produce tomatoes but must import our oranges. Tomato juice can be used to replace orange juice in infants' and children's meals but it must be remembered it takes twice as much tomato juice as orange juice to give an equal amount of Vitamin C.

Improper Handling Causes Loss

"From the garden to the table as quickly as possible" should be the motto if we want to get full value from our vegetables and fruit. Freshly picked vegetables are richer in vitamins than vegetables that have become wilted from exposure to air. Sun-ripened fruits and vegetables also contain more vitamins.

Improper handling in the home and some methods of cooking will greatly reduce the mineral and vitamin content. Only a thin peeling should be taken off fruits or vegetables; much of the mineral lies just under the skin and a thick peeling will greatly reduce the amount of mineral. Soaking in water before cooking is another destructive habit, much of minerals and some of the vitamins will dissolve out in the water and be lost. If vegetables are to be cut for convenience in cooking, length-wise is better than crosswise as fewer cell walls are broken. Baking is considered the best method of cooking vegetables. It is difficult to convince some housewives that beets do not have to be boiled for 1 to 2 hours with their skins on or they will bleed to death. Beets have a much nicer flavor and are more highly colored when grated, a little salt, pepper, and butter added, and then baked in a covered casserole. It is not necessary to peel the beets if they have been brushed to remove the dirt. When the water used for cooking vegetables is drained down the sink much of the minerals and vitamins go with it. The water should be kept and used for gravy, soup, or stews. Sliced fresh fruits and vegetables will lose their vitamins if allowed to stand exposed to the air.

In Manitoba the season for growing vegetables is short but good. During the growing season there is no excuse for the lack of

vegetables on the dinner table. During the remainder of the year which is the greater part, vegetables should not disappear from the table if adequate and satisfactory storage space has been provided for keeping the vegetables and if these can be supplemented by vegetables canned during the peak of the crop. Transportation facilities have been greatly improved for shipping fresh vegetables during the winter season, but these are fairly expensive and beyond the purse of many people.

We should not lack vegetables in our diet. We have land; we have seeds; and we are usually blessed with adequate rainfall and plenty of sunshine. Granted we have pests but they may be sent to try us. A survey taken in four cities of Canada shows the average Canadian diet to be lacking in minerals and vitamins; and vegetables are one of the best sources for these two essential food materials. In peacetime and even more so in wartime poor health is costly—costly to the individual and costly to the nation—many hours lost from work, inefficiency at the task and resulting decrease in production. The question of improving the health of Canadian people is an important one—one which should not be left to the medical profession, the nutritionists, and health organizations but one which should command the attention of every citizen and every organization.

The forests have spells to enchant me,
The mountains have power to enthrall;
Yet the grace of a wayside blossom,
Stirs my heart deeper than all.

—Anonymous.

"I had fainted unless I had believed to see the goodness of the Lord in the land of the living." 27th Psalm, 13th verse.
. . . guess this means flowers too!

The terrace is a natural link between house and garden.

QUESTIONS and ANSWERS

H. S. PAUL

Question—When planting dormant hybrid tea rose bushes. What pruning is necessary to get results?

Answer—The stronger stems should be pruned well back leaving not more than four or five eyes to develop buds, while the weaker stems should be cut back to three eyes.

This will result in producing good stems and blooms.

Question—I have had trouble every year with Aster disease. The leaf and buds turn yellow and the flowers open badly deformed. During the past year I have grown plants from wilt-resistant varieties with no better results. How can I overcome this trouble?

Answer—This disease is known as Aster yellows and is spread by leaf hoppers which carry the disease from weeds to the plants. The only sure way of overcoming this is by growing plants under a cloth protection to keep out the hoppers. Spraying with insecticides may help.

QUESTIONS and ANSWERS

J. van WILDE RODE

Question—According to what I have read and to what I have been told by florists and others in connection with the rust disease of Snapdragons, this disease is not supposed to overwinter or remain in soil.

This might be true as far as outside flower beds are concerned, but is it true for soils which are brought back or remain, or are used in benches and then used again in flats inside a greenhouse?

For the past two or three years I have been wondering why the Snapdragons grown for me by a certain grower were affected soon after they were bedded out and died before the flower buds opened, while some supplied by other growers did not show the disease until late in the season or not at all.

Some of those which did not show the disease until late, might not have been affected if they had not been planted with or near those supplied by the first mentioned grower.

I did not use Snapdragons from this grower last spring, because they were affected long before the budding out time and had to be destroyed.

It seemed strange to me that this grower should have so much trouble with this disease when other growers were having no trouble or very little, especially so early in the season.

Last fall I asked this grower if he used the same soil in his seed plots or the flats in which he transplanted the seedlings of the preceding year. I received an afirmative answer.

This makes me wonder, if under certain conditions, this disease does not remain in the soil.

Answer—The spores of snapdragon rust will winter in the soil in the greenhouse and may be carried on the seed. Another source of infestion in the greenhouse is from older plants which are being forced for bloom and have become infected by the bisease.

If the plants are set in beds out-of-doors, they should be spaced far enough apart so that air can circulate freely between them. If the beds are watered, it should always be done in the morning

rather than in the evening. It is better to surface water than to sprinkle, since wetting the tops makes conditions favorable for infection. Sulfur dust or one of the sulfur sprays applied at weekly intervals until the plants start blooming will prevent infection.

In the greenhouse these diseases are prevented by setting disease-free plants, by surface watering, and by ventilating to avoid excessive humidity. If rust appears, sulfur dust or a sulfur spray should be applied thoroughly. The treatment is more effective if the night temperature is raised to about 72° F. for three successive nights. If a new crop of rust spores develops, the treatment should be repeated.

Question—What causes the yellowing of a plant. So many plants this year turned yellow during the growing season. Shrubs of all kinds, trees, including Salix and perennials. The rain probably accounts for that, but I have found quite a few plants in that condition which were quite sheltered from the rain, so sheltered that they had to be watered by hand. The rain certainly cannot be responsible in this case for the yellowing of the foliage.

Answer—Yellowing or chlorosis is usually caused from a lack of iron. The soils in the Winnipeg area contain excess lime which takes up the iron so that it is not available to the plant. The addition of iron sulphate to the soil around the plant will give temporary relief but the added iron is also quickly bound up by the lime. The addition of acid peat to the soil before planting, or dug in about the roots of plants already suffering from this, malady, has proven effective.

The romantic flower-filled rock garden has its place even in a small garden.

QUESTIONS and ANSWERS

MRS. ARCHIBALD COOPER

Question—In controlling shoots growing from the main root of a Virginia creeper, how close may one cut them to the main root without injury to the vine itself?

Answer—In pruning Virginia creeper it is well to leave branches or arms of two or three sections attached to the roots. New growth will develop at the joints or nodes of these arms.

* * *

Question—What insecticide treatment should be given annual larkspur which seems to be infested with minute flies causing the flowers to appear undeveloped and often distorted in shape? On some of the spikes, a cobwebby substance seems to cling to them, a substance that does not look like the work of a garden spider.

Answer—This is caused by an infestation of red spider. For control, refer to the Answer given for the next question.

* * *

Question—What causes the lower leaves on sweet pea vines to become a dusty yellow? The rest of the vines will seem healthy enough though upon occasion we have found some green aphid on them and applied Derris powder and then again nicotine sulphate, with satisfactory results.

Answer—The yellowing of the lower leaves of sweet pea plants is generally the result of an invasion by red spider. The attack is generally severe in dry, hot weather. Spraying the plants every day with water keeps down the pest, but a more efficient method of control is the dusting of the plants with finely-divided sulphur. The mixing of Derris powder with the sulphur in equal volumes increases the efficiency of the dust. (Dr. J. E. Machacek).

* * *

Question—What causes some plants to be attacked by a fungus when other plants of the same species and in close proximity seem exceedingly healthy? We have had more than one zinnia plant, when about half grown, die from what appeared to be a fungi or rotting condition at the ground line and also in the roots.

Answer—The isolated dying-off of plants is caused by a variety of soil-borne fungi that invade plant roots and crowns, generally through wounds caused by cutworms, wireworms, etc. and by root division during the breaking up of clumps. Where the diseased plant is an annual, it should be pulled up and destroyed, and where the diseased plant is an perennial, it should be lifted from the soil, and washed off so as to expose the decayed portion. The decay may be scraped off and the wound dusted with Bordeaux dust. Where the decay is extensive, the plant may be broken up into small sections, of which only the healthy ones are replanted, preferably in a new spot. The control of insects and the treatment of wounds with Boordeaux dust is the most efficient method of controlling this disease condition. (Dr. J. E. Machacek).

* * *

Question—In this climate, when is it deemed advisable to water a lawn? Should it be done in the morning or in the evening and why? Would one measure the thorough watering of a lawn by the depth of water penetration into the sod and how far should that be?

Answer—In Winnipeg it is advisable to water a lawn from May to September according to the requirements of the season. Watering in the evening is preferable as at this time the water has more time to penetrate the soil before it is affected by the hot rays of the sun and in this way less water will be lost through evaporation. The thorough watering of a lawn would be measured by tthe amount of moisture made available at the grass roots. The depth of grass root growth varies from 4 to 7 inches according to the variety of grass and condition of soil. (F. T. G. White).

QUESTIONS and ANSWERS

R. C. PRAGNELL

Question—Aquilegias suddenly wilt and die, what causes this and is there a remedy?

Answer—Wilting and dying of Aquilegias (Columbine) is caused by a small whitish grub, eating out the inside of stalks just about ground level. A remedy is Permangenate of Potash crystals dissolved in water to almost a purple colour, with a fine rose water can sprinkle well around the collar of the plants in early spring to destroy the larvae of the grub.

Question—I wish to buy Gladiolus corms and have heard discussions on the relative value of low and high crowned corms—which should one buy?

Answer—In buying corms one should consider the amount of food stored up for the new plant and flower. As Gladiolus corms are graded for size according to diameter, it is readily seen that a high crowned No. 1 corm will contain much more such food than a flat corm of the same No. 1 size. One cannot go wrong in selecting high crowned ones.

Question—When is the best time to have trees pruned?

Answer—The old adage is "whenever the saw is sharp," but a good safe rule is after mid-summer on through till sap begins to rise in the following spring, usually early April. Stop then, because when wound dressing is used, as should be, it will not stick to the cuts if wet with sap.

Question—After Delphiniums have sprouted from the parent plant, can they be thinned out without damage to the crown? How many should be left.

Answer—Thinning out does not harm the plant if shoots are neatly cut low down, not pulled off, and will insure stronger and finer spikes of bloom. From large clumps, well established, all weak shoots should be removed when a few inches high, five or six is ample to leave. After thinning dust over the crown of plant some Flowers of Sulphur or slack lime; this helps to ward off mildew which often attacks Delphiniums.

CANNING AND PRESERVING MANITOBA FRUITS

by GERTRUDE J. LESLIE

Fruits are grown in Manitoba in sufficient variety to provide a different one every day in the month. To insure a stock being on hand through the year, most fruits must be stored in one form or another. Details on processing are available in a series of department bulletins, so little comment will be made here on that phase. Local fruits used in canning, preserving, jams, jellies, juices, vinegar, and solid pack products will be considered.

Fruits for canning make the longest list, as all fruits may be canned, where sterilization is the factor that insures keeping, density of syrup is a matter of personal taste. However, when doing a fruit for the first time it is wise to cook a small sample, then decide on the syrup and time of cooking.

Rhubarb canned in early July will yield a product of higher colour, requires a little less sugar and a little longer cooking thau if canned in May. Plums vary in acidity, and skin texture, and all but the tender skinned La Crescent seem to improve in flavour and smoothness, if the fruit is added to the syrup in an open pot and brought to a boil before packing in jars and processing. The fragrant plums, such as Kaga, Hanska, Tokata, and to a lesser degree, Inkpa, retain this fragrance in proportion to the dispatch with which they are handled in pre-cooking, transfer to jars and sealing. Plums with skins that toughen in cooking, as Cree, may be used to better advantage in jelly, jam or juice. Nanking cherries require the minimum of processing and a light syrup. Crab apples, for canning, offer great variety in colour and texture. Rosilda is outstanding in texture and resembles pear in flavour. Toba and Trail are also favorites. Among the red fleshed crabs the Skugog seems particularly fine but care must be exercised in canning, as the pectin content is very high. Syrup is best on the light side, or the fruit will jell quickly in the jars. Rondo, a bright red large crab, stored until January or February, makes attractive canned fruit, and may be placed in jars released from earlier canning. Sapa deserves special mention because of its versatility. Sapa juice may start the meal as an appetizer. A fresh fruit salad or cocktail may be chiefly of Sapa. The dessert course will be much enjoyed if it is a juicy pie or canned fruit. Jam and jelly made from Sapa are often mistaken for grape in the richness of colour and flavor.

Preserving is a term used in speaking of fruits in the preparation of which sufficient sugar has been used to prevent spoilage without air-tight sealing. It is not so commonly used now-a-days' but to some extent is employed for raspberries, strawberries' gooseberries, and black currants. The fruit retains its original shape and is surrounded by a clear heavy syrup.

Jam differs from preserves in that the fruit is crushed and distributed through the juice. Many are the attractive and delicious jams that may be made from Manitoba-grown fruits. Berries, gooseberries, mossberries, cherries are popular in jam. Alpha and Beta grapes make excellent jam when seeds have been removed. Sandcherries, when pitted and combined with fruits of more distinct flavour, as rhubarb or strawberries, are welcomed in the jam array. Plums for jam making are numerous and afford variety in colour, flavour, and texture. Among these highlights are the orangey Red Wing and Tecumseh, the rich purple Sapa, and brighter red Hanska, Tokata and Redcoat (or Minn. No. 17), and the golden La Crescent. One of the newer and more distinctive jams on Manitoba's breakfast table is the flavourful Scout apricot.

All fruits contain some pectin, the substance which makes jam and jelly set or jell. For successful jams and jellies a definite amount of pectin is essential. Fully ripe fruits, rich in colour and flavour, seldom contain enough. The modern method of using powdered or liquid commercial pectin, or adding fruits known to have high pectin content assures success. Fruit is most popular in its fresh state. Jam, at its best, most closely resembles the fresh fruit in colour and flavour. Long cooking of fruit and addition of sugar will thicken jam by evaporation but results in a dull, strong flavoured mass. Fruits partly under-ripe will increase the pectin but may impair the flavour. When apples are being boiled for pectin the skins and cores should be included, as they contain more than the pulp. One of the less familiar methods of intensifying pectin in jam making is by adding Epsom Salts. One fine example of this is in making Raspberry Jam. These are the proportions:

2 quarts raspberries (crushed)
6 cups sugar

Boil for 6 minutes, then add 1 heaping teaspoon of Epsom Salts, and boil 2 minutes longer. Seal in sterilized jars. The product is a red natural flavoured jam.

The variety of home-made jellies that Manitobans may enjoy is extensive. It is wise to make a test for pectin in the juice. This may be done in two ways. One is with Epsom Salts, using:

¼ teaspoon Epsom Salts
½ teaspoon sugar
1 teaspoon hot juice

} Mix well, cool and let stand stand for 15 minutes.

Second if the Alcohol Test:

1 tablespoon cool fruit juice } Mix well.
1 tablespoon alcohol }

In either test a thick jellied mass indicated a sufficiently high pectin content, and a scattered jelly mass means that pectin must be added.

Favorite fruits for jelly with high pectin content of their own are: Compass cherry, gooseberries, picked on the green side; Nanking cherries, Ussurian pear, crab apples (particularly the red ones, such as Dolgo), Pembina, or highbrush cranberry, pincherry, grapes (native and cultivated), mossberries, currants—black, white, and red. The white currant makes an especially delicately coloured and pleasing jelly. A word of warning is sounded here—the juice of white currants, when first extracted, is a dull grey. When sugar is added, and the syrup boiled the result is a rosy-red jelly. Plums which have not measured up as a canned product may be successfully used in jelly making. Fully ripe plums may be combined with apples to insure jelling.

The general method for jelly making includes the following steps:

1. Pick over and wash fruit.
2. Crush, if fruit is large and firm, and measure.
3. Add an equal quantity of water.
4. Heat and simmer gently until juice is extracted.
5. Strain through a jelly bag.
6. Make pectin test. If satisfactory, measure ingredients, using equal parts sugar and juice.

Best results are obtained in jelly making if not more than 3 cups of juice are used at a time, If pectin must be augmented, the directions on the commercial package should be closely followed.

A syrup thermometer is valuable in jelly making. When the boiling syrup reaches the jelly temperature it is ready to pour into containers. Thus, guess work is eliminated. Sealing jelly with wax should be done in two applications—the first a thin coat, followed, when set, by another, rolling the glass so edges will be sealed.

Fruit juices have become an important part of our everyday foods, because of their mineral and vitamin properties. It should be little hardship, if our imported stock is limited. The field of supplies for these juices in Manitoba has only begun to be exploited. First in the spring comes rhubarb, with its tonic qualities. Its juice has piquant flavour and attractive colour. Then in quick succession—berries, fruits small and large, wild and cultivated. Black currant juice is one of the outstanding ones. It is colourful, appetizing, rich in vitamins, and long recognized as an antidote for colds. The method used in making juice is simple. Only firm ripe fruits are used, as flavour and colour are chief requisites. After washing, the fruit is crushed. In fruits, such as cherries, plums, and sandcherries, some of the pits may be broken and added for flavour. Equal quantities of fruit and water are used and cooked only long enough to extract juice. The shorter the cooking time, the better the flavour. The juice is then strained through a jelly bag. A second extraction may be made, using less water. This is added to the first collection. Sugar is then added, depending on the fruit and individual preference. The minimum quantity is the safest, as more may be added when served. The juice and sugar is brought to a boil and bottled. A short processing is advisable, 10 minutes in a water bath, or 2 minutes in a pressure cooker being sufficient. Fruit juices may be combined. Rhubarb and strawberry, apple and cherry, and grapejuice and apple, are pleasing combinations. Fruit vinegars are refreshing summer drinks, and may be prepared from raspberries, sour cherries, chokecherries, and sandcherries.

Canning without sugar may become more popular this season. Blueberries, saskatoons, sour cherries, and rhubarb lend themselves to this method. The prepared fruit is immersed in boiling water in sterilized jars, sealed and processed for 30 minutes.

Manitoba-grown cherries may be successfully candied for use in baking. Nanking preserves are excellent substitutes for imported cherries in decorating and garnishing. Many Manitoba apples make delicious apple sauce, whether the choice is for smooth sieved type, or that made from peeled and quartered apples whose pieces retain their shape. They are equally adaptable to storing in jars for enjoyment through the year. Processing for about 40 minutes is desirable for this dense product.

This general survey covers but a portion of the field of canning our home-grown fruits. It will be noted that the family fruit cupboard may be filled with a wide range of products of high excellence made from fruits grown in the home garden. Manitoba citizens may look forward with pleasant anticipation to a still finer store of local products in their fruit cellars, as new improved varieties are being introduced year after year.

GROWING HOUSE PLANTS

F. W. BRODRICK

A class of plants that up to the present has received little attention includes those that are grown indoors. They are commonly called house plants. They have been collected from various parts of the world and require varied growing conditions for best results. They lend themselves readily to the restricted conditions of pot culture although these conditions may be modified greatly to stimulate the vigorous growth that is necessary for best results. Some plants are grown for their foliage and others for the brilliance of their bloom.

Healthy young plants are most satisfactory no matter whether grown for foliage or bloom. There are a number of factors which affect the growth of plants both indoors and out of doors. These are suitable light, moisture, in regulated quantities, a friable and fertile soil, a temperature favorable to the plants being grown, and regular care and attention.

Light is essential for the growth of all classes of plants although all plants do not require full sunlight. A Southern or South Eastern exposure is best for most plants, while some plants such as ferns will give fair results in the more limited light of windows facing North. Avoidance of crowding, and turning the plants from time to time will give a better balanced and more evenly rounded form.

Soil conditions for house plants is very important. A good potting soil must be open, friable, and must contain a supply of available plant food. The texture of the soil is important as openness and friability are necessary for satisfactory growth. A mixture of garden loam, well rotted manure or garden peat, thoroughly decomposed sod, and fine sand may be blended for good results. Mixing in a quantity of fine bone meal with the soil gives good results when used in the final potting of growing plants.

Young plants thrive best in a small quantity of soil using flower pots of small or medium size. The soil should be well compacted in the potting process and thoroughly moistened after the potting is completed. Repotting may be done from time to time and in such a way as not to check the growth of the plants. By moistening the soil in the flower pot the

plant and the ball of earth may be removed quite easily by turning it upside down and gently tapping the rim of the flower pot on a bench or table. When removed the plant and the earth on its roots are placed in a flower pot of larger size and fresh soil added and compacted as the filling is being done. After repotting, the soil is moistened so that the growth of the plant is not checked. It is well to leave some space at the top of soil by not filling the flower pot too full so that water may be added from the top when needed.

The watering of plants indoors is quite important. It is well to give enough water, but not too much. Best results are obtained by keeping the soil slightly moistened but not excessively wet. Sprinkling the leaves with tepid water every two or three weeks has a beneficial effect, particularly with foliage plants such as ferns and palms.

House plants of different classes prefer varying temperatures. Cool house plants such as geraniums and coleus thrive in a temperature 72 to 75 deg. Fahr. Palms and ferns prefer a higher temperature of say about 75 to 78 deg. Fahr. More satisfactory results are obtained if there is greater uniformity in day and night temperature.

Diseased parts or leaves should be removed early to maintain the general vigor of the plant. The successful plant grower is ever on the alert for the extermination of insect pests which affect house plants. These are soft-bodied scales which appear on ferns and palms, mealy bug which infests the Coleus, aphids or plant lice which are found on chrysanthemums and other plants, and the troublesome white fly which infests the primulas, cineraria and pansy geranium. Special methods of control, sprays, washes and fumigants may be adapted for each class of insects.

Space will not permit the discussion of a lengthy list of recommended house plants. Reference will be made to two or three classes of plants that are commonly grown, and with good success.

That class of plants which may be propagated from slips or cuttings, includes the best known and most popular house plants. To this class belong the common and pansy geraniums, the numerous types of fibrous rooted begonias, the coleus or foliage plants, the fuchsia, and the chrysanthemum.

Young plants of these may be started from vigorous slips or cuttings which are easily rooted in warm, moist sand. In

preparing the shoot for rooting, most of the leaves are removed and the stem is cut off just below a joint from which points new roots arise. When well rooted, these young plants are potted in suitable potting soil. The house plants which are started from seed include the cyclamen, primrose, cineraria, calceolaria, schizanthus or "poor man's orchid" and antirrhinum or snapdragon.

The cyclamen is a native of Persia or modern Iran. It develops a corm or bulb-like growth which increases in size as it gets older. It prefers a rather low indoor temperature, and during the summer a cool shaded position out of doors to develop buds for the following winter.

The primroses include the Chinese, everlasting, fairy, Kew and Polyantha, all of which are quite well known. They are of easy culture and are popular house plants.

Plants grown for their foliage include the ferns, of which the Boston fern and its varieties are best known. The Kentia palm and the hardy aspidistra are fairly easily grown and useful for any purpose where heavy foliage is required. The fern and aspidistra may be multiplied by splitting the older plants in sections and repotting the new sections in fresh potting soil.

A plant that has become very popular as a table decoration is the sansevieria or bowstring hemp. It has stiff, erect, strong leaves and does well under ordinary house conditions. It may be increased quite readily by division or leaf cuttings which root easily.

By careful selection of varieties and reasonable care, an attractive collection of house plants may be built up which will add much to the appearance of the interior of any home.

BEAUTY

I see her now. How more than beautiful
She paces yon broad terrace! The free wind
Has lifted the soft curls from off her cheek,
Which yet it cromsons not,—the pure, the pale,—
Lake a young saint. How delicately carved
The Grecian outline of her face!—but touched
With a more spiritual beauty, and more meek,
Her large blue eyes are raised up to the heavens,
Whose hues they wear, and seem to grow more clear
As the heart fills them. There, those parted lips,—
Shining like snow her clasped and earnest hands,—
She seems a dedicated nun, whose heart
Is God's own altar.

L. E. Landon.

We wish to take this opportunity of expressing our sincere thanks to the following. Through their co-operation our Fall Flower Show was made possible.

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