THE WINNIPEG FLOWER GARDEN

PRESENTED BY

The Winnipeg Horticultural Society

1941

The Winnipeg Horticultural Society

ESTABLISHED 1930

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To Our Members . . .

The Winnipeg Horticultural Society takes pleasure in bringing to you "The Winnipeg Flower Garden," in the hope that it will be filled with happy thoughts to guide you through this coming year. Many thanks are extended to Professor F. W. Brodrick, R. W. Brown, W. A. Cumming, and P. H. Hammond for piloting this, our Annual Booklet, successfully through the press.

In mentioning the Society plans for the coming season we first hope you rally to the Annual Convention, not forgetting our special convention evening starting at 8 p.m. in the McDonald Room of the Fort Garry Hotel on Tuesday, February 11th.

Next we ask you to co-operate with our programme of "Amateur Nights." These will be held free of charge in Room 255, Manitoba Legislative Buildings, the meetings commencing at 8 p.m. Mr. T. E. Howard is initiating these evenings as outlined in the article "Strictly For Amateurs," found under his name in this booklet. Please read this article as we want as many amateurs as possible to bring forward their problems at these evening meetings. The "Amateur Nights" will conform in general to the following pattern:

1st Meeting—February 26th. Elementary start, How to Plant, etc.

2nd Meeting—March 12th. Arrangement, spacing, varieties, etc.

3rd Meeting—March 26th. Rockery Planning and Planting.

4th Meeting—April 9th. Lily Pool Construction and Care.

5th Meeting—April 30th. General garden problems such as Lawns, perennials, fruit trees, insects, shrubs, etc.

Rally to these meetings and we can promise your special problems will be carefully answered.

Last year two delightful trips were enjoyed by our members. This year the Society has again been invited to become the guests of The Greater Winnipeg Water District Railway and take the 92 mile trip to Indian Bay. Last year this trip so kindly extended to our Society was the highlight of an active Horticultural year.

For membership in our Society you receive this publication, several meetings this spring as well as other meetings in the fall, and you also receive a good trip to a point of real interest. The Directors feel that they have planned a splendid year. In doing so we feel that our members should co-operate with the Directors in getting new members, as we can now offer you something very valuable and interesting for your dollar membership fee. Therefore, kindly ask the Secretary for a membership book, and stand behind the Society in its good work and each one add at least five members to our organization.

Every dollar we receive goes back to the members one way or another. Right now our aim is to obtain colored films so that these can be shown during the winter. Colored films would be a real help but they are costly and to carry out this worthy project along with other work that this Society undertakes we must have at least 500 members. So please bring your friends and rally to our meetings, and help us build up our organization so that it can become more active.

Trusting this coming season the paths of Horticulture lead your feet through the most charming garden you have so far experienced.

THOS. O. GRAHAM, President.

STRICTLY FOR AMATEURS

THEO. E. HOWARD

CAN YOU TELL a petunia from a morning glory? If not, and you contemplate putting in a flower garden this summer, you are the very person The Winnipeg Horticultural Society would like to contact!

The last Great War gave birth to what was then known as the "war garden." Many citizens who never before had a digging fork in their hands got enthusiastic, and many Winnipeggers, for the first time, boasted of a kitchen garden at the back of the lot and a home banked with flowers.

Owing to existing conditions, it is probable, and in fact quite certain that many citizens will stay closer to home this coming summer and, apart from the odd car ride to the country, will spend considerable spare time in their garden. For this reason an unusual number of amateur gardeners will likely bud forth and, therefore, this society has decided to inaugurate a strictly amateur section. Meetings will be held at least once a month during February, March, April and May. No long-winded professionals with jaw-breaking Latin terms will cloud these meetings with subjects as foreign to the beginner as Einstein's theory on relativity. They will get down to earth along with successful amateurs in supplying the ordinary man with simple good advice whereby he can avoid mistakes, for be it known right here, that mistakes in horticulture are not only expensive but, worse still, they are the source of grave disappointments.

This, therefore, will be YOUR section. All important steps in gardening will be covered from subjects such as preparation of soil, selection of varieties, planting, arrangement, watering, cultivation, etc. Get in touch with members of the executive whose names appear at the front of this booklet and they will be glad to give you full particulars regarding meetings to be held.

Among other things you will learn to avoid the mistake of planting tuberous begonias in a window box facing a southern sunny exposure and likewise the fact that you cannot expect the best from a shaded window box planted with geraniums. You will get a knowledge of what flowers are best suited for a north,

south, east and west exposure respectively and many other simple instructions that should be followed in order to insure success. Remember, the prize winners of today were once amateurs like yourself. They made the same mistakes that you probably will, but you can avoid many of these by attending these meetings at which you will be most heartily welcomed.

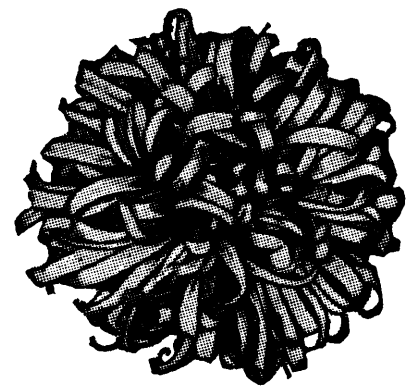
Some of you have no doubt already gone over the new seed catalogs and selected the flowers you admired the most. Do not make the mistake of drawing up your list of requirements as four dozen snaps, two dozen stocks, etc., and then tripping off to the nearest market to place your order. It is most important to know what KIND of snaps you want, for there are several, namely: the extra tall, the tall, the intermediate, the bedding and the dwarf. I visted a garden last year where Mrs. A. complained that she could not cut nice bouquets of snaps like her friend Mrs. B. down the street. I suggested that we go down and see Mrs. B.'s garden. It was, of course, just as I expected. She had a long bed the full length of her garden, nicely arranged with the tall snaps at the back, intermediate flowers were followed by the dwarf and finished up with a beautiful border. She had been cutting her bouquets from the taller varieties, while Mrs. A. had simply gone to the market and bought so many snaps and had consquently planted a very dwarf variety not suitable for cutting. When the lady of the house orders her groceries she does not simply order tea, she specifies what KIND of tea she wants, and woe-betide, the grocer if he substitutes. It is all tea! And so with plants, snaps are snaps, stocks are stocks, but there are different varieties, all of which have their useful purpose. Learn therefore to order by variety instead of by name only.

In another case I was asked to suggest something to go into certain beds, but there was one long bed, the best bed by the way in this particular garden, that was not to be touched. I enquired why, and was told she already had it planted with seeds of exquisite flowers purchased at a cost of some five or six dollars at an internationally famous garden at the coast. I could not convince her that she was due for a disappointment. She immediately went up in the air higher than a kite. Had she not seen beautiful flower beds at the coast grown from these same seeds? She knows better now for, you see, our seasons in Manitoba are so short that instead of seeds planted in June, they should have been plants at least four or five inches high, to produce bloom before frost. That is where the professional grower comes in. He has already planted some of the harder, longer germinating seeds and, unless you have a small private greenhouse or a good bay window and likewise start your seeds early and then transplant the seedlings in June, you will be out of luck.

This is not to say that you cannot grow anything from seed planted in the garden. On the contrary, some things, for instance clarkia, mignonette, nasturtiums, Heavenly Blue morning glory, etc., are even better grown from seed. So you see the proper course is to learn what seed to sow and what varieties should be produced from planting out seedlings.

Then again, the best of us have a hard job getting away from the fault of planting our plants too close. Like a good many more you have heard the "housing problem" discussed until you are probably tired of hearing about it. But what is it? It simply boils down to the fact that when too many humans are living in a certain sized room conditions are unhealthful, they are liable to be weak and sickly. Just so with plants. They are living things and require proper space in which to properly develop. Like humans, if you crowd them, then you can only expect to get weak sickly looking plants with little or no bloom. This results in disappointment all round. Some amateurs put sufficient plants in one small bed to do the whole garden. By all means avoid this most common of mistakes.

But space in this booklet does not permit one to do more than to emphasize the fact that many simple mistakes can be avoided. All these subjects will be fully discussed at the various meetings referred to above. Come along with your problems and be sure to bring your friends with you. Let us make these gatherings a huge success. So long, then, till we see you there. Here's hoping that with the advice of members of the Winnipeg Horticultural Society, your garden this year will be a great pleasure to you and a huge success in every way.



GLADIOLUS

J. H. KOLB

With spring but a short two months away, gladiolus growers at present are busy laying plans for bigger and better blooms. It is not for the professional grower but for those who have not grown glads before that these few hints are being written.

Too often the bulbs are poorly cared for during the winter storage period. A suggestion is that bulbs be given attention at once. If you are a beginner this year, buy your bulbs as near to your home as possible as bulbs cannot be imported from the United States this year. If bulbs have been treated before you get them it is a good plan to go over them again yourself. The ideal storage temperature for bulbs is about 35 to 40 degrees F. and the period between digging and planting is the best time to prepare the bulbs for planting.

Thrips are the worst enemy of gladiolus but rots of several forms make serious inroads every year. It is to prevent the development of these enemies that careful attention should be given to the bulbs during the winter storage period. With proper facilities you may dip your gladiolus bulbs in January or February and put them back in the fruit cellar or cold room where they may be kept until time for planting. Dipping may be done just before planting but the midwinter treatment is preferable.

Naphthalene flakes are an indispensable aid in the winter storage control of thrips. Moth flakes should be left mixed in with your bulbs for about six weeks anytime between the time of digging in the fall and the process of dipping in midwinter or spring. One ounce (flakes) per hundred bulbs for four weeks gives fair control especially if the storage temperature is higher than that recommended. Not all glad growers agree that Naphthalene flakes are a benefit in the control of thrips.

The recommended dips for bulbs are Semesan and Corrosive Sublimate. Corrosive Sublimate, also known as Bichloride of Mercury is generally used at the strength of one ounce to six gallons of water. In preparing this solution mix Corrosive Sublimate in a cup of hot water, otherwise it will not stay in suspension, and then add to six gallons of water. Leave bulbs in dip from ten to fifteen hours. Use only glass, earthenware or wooden containers for this strong formula. This dip if used at planting time will retard the growth. Treated bulbs will require ten days longer to bloom.

Semesan is generally used at the strength of one ounce to four gallons of warm water. Dip bulbs from ten to fifteen hours. Use solution only twice. Do not use Ceresan or Semesan Bel for gladiolus bulb treatment.

Plant your gladiolus bulbs just as soon as you can get on the land in the spring which may be any time after mid-April. They are best in deep, rich, porous soil and prefer a sunny position. To get particularly good spikes use some good fertilizer such as Presto, Clay's Sheep Manure, or Vigoro. Apply at the rate of one ounce to a yard of row. Place below the bulbs and see that the bulbs do not come in contact with it. Planting depths and distances vary with soil conditions and garden requirements. In a light soil one may set their large bulbs down five inches, that is five inches from the bottom of the bulb. In heavy soil three inches is deep enough, while smaller bulbs may be planted anywhere from two to five inches deep. Planting distances will vary with bulbs from four to ten inches apart in the row and the rows twelve to thirty inches apart. When interplanted with annuals, perennials, or shrubs they may be set in groups placing the bulbs several inches apart. After planting is completed the soil should be watered thoroughly. Water should be applied sparingly the first month, as the shoots are coming through the surface. While in bloom the glads should be given plenty of water.

Spikes intended for exhibition purposes should be staked with half-inch bamboo or three-eighth inch steel rods, five or six feet long. Cultivation is necessary at all times and especially after rain has fallen or water has been applied. While in bloom do not cultivate too deeply as there is danger of injuring the root system.

Spraying should be started when the spikes are six inches above the ground and every week thereafter. The following sprays are recommended. (You will note that some of these formulas are changed from last year.)

1. Tartar Emetic Spray at the strength of one ounce to three gallons of water. Add two ounces of brown sugar. This is really an ideal spray and can be applied at any time of day. Take care to not spray flower heads.

2. Paris Green Spray at the strength of one level tablespoonful to three gallons of water. Add two pounds of brown sugar. This spray may burn the edges of foliage. Use spray late in the afternoon. This spray in my opinion does not compare with spray No. 1 as it is too sticky.

3. Rototox at the strength of one ounce (eight teaspoons) to one and a half gallons of water. Spray late in afternoon.

In picking bouquets cut individual spikes when the first or second floret is open and place in a cool shady place away from

a draft and florets will open nicely. In cutting allow at least four or five leaves on the bulb so that it will properly grow and mature.

When season draws to a close digging may be started anytime after the first frost. Cut tops off fairly close to the bulb and wash and dry bulbs carefully. Any gladiolus containers that were used before should be scalded or washed with a strong solution to kill any thrip that may be in hiding. If metal is used at the bottom of wooden containers it should be composed of rust-proof galvanized iron or strong netting. Old roots may be removed any time from four to six weeks after storage.

The varieties that are best is a debatable question. The Winnipeg Gladiolus Society Members consider the following twenty-one ratings the best in their respective color classes: Golden Goddess, Lord Selkirk, Rosemarie Pfitzer, Golden Chimes, Bit of Heaven, Picardy, J. S. Bach, Irene, Southport, Tip Top, Commander Koehl, Black Opal, Minuet, Highland Chief, Charles Dickens, Blue Beauty, Blue Admiral, Mother Machree, Aladdin, Margaret Beaton, Vagabond Prince.

The twelve most beautiful glads in my humble opinion are: Maid of Orleans, Picardy, Berty Snow, Lily Jordan, Bit of Heaven, Minuet, Blue Beauty, Star of Bethlehem, Golden Goddess, Margaret Beaton, Rewi Fallu, Tip Top.

In a nutshell, with sound clean bulbs, good soil, abundant fertilizing and watering, and other necessary little details you ought to grow real exhibition spikes.

LAWN CONSTRUCTION—ITS UPKEEP AND CARE

A. W. CREED

The first consideration in preparing a lawn is the soil, type, texture, and condition. The first step previous to seeding is to grade your lawn with four inches of top soil composed of 40% cow manure, 30% sand, and 30% native soil. Native soil must ordinarily be utilized. Often it is not desirable, but may be made more suitable with alterations. When attempting to modify soil texture, it is important first to identify the existing soil type, then select the proper material to change it. Any soil of poor texture can be improved by mixing with it a sufficient quantity of soil of opposite texture. As an example: if 15% to 20% of clay is added to a sandy soil and thoroughly mixed, a soil of much better texture will be produced. The clay helps to make a more compact soil, with a greater moisture holding capacity. Because of the difference in size of the soil particle a given volume of clay will have a much greater modifying effect on sand, than the same amount of sand will have on clay. To make any noticeable change in a heavy clay soil it is necessary to mix with it from 40% to 50% by volume of coarse sharp sand. Even then the soil will retain its clayey character.

Even though a soil is of the proper texture, it must contain organic matter. Humus tends to lighten a heavy soil, and permit a freer circulation of air and moisture. It also improves clay soils by increasing their water holding capacity. Under these ideal conditions plant food in the soil undergoes the proper chemical change that makes it available to the grass. Ordinary farm manure is an excellent source of organic matter and will greatly improve all soils if applied at the rate of half ton or one cubic yard to a thousand square feet of surface.

Important food elements are lacking in practically all soils, but fortunately these can be provided by using the proper fertilizer. A complete fertilizer composed of both mineral and organic matter is the most satisfactory type.

After the lawn area is graded and the soil thoroughly worked and pulverised as much as possible, then the lawn area should be rolled lightly in such a way that the surface does not become packed. Make certain that the soil is not lumpy, as if this is the case the seed will drop into crevices and be planted too deep. In most cases 3 to 6 lbs. of seed is sufficient for a thousand square feet. Rake the seed in lightly, roll again lightly, and remember that grass seed should not be buried more than five times its thickness

or twice its length. Mulch the surface of the lawn area with a fine screened mixture of 50% manure and 50% sand. This is to hold the moisture and protect the tiny seedlings which should be kept moist at all times until all the grass seed has germinated.

As to time of sowing seed, I advocate planting, if possible, in the fall. This is the best season as weeds are inactive, having passed their maturity. Perennial weeds are dormant and therefore you have no competition with them. In the fall the soil works more easily, being crumbier, easier to pulverise, and will loosen up better.

Let your grass grow 1½ to 2 inches before cutting. At first cutting just nip off the ends of the blades, then lower your mower gradually until you get required height. Water and mow your grass regularly. Don't let it grow too long. Grass is like all other forms in nature. Its main purpose is to perpetuate its own kind and if allowed to do this it will become ragged and weak and die, because the production of seed will take too much reserve food from the roots.

Brown Patch and Snow Mold are no longer the enemy of grass. In late fall, if properly seen to, 3 ounces of mercury to 1000 square feet of lawn applied in water will offset this, and your lawn will come through the winter in first class shape.

Once a lawn is established there are certain rules it would be best to follow. First thing in the early spring when temperature is around 55 degrees F., it is wise to apply 3 lbs. of Ammonium Sulphate to a thousand square feet. Never apply Ammonium Sulphate when temperature is high. Apply this commercial fertilizer first thing in the morning. If possible put on with water and then water also after it has been applied.

Two weeks after Ammonium Sulphate has been applied follow up with a top dressing of cow manure. This should be screened but if unable to screen, put it on and break it up with a steel door mat. If this is not obtainable, rake well, and get it down to the roots. Later in the season, if your grass goes off a bit, repeat with another top dressing of cow manure. Mention of cow manure has been made for a specific reason. There are very few weeds in cow manure. As you know cows chew their cud, grinding up and killing most weed seeds. It holds moisture well. Horse manure on the other hand is full of weeds and not at all suitable for lawns, unless it is old and has been thoroughly heated.

Do not top dress your lawn with manure in the fall, poison with mercury instead. If you top dress in fall you are only adding fungus which will work under the snow to the detriment of your lawn.

Do not consider that a good lawn can be built up within a short period. You cannot hurry nature. You can assist, but nature must take its course. Turf development is a slow process, but when nature is aided by a programme developed on facts you can get lasting results at smallest cost.

Notes on Creeping Bent

There are two main Bents that find most widespread use. They are the Washington and Metropolitan varieties. There is also a variety used to a considerable extent in the United States called Sea Side Bent which is similar to the Washington type and is generally sown from seed. From personal experience I have found Washington the best for our Manitoba conditions. Both Metropolitan and the Washington cling very close to the ground when grown under turf conditions. The quality of turf produced by these two strains is practically identical. In color the Washington is a bright apple green and the Metropolitan is a light blue green.

One often hears that bent does not require a rich soil. It will grow fairly well on a poor soil, but it throws out more foliage when the land is rich. The only bent to plant is a strain whose blades lie close to the ground. Watch for plants that have short internodes and dense foliage in the nursery rows, as under turf conditions their blades become so crowded together that they must stand upright, and make a dense lush carpet-like turf.

There is a so-called bent seed sold in Manitoba that comes from Prince Edward Island. It is called by the name of Brown Top and is similar to Red Top. It belongs to the same family as bent, but is more susceptible to disease and takes more care and attention than Washington bent or other grasses. It does not make stolons as do other bents.

Methods of Planting Bent

Prepare your lawn area similar to the way you would for ordinary grass. Next procure your stolons from a reliable nursery. These should be cut in lengths of about one inch by running through a chaff cutter. This cutting is not necessary, but cutting stolons covers more ground. Cover your lawn with this. It takes about four bushels of cuttings to cover a thousand square feet. Then top dress very lightly. Roll with about a hundred-

pound roller to get nodes of bent in close contact with the soil. Do not cover bent stolons too heavily. In about two days top dress lightly again. First thing in the morning when soil is fairly dry, roll again. Keep surface continually moist for ten to twelve days when all nodes should be rooted. In six weeks if lawn has been properly attended, it should be in good shape.

It is best to not carry on the planting of stolons when sun is too hot. Make sure also that you purchase one-year old stolons. One should commence cutting just as soon as nodes have taken root. In cutting do not change your length. The best plan is to establish a half-inch length, and leave it there. It is bad policy to let bent grass get too high before cutting. When once established, one should apply in water, in the spring, using five pounds Ammonium Sulphate to a thousand square feet. It is most important to top dress first thing in the spring after grass is growing. Later on in the summer, only 3 lbs. to 1000 square feet. Do not use phosphate fertilizer unless your soil is deficient in this mineral. Phosphate penetrates to the lower soil levels and will only give you numerous deep rooted weeds with which to contend.

Many people have a wrong impression about the care and upkeep of bent. There is no reason whatsoever that bent lawns cannot be obtained for those who prefer them. After they are once established they are no more trouble to look after than an ordinary grass lawn. Certainly they are a little more difficult to establish and more expensive, but after this is met the upkeep and trouble are no more than an ordinary grass lawn and you are assured that weeds will not mar their beauty.

THE MARIGOLD

H. A. LOWDEN

The Marigold provides many varieties that are very useful both in the flower border and for house decoration. The varieties are of a wide range as to height, size and kind of bloom and period of blooming.

In the old land the Calendula is often spoken of as the Scotch Marigold, but here we consider only the varieties of Tagetes as Marigolds. In size the Marigold ranges from the French Pigmy of about four inches in height to the African and tall French Marigold which grows to four feet or more.

In setting out a flower border, all flowers, except those used for edging, can best be displayed by planting them in groups, and the Marigold is excellent when treated in this way. For edging use the French Pigmy or the Tagetes Golden Gem; they are both very dwarf and are also very floriferous; the Golden Gem especially is a great producer of bloom and is covered with small, single, golden yellow flowers from the latter part of June till frozen down in the fall. The dwarf French and the Harmony French Marigolds are not as satisfactory as edging plants, the dwarf French because it has too much foliage and the Harmony because it is of variable height; according to the kind of season, one year it will grow twelve inches and another year it will be sixteen inches, coming above flowers such as Snaps, planted behind the edging.

The Guinea Gold varieties provide perhaps the best show in the garden and are also quite good as cut flowers, the strains having odorless foliage come in this group. In height they range from

twelve inches to two and one-half feet. The flowers are double, of a bright orange gold color and the petals are arranged in a manner similar to those of a carnation. The plant is of a branching form and the blossoms are produced on stems that radiate from the central stalk so that when in full bloom they make a great show; they come into bloom about three weeks later than the dwarf French varieties. The tall African Marigold grows to between three and four feet; the compact ball-shaped heads of bloom, produced well to the top of the plant, make it very valuable for the background of the garden; it, however, is late in blooming, requiring almost four months from seeding to maturity.

There are two strains of Marigolds that deserve special attention for their beauty, one, the hybrid Red and Gold, developed by Burpee & Co., by crossing the French Marigold with the Guinea Gold. The flower produced is a brilliant orange with crimson markings of irregular shapes. It grows about two and one-half feet and bears bloom of fine quality in abundance. The second is the tall French Marigold, very fine as a cut flower; it has wiry stems, is marked with crimson stripes or blotches, and is very desirable; it should be planted well to the back of the border as it grows quite tall.

Marigolds do not require a particularly rich soil, in fact, the striped and blotched kinds produce flowers of better coloring in poor soil or where root pruning is practised.

SHADE TREES IN MANITOBA

DR. H. M. SPEECHLY

When I arrived in Winnipeg in August, 1901, the principal shade tree was the Manitoba Maple (Acer negundo). You can still see some of the patriarchs of the early plantings on the streets east of Main Street from Portage Avenue to Inkster Boulevard. They did good service then, because they are entirely hardy, grow fast, and provide excellent shade, in fact sometimes too much shade as those have found who have allowed them to grow on the limited front of ordinary city residential lots. But the older they grow the more liable are they to such pests as the fall canker-worms which strip them clean of leaves, thus incurring the labour and expense of spraying. Nevertheless they are still largely used in rural Manitoba for planting protective bluffs to the tune of forty percent.

Owing also to hardiness and rapid growth, cotton-woods and Balm of Gilead (Populus balsamifera) had some vogue in the early days, but their style of growth and leaf habit gives them little claim to be grown for shade. True, the Balm of Gilead gives forth a delicious aromatic odour in spring-time, but soon it becomes ugly compared with the Manitoba maple; and cotton-woods are a perfect nuisance when they shed their "wool" at seeding time.

Then the native Ash has never been very popular because it leafs very late in spring and is the first to lose its leaves in the fall, and because it isn't so very shady. I am always a little sorry for Toronto and Simcoe Streets because they were planted with so many Ash trees.

As for oaks, we are too near their northern limits of growth for these to be serviceable as shade trees, however good they may be for fence posts.

So, when George Champion as Superintendent of the Parks Board, tackled the systematic planting of the streets of Winniped in 1907, what shade trees did he choose? No, mountain-ash would not do, though it is a delightful ornamental tree with its white blossoms in the spring and its red berries in the fall, succeeded by the later bronze-shot-with-purple tints of the fading leaves. What about that hardy Tilia Americana, better known as the Basswood, so common along the Assiniboine River with its lovely green heart-shaped leaves, and when grown to a single trunk is not only shady but shapely? It is, too, the only shade tree with deliciously scented flowers which delight our sense of scent along Broadway and its lateral streets around July 10.

Do you know that the father of the great Linnaeus didn't like his name, Ingemarson, and in accordance with a fashion which arose in Sweden at the end of the 17th Century, he chose the family name of Linnaeus, the Latinized form of "Linn," Swedish for the Lime tree, the cousin of our own lime tree, the basswood, because he admired its deep green shade and honey-sweet flowers. The earlier plantings of shade trees, especially on those streets which cross the "Hudson's Bay Reserve," included many of these Canadian Limes which are quite hardy here and not much troubled by insect ravages and are very tolerant of the tattooed rings around the bark made by the yellow-bellied sapsucker. For some reason—was it the inclination of the basswood to throw suckers at its base?—the decision went forth to plant no more basswood.

Undoubtedly the best shade tree for our Winnipeg streets, parks, and larger gardens, despite its tendency occasionally to thrust its roots where it shouldn't, is the Elm (Ulmus Americanus). Have you ever gone forth to a creek or river bed to dig up elm seedlings and discovered that there were none? Rabbits eat seedling elms. You have to grow your own seedlings and protect them until they are seven or eight years old. The Parks Board keeps Elm nurseries. At the end of May heavy showers of seed-like toy-pistol caps strew our streets, most of which are gloriously shaded by well-grown leafy trees running up to thirty feet or more in height. The seeds germinate so rapidly that by the end of June most gardens have crowds of seedlings or shall I say weedlings? It is thus easy to grow good stocks of this hardy tree from seed. The straight well-pruned trunks of our elm trees are the pride of our citizens and somewhat of a surprise to uninformed visitors. The Elm is as hardy as it is beautiful and is only a little susceptible to insect pests. Hence it is the shade tree of choice for this city. For the purpose of shade, plant your trees fifteen to thirty feet apart.

LARKSPURS

Our Annual Blessing

T. O. GRAHAM

"I shall plant larkspurs in a garden
On a hill that climbs so high;
You'll never guess, unless you stop to question
Which blue my larkspurs are, which blue the sky."

No wonder the poets burst into song when they view the modern Larkspur. This gorgeous annual has been greatly improved in recent years with a wealth of new warm colors, taller flowering spikes, and full double florets. The modern types are far removed from the old-fashioned forms that one so well remembers in many a past garden. The new introductions grow in tall pyramidal form, and present in all their graceful elegance, lively and delicate tones of azure, rose, white, violet, lilac, mauve and carnation. So wide in fact is the color range, that it is doubtful if Larkspurs are surpassed in this respect by any other hardy annual, with the exception of Sweet Peas.

Larkspurs are one of the best outdoor sown annuals. Remember, this flower has a large seed, which makes it easy to grow when sown outside, but it prefers a cool soil, and unless sown when weather is cool, germination is liable to become irregular. Seed can be sown outside very early in spring, probably during most seasons close to May 1st, as once Larkspurs come through the ground and are established they will withstand several degrees of frost. To those who do not wish to risk real early planting, seed could be sown in spring when trees begin to leaf and plants could later be thinned where they stand from 8 to 14 inches apart each way in the border. One can even put off planting as late as the end of May, and flowering plants will then be produced toward the first part of August and give a continuous succession of flowers from then until frost time in the fall, a record that is surpassed by very few other annuals. Seed generally takes two weeks to germinate, although it may take as long as four weeks.

Sowing just before freeze-up in the fall is often a success. On many occasions Larkspurs will self-sow in fall and come up in vigorous volunteer growth the following spring.

Often the handsomest spikes are produced by starting the seed inside close to April 1st, later pricking off the plants into larger boxes or cold frames, hardening off the plants, and transplanting them outside when danger from frost is past.

In height at Winnipeg the plants will vary from two to five feet. Well-spaced and interplanted with Gladioli they present a delightful effect; while in groups in mixed borders, and, of course, at the back of the annual border, are ideal. Clumps of separate colors give a most pleasing effect, and it is also striking to have some of the patches with all the colors mixed. In their free graceful habit they are very effective when interspersed in the old-fashioned shrubbery border. To avoid the temptation of cutting the flowers from these positions a batch should always be grown especially for cutting, as a vase of one or mixed colors is indeed charming.

The Larkspur in Winnipeg grows with conspicuous success. Within the city area will be seen the soft-toned, stock-flowered types, as well as the members of the tall graceful Giant Imperial group. Among the newer varieties Super Majestic Rose Pink, Dwarf Stock Flowered Rose Pink, and Stock Flowered Purple, and deep rose Rosamond are distinctly beautiful.

Two bulletins of value to all gardeners "Insects of the Flower Garden and Their Control," and "Insects Affecting Greenhouse Plants," may be secured from the King's Printer, Ottawa, Ontario, for 25 cents each.

Patronize our advertisers and mention "The Winnipeg Flower Garden" when you do.

Let us carry on and maintain our morale. Neat and attractive homes and gardens help a lot.

Good plants, well prepared soil and good care help to make the garden. Nature does the rest.

PLANT AN ORNAMENTAL SHRUB IN 1941

JOHN WALKER

In the small home lot, and particularly for mixing with, and forming a background for flowers, dwarf-growing shrubs are particularly useful. The choice should include, if possible, those which are attractive and colorful during the season, not only in flower, but in fruit, foliage and bark.

It should be remembered that the beauty and usefulness of ornamental shrubs themselves is greatly enhanced if their beauty contributes to the attractiveness of the complete picture of the garden or lay-out. By this is meant that ornamental shrubs, besides adding their individual beauty should perform the needed effects of helping to "blend" the house into the landscape as in foundation planting, and to "show off" the flowers when used amongst or behind them.

Again, where a low hedge is wanted, instead of planting the Siberian Pea Tree or Common Caragana, one or other of the dwarf-growing shrubs listed later in this note should be used. Is there any good reason for using a strong-growing plant like the Common Caragana where there is room for only a low-growing plant, unless to provide exercise to keep it within bounds? A hedge that is not trimmed is likely to be more attractive and in keeping with the remainder of the garden plantings than one that is formally trimmed.

For a hedge, dwarf-growing shrubs should be planted about twelve inches apart in a single row. When planted in groups as in foundation planting, or to provide variety and background for the flower border, the distance between them should be from one and one-half, to two feet. They should be planted from two to three feet from house, fence, hedge or trees on the neighboring lot.

Here is a select list of dwarf-growing shrubs, most of which are available from your nursery. Brief details concerning these shrubs, and other uses besides those already specified are stated. They vary in height from one and one-half to two feet.

First those suitable for a sunny situation:

Dwarf Caragana (Caragana pygmaea)—Foliage green, fine, holds late in fall; blossoms large, rich yellow about May 28 from buds on one-year wood; use for facing (planting in front of) other shrubs, particularly slow-growing shrubs; seldom needs pruning.

Shrubby Cinquefoil (Potentilla fruticosa)—Foliage light gray-green; prune off dead blossoms in spring; blossoms yellow (also white) from June to fall on short spurs on one-year wood and current wood; use for facing taller shrubs.

Siberian Almond (Prunus nana)—Plant spreads by sucker growth; foliage green, holds late in fall; blossoms rich pink, over about May 15 from buds on one-year wood; fruits woolly; use for facing taller shrubs or for group along walk or retaining wall.

Japanese Barberry (Berberis Thunbergii)—Some tip-killing in winter; foliage reddish in fall; blossoms pink about May 24 from buds on one-year wood; reddish berries; uses as for Siberian Almond.

Anthony Waterer Spiraea (S. bumalda)—Foliage reddish-purple, holds well in the fall; blossoms rich pink from June onward from current wood; cut off old flower heads in spring; particularly well suited for flower border.

ROSES—

Grootendorst—Both pink and red blooms.
Dr. Merkeley—Pink, long season of bloom.
Harrison Yellow—Yellow early.
Rosa rubrifolia—Purple foliage, pink blooms.
R. rugosa—Fragrant, semi-double rich pink blooms.

Other to consider are:

Buckwheat Bush (Atrophaxis buxifolia).
Regal Honeysuckle (Lonicera alberti).
Rose Daphne (Daphne cneorum).
Creeping Juniper (Juniperus horizontalis).

The following dwarf-growing shrubs may be expected to succeed well in a shady position:

Dwarf Caragana (Caragana pygmaea).

Ural False Spiraea (S. sorbifolia)—Plant spreads by sucker growth; foliage light green, resembles foliage of Mountain Ash; blossoms cream on panicle on current year wood, late flowering; prune back in spring; use for facing other shrubs.

Hydrangea (H. paniculata)—Foliage does not hold late; bloom cream-white about July 15 on current year wood; tip-killing if conditions dry; prune back in spring.

Snowberry (Symphoricarpus albus) — Foliage gray-green; blooms white in June and onward on spurs on one-year wood and current wood; berries white, hold late in fall.

DERRIS AS AN INSECTICIDE

R. E. CUDMORE

Historical references indicate derris insecticides were used extensively by Chinese gardeners in Singapore several centuries ago. It was, however, not until little more than a decade ago that these unique insecticidal materials began to receive deserved attention on this continent. Derris root which contains the active ingredients poisonous to so many insects is derived from several species of plants native to such tropical countries as Malay, India, South Africa and South and Central America.

Entomologists have been aware of the effectiveness of derris materials for many years but it is only in recent years that adequate supplied of good quality materials have been available at reasonable prices. Bio-chemical research has established reliable means whereby the insecticidal properties of derris materials can be assessed with reasonable accuracy. This important factor now makes possible the production of carefully standardized insecticides such as C-I-L- Derris Agricultural Dust.

One prominent entomologist recently remarked that if he had access to but one insecticide he would choose a derris preparation. The substance of this statement has been repeated many times, and it is a well-substantiated fact that materials containing derris will control a tremendous variety of insect pests. Derris materials are claimed to kill insects by causing a vigorous upset in the respiratory processes. This undoubtedly accounts for the fact that while acting somewhat slower than many other insecticides, derris permits almost no recovery. Another important feature regarding the action of derris on insects is that they may for practical purposes be considered to function both as contact and stomach poisons. Derris dust, unlike some other insecticides derived from plants, retain their killing power for some time after they have been applied to foliage. Some workers also claim that plants dusted with derris preparations are fairly repellent to insects over a considerable period.

It is of notable importance that derris containing insecticides are relatively non-poisonous to humans and warm-blooded animals. This of course means that control measures may be applied to crops such as cabbage and cauliflower anytime, even shortly before they are to be harvested and consumed, without fear of leaving a poisonous residue.

During the past season C-I-L- Derris Agricultural Dust was offered to the horticultural trade in Western Canada and met

with ready acceptance. Being carefully standardized for rotenone content and thoroughly admixed with dusting sulphur and high grade talc C-I-L Derris Agricultural gives a dust in better physical condition; hence the superior covering and killing properties.

Referring back to an earlier paragraph of this article, the following list indicates a few of the more important insect pests C-I-L Derris Agricultural Dust may be expected to control satisfactorily:

Asparagus Beetles, Bean Beetles, Cabbage Flea Beetles, Cabbage Looper, Imported Cabbage Worms, Pea Aphids, Colorado Potato Beetles, Blister Beetle, Potato Flea Beetle, Web Worms, Turnip Aphid, Gooseberry Fruit Worm, Imported Currant Worm, American Raspberry Beetle.

In addition to the insects listed above, C-I-L Derris Agricultural Dust will be found effective for many other horticultural purposes such as:

To Control Ants—C-I-L Derris Dust will control certain species of ants. Nests and runways should be thoroughly dusted. Where ants infest lawns, the turf could also be dusted. This has been found most effective.

Flowers and Ornamentals—Dusting with C-I-L Derris Agricultural Dust will be found a convenient and effective method of dealing with a variety of pests attacking annual and perrenial flowering plants and ornamental shrubs. Included in this list are many such pests as aphids, slugs, various plant bugs, thrips, leaf-eating caterpillars and many types of beetles.

WINTER FLOWERING BULBS

F. W. BRODRICK

Interest in the culture indoors of those plants which develop from bulbs has been on the increase in recent years. They flower freely, are fresh and attractive and bloom at a season of the year when bloom of any sort is much appreciated. The bulbs which are most extensively grown would include the various types of tulips, Dutch and Roman hyacinths, paper white and Poets narcissi, single and double daffodils, freesia, snowdrops and squills.

The bulbs have been grown commercially in Holland and during recent years to a limited extent in England and United States. Small quantities of tulips are being grown in British Columbia. As the Holland trade has been cut off due to the war, greater quantities will no doubt be grown both in England and America. Bulbs are graded for shipment according to size into classes of first and second quality. The first grade bulbs produce larger and better bloom and have been much preferred by growers. Shipment of bulbs is usually made in early October as this is the season when they are planted or potted.

An important consideration in the culture of bulbs indoors is the preparation of the soil. A mixture consisting of loom (three parts), humus (one part), sand (one part) makes a good combination for potting purposes. The material is screened and thoroughly mixed. This mixture is open, friable, and retentive of moisture and produces a good growth.

Flower pots of various sizes may be used. For large bulbs like the Dutch hyacinths one bulb may be placed in a five-inch pot. Where several bulbs are grown together as with tulips, narcissus, daffodils, or freesias, an eight-inch shallow flower pot or fern pan may be used. With small bulbs like snowdrops and squills good results are obtained by growing them in small fern pans. Daffodils which are frequently forced are grown for this purpose in shallow boxes on flats.

The method of potting bulbs is quite simple. Some cinders or broken pots are put first in the bottom of the flower pot to act as drainage material. Enough soil should be put in the bottom to bring the top of the bulb above the surface of the soil when potted, the bulb is placed in position and soil added around the outside of the bulb. This is thoroughly compacted as the filling is being done. Space for the addition of water should be left between the top of the soil and the top of the flower pot.

After potting, the soil around the bulbs is thoroughly moistened, after which the potted bulbs are placed in a cool position in a darkened room or cellar. A temperature around about 40 degrees is suitable to stimulate the rooting which takes place. The bulbs are kept under these conditions from six to eight weeks. During this period roots are formed while but little top growth develops. After rooting, bulbs are first brought into subdued light and later into full sunlight. This treatment will give the developing plant an opportunity of becoming adjusted to the changed light conditions from the darkened cellar to the well-lighted open window.

Winter flowering bulbs might be regarded as cool house plants. They thrive best in well-lighted windows where the surrounding temperature will range from 65 to 72 degrees F. Moderate moisture should be supplied during the period of active growth and while bloom is being produced.

After bloom is finished, most winter-flowering bulbs, with the exception of tulips and freesia, are discarded. Tulip bulbs may be ripened off and planted out of doors in spring for bloom a second year. The freesia corms are ripened off and stored dry to be planted another year.

It is rather difficult to recommend a list of bulbs that will be suitable for all plant lovers. Beginners could very well confine their efforts to the cottage tulips, selecting varieties with shades of color that will blend when potted up for table centres. The paper white narcisses are popular and the Dutch hyacinths are delicately perfumed and make suitable table decorations. Daffodils are easily grown and may be used for centres and, if forced, are well suited for cutting. Seed stores usually stock a good range of varieties of bulbs and the intending grower may select the types and shades desired. Bulb prices have been very moderate and a plant lover may develop an attractive collection of winter-flowering plants for very little expenditure of time and money.

POSSIBILITIES FOR FRUIT GROWING IN THE CENTRAL NORTHWEST

F. V. HUTTON

The information given was gathered from experiments and personal observations at the Rosthern Experimental Station, surrounding territory, and areas of similar climatic conditions in Manitoba and Alberta. The general title—Central Northwest—seemed most appropriate, as the area referred to is mostly Central Saskatchewan. Fruits which succeed as far north as Central Saskatchewan should succeed at Winnipeg.

In starting this paper I would like first to answer a question which is commonly asked, namely: Why grow fruits when the Eastern Provinces and British Columbia can do the job much better? There are four good and obvious reasons why, and possibly others more obscure.

FIRST—Personal interest. The urge which drove the late Mr. Stevenson and Mr. Chipman, and is still inspiring Dr. Seager Wheeler and others, to try all the fruits they could, was not for the money they expected to make from the venture. It was personal interest and an endeavor to overcome the handicaps of a severe climate. Hundreds of others have made, and are making the same effort, and their findings are of untold value to fruit breeders at the Government institutions.

SECOND—The vitamin content of fresh material is higher than from imported fruits or vegetables of the same kind.

THIRD—Tree ripened flavor is superior to green picked in most fruits. People in the fruit growing areas of British Columbia pick their fruit ripe from the trees for their own canning, even though they may be strong in their recommendations of B.C. fruit over that grown elsewhere for the prairie dweller.

My FOURTH and last point is that many people do not have fresh fruits, at least not in sufficient quantity where they have to be purchased, while with hardy varieties and suitable conditions fruits can be grown in their own yards at little cost other than labor.

The next obvious question is, of course: Can we grow fruits? I will endeavor to answer this by giving evidence that we can. The early settlers around Prince Albert, Duck Lake and Carlton, who were trappers and fur traders, settled there about the year 1800. They had no prospects of raising fruits such as they were

accustomed to in Eastern Canada or Europe. They would have laughed at such a suggestion and, in fact, had grave doubts as to the value of the country for general farming. Winters were long, frosts struck late in the spring, summers were dry, and fall frosts arrived early. Annual crops which would mature between frosts could be grown, but most perennial plants and particularly apples and plums could never survive. To some extent these doubts were well founded as most apples and plums then for sale could not survive under favorable conditions at Morden. This was borne out in early testing by the late Mr. Stevenson, who did not find hardy varieties of apples until late in eighteen hundred. The early settlers had only to look about them, however, to see ample possibilities for fruit growing and improvement at any point in the park area, where trees grew voluntarily if fires were excluded. Strawberries grew abundantly in the open places in the timbered areas and around the sloughs on the prairies. Saskatoons, cherries, raspberries, gooseberries, currants, high-bush cranberries, and others, grew in most bluffs and in the solid timber. Blueberries were plentiful in the pine forests or where soil was somewhat acid. All these fruits were so abundant in season that they were taken as a matter of course and made up considerable of the diet as fresh fruit, and dried and in pemmican at other times. While none of the native fruits of that area have been improved to the extent that they are valuable as cultivated forms, they did pave the way for other fruits. The optimistic, horticulturally inclined men reasoned that where wild fruits would grow in abundance, fruits introduced from other countries of similar climate should do equally well. The more observant may have noticed that even the hardy native fruits did best where well sheltered by trees or other natural conditions, particularly on the North and West. Some may also have observed that the best trees were on the North or East slopes, and those favored by a good supply of moisture. Observations in recent years bear out the preceding points and our recommendations on fruit production are based on many of these observations. The following points are most strongly advised for the consideration of prospective fruit growers:

(1) Choose land with an East or North slope, if possible, and if above a large body of water you are particularly favored. Unless precautions are taken to retain water run-off around trees, they are better on level ground.

(2) Supply or locate a substantial windbreak to the North and West. A single row of trees or a hedge will suffice on the South and East. Do not plant fruit trees too close to shelterbelt.

(3) Plant on well prepared land. Space trees well. Lean trees to South and West and leave strong branch on that side.

(4) Clean cultivation is advised to conserve moisture and it aids in reducing mouse damage.

(5) Low habit of growth is advised as trunks are protected against sunscald; fruit is exposed less to wind and is more easily picked.

(6) Fence to exclude rabbits and it may be necessary to poison mice. (12-lb. lump resin in 1 gallon cheap methyl alcohol —1 1/3 gallons did 900 young trees.)

(7) Only hardy suitable varieties adapted to the district should be grown. Recommended lists are revised each year by Experimental Stations and it pays the grower to keep up to date.

(8) In the drier areas, particularly in dry seasons, watering is very desirable.

The Scott Station has been conducting an interesting experiment, watering fruit trees from a dugout, which is worthy of attention where seasons are likely to be dry and water can be made available. After two summers' growth there was a marked difference in size and thrift of trees. Conserve snow water and heavy rains by planting on level land, or making dams on low side of each tree.

What is the prospect for the future in fruit growing? Fruit growing in the area I am speaking of should be confined to the needs of the grower, or his immediate neighbors, and with this in mind there is a very good list of hardy crab apples, a few apples, good hardy plums, plum hybrids and cherries, to choose from. The following is the last recommended list made up for the district, and includes small fruits which have not been discussed so far in this paper.

Tree Fruits

APPLES—Heyer No. 12.
CRAB APPLES—Anaros, Rescue, Osman, Adam, Calros.
PLUMS—Bounty, McRobert, Mina, C.K.C.
PLUM HYBRIDS—Opata, Sapa, Oka, Ruby, Champa, Tom Thumb.
SANDCHERRIES—Manmoor, Brooks, Sioux.

Small Fruits

RASPBERRIES—Hardy—Sunbeam, Ohta.
Tender—Herbert, Viking, Chief.
STRAWBERRIES—Senator Dunlap. Gem—Everbearer.
CURRANTS—Black—Saunders, Magnus, King.
Red—Stephens No. 9, Cap Rouge.
White—White Grape.
GOOSEBERRIES—Abundance, Pixwell, Oregon Champion.
GRAPES—Beta.

At the present time there are many thousands of young seedling fruit trees being grown and, when these commence fruiting, it is likely that changes will be made in the fruit lists. The addition of more large apples, pears, apricots, and better quality crab apples and plums, is quite possible soon. In small fruits, varieties resistant to cold, drought, insects and disease are needed in some fields, while better fruiting habits are required in others.

The promise for the future should be brighter as there are now one hundred growers, where at the turn of the century there would be one; and there are now hundreds of thousands of seedlings being grown where earlier there were thousands.

PRAYER FOR A GARDEN

(Daniel Whitehead Hickey)

O God, be gentle to this garden spot.
Here have I rested on a Summer day,
Drinking the wine of this forget-me-not,
Breaking the bread that full-blown roses lay
Before my hungry eyes, filling my ear
With bells of tulips ringing bright and clear.
Here have I slept when night came to each flower,
Wrapped in these shadows, pillowed at my head
With velvet pansies through the dark's blue hour;
Here have I dreamed, and I was comforted.
O kindly Father, write upon Your scroll:
This is a petaled tavern for the soul.

—From the Golden Books.

WATER GARDENS—OLD AND NEW

ERIC SOCHTING

Water gardening is the oldest type of gardening in the world. We can go back to 3000 B.C. and find them in Egypt, Persia, Greece, and last, but not least, in the old gardens of China. In these old gardens, art, architecture, and color scheme are there to an amazing degree of perfection. They are perhaps more suitable to the gardens of Manitoba than many people think.

Many of the old Chinese gardens were only 50 feet by 50 feet, the main feature being the water basin in the centre of the garden. Few trees or shrubs were planted, however, cherry and plum trees, and of course chrysanthemums, were nearly always present. Every garden contained several magnificent vases in blue, pink or yellow, depending on the color of the lotuses which bloomed in the water. These, together with goldfish, made a perfect outdoor living room.

Could any amateur, or professional gardener for that matter, wish for anything better to work with than this type of garden? For here art, skill, and love of nature can have free run.

The writer firmly believes that water gardening has a very great future in Manitoba. At first it may perhaps look obscure, but let us analyze the subject.

(1) If properly contructed, the pool can withstand the hardest frost without cracking. (2) The water lilies, particularly those which we call hardy, are easily wintered here. Just lift the boxes out in the fall and place them in the coolest spot in your cellar. Water once a week and set them out in your pool in May. When first put out a little frost will not hurt them and then think—no weeding! No hoeing! Just enjoyment!

You must choose the right location, because water lilies must have sun, and plenty of it. Pools are divided into two distinct types, the formal and the informal. Each type has its own style of beauty, and each has its place in the garden. Do not forget that the pool, no matter what kind, should be of proportionate size and show its relation to the area in which it is to be placed.

The formal pool can be round, oval, square, or rectangular, depending on the shape of the garden.

In, or with the formal pool, you can have a fountain, but if you wish to have water lilies, you would be advised to have some kind of a statue at the end of the pool, and if you can, a little pump so that the water from the pool is used in the fountain.

In that way the water will not be cold and no harm is done to your lilies.

In dealing with the formal pool, planting around the sides should be avoided as it is absolutely out of place.

With a square or rectangular pool you can plant at the corners, using cedars, junipers, pines, boxwood, Prunus triloba, or roses. Another method is to have two or four big vases at the corners.

The pool, formal or informal, should not be less than two feet in depth.

Before leaving the formal pool, there is one thing that should be stressed, and that is the material for the edge of the pool. If you have a walk or pavement towards the pool, always use the same material for the edge. For example, if you use red brick for pavement you must also use red brick for the edge of the pool. In this way you will have a better and more pleasing effect. It will also look much more restful.

Now we come to the informal pool. Here you can be more at ease as there are no rules for form or size. There is only one thing to be pointed out very strongly before beginning to build. Go out into nature and use your eyes. It is not the shape of the pool that counts, but the natural setting, or in other words, the background counts more here than anything else.

You may find a place in a corner of your garden partially enclosed by informal or natural planting. It may be incorporated in the wild garden or used in connection with, or as part of the rock garden. It may also be used as a small winding stream.

Around the informal pool lower growing plants may be planted, such as Caltha palustris, Myosotis, primrose, Trollius, Violas and Iris. These are all very hardy. In the pool one can plant arrowhead, parrot-feather, water poppies, lotuses, and the most important pool plant of all, the water lily.

Water lilies are divided into three different types, the hardy, the tropical day blooming and the tropical night blooming. There is such a wide variety of color and form to be had in the lilies that personal taste would probably govern the choice. A few of the better varieties are:

White—Gladstone and Marliacea carnea.
Pink—Formosa, Pink Opal and Neptune.
Yellow—Sunrise, Marliacea chromatella.
Red—Gloriosa, Escarboucle.
Night Blooming—Devonshire (red), Frank Trelease (crimson), Juno (white).

Day Blooming—August Koch (violet), Panama Pacific (purple).

When planting the lilies, perhaps the best way is to have a box for each, approximately eighteen by eighteen by twelve inches deep. All water lilies like a rich soil. Use any good soil well mixed with about one-fifth well rotted cow manure and one pound of bone meal to a box. New fertilizer should be given the lilies each year and new soil every second or third year. Be careful not to plant too many lilies in your pool; four to five feet in each direction is good spacing.

Next in importance is the Water Lotus or the Sacred Lotus of the ancient Egyptians. This is a fascinating plant with handsome shield-like leaves and gorgeous flowers that are borne on long stems high above the water. There are white and pink varieties.

One more addition is necessary to the pool, whether it be formal or informal. It must have goldfish, snails, and scavengers to keep the water clear and free from mosquitoes and insect pests. In addition to the service they render, they add life and beauty to the pool.

Suitable protection against late spring or early autumn frosts lengthens the period when the garden may be enjoyed.

Select the plants that are suited to our soil and climate. In choosing, your neighbor may be able to help, or the seedsmen can tell you.

Grow some of the classes of flowers that are suited for cutting. In this way the pleasure of the garden may be extended to those who may not be privileged to enjoy the garden itself.

Buy "Grown in Manitoba" plants, trees and shrubs. Our climate demands hardy materials.

Much can be done to add to the garden's beauty by carefully combining flower colors. Good combinations are: orange and scarlet; pink and light blue; deep blue and yellow, or light pink and pale yellow.

ZINNIAS IN THE FLOWER GARDEN

JOHN WALKER

There are many reasons why Zinnias deserve a place in the flower garden. In addition to the more robust, rather coarse-growing, large-flowering, well-known types, there are many delicate, interesting, refined and graceful forms. The range of flower color and unusual color combinations have also increased during the past decade or so, thereby adding to the value of this flower.

Besides these specific ornamental values, Zinnias are easily grown; they are free-flowering, and continue to blossom throughout the season; they withstand drought reasonably well, and, as may be recalled, are popular and suitable exhibition flowers. Despite a degree of stiffness and coarseness in larger Zinnias, smaller sorts provide a splendid variety of cut blooms for vases and bouquets. As a cut flower the Zinnia has lasting qualities.

As already stated, Zinnias are easily grown. The more robust forms may be sown outdoors where they are wanted to bloom. Sowing should be withheld until around May 15, when the soil will have warmed up sufficiently to bring about rapid germination. The soil should be well prepared, and thin sowing should be practised, because the plants should be from four to twelve inches apart (small and large types respectively) for best results. The same distances between plants apply to those started indoors early and planted in the garden later.

Generally speaking, a position in full sun is desirable. The soil for Zinnias should be reasonably rich, and contain a generous amount of decayed organic matter. The high-line soils of Manitoba are suitable for Zinnias. Zinnias are also more or less spreading in habit of growth, and, in the garden, blend well with other flowers. Because of this habit of growth they are desirable for mass effect in borders or beds.

Plants may also be started indoors; this method may be most desirable if only a few plants are needed. Plants quite large enough for setting in the garden about the end of May can be secured if seeds are sown as late as April 15.

As growth proceeds the plants may be induced to branch by disbudding or removing the first bud; this particularly applies to the stronger growing types. It is needless to point out that the taller-growing sorts should be placed towards the back of the border, with the dwarf types placed towards the front of the border.

Zinnia Types

No matter what type is planted there is likely to be some variation in the form, doubleness, and color of the flowers produced. Likewise in plant type and height there may not be the same degree of uniformity as is found in strains of some other flowers. Some strains will vary more than others, and the larger-flowered types may vary more than the smaller-flowered types.

This variation is explained by the fact that, in order to have seeds developed on a fully double head, there must be cross-pollination; that is, the best types for garden beautification are fully double, but the florets of such flower heads do not produce any pollen (or very little), and, because the pollen must come from another head or plant, the same degree of uniformity as results from self-pollination, cannot be secured.

California Giants, Dahlia-flowered and **Large-flowered** types usually reach a height of two to three feet; average size of bloom is from four to five inches; semi-doubles may be about as plentiful as fully double blooms. California Giants are considered the best of this group. There are named varieties and good mixtures.

Fantasy and **Picotee** types usually produce a high percentage of double blooms; the plants average about eighteen to twenty inches in height, and the blooms from three to three and one-half inches. The Picotee types are not always stable in color markings.

Lilliput and **Pumila** types average around eighteen inches in plant height; bloom size is from one and three-quarters to two inches, those of the latter type being slightly the larger. Blooms of these types are usually very deep when fully developed, and are ideal cut blooms, or for exhibition as small Zinnias.

Scabious-flowered Zinnias (flower head of tubular florets chiefly) will be double very largely, up to two and three-quarters inches. Plants grow to a height of about two feet. Another interesting type is the **Crested Zinnia,** in which the doubles will not be high.

Tom Thumb Zinnias are likely to be very variable in plant and bloom size as was seen in some Winnipeg gardens in 1940. They are dwarf in habit of growth, and the blooms an average size of one to one and three-quarters inches.

Zinnia Haageana is a most useful border plant growing to a height of twelve or fourteen inches. There is a wide range of color including bicolors (purple or bronze and yellow). The percentage of double in Z. haageana will be high. The blossoms are about

the size indicated for Tom Thunbs, and, when in full bloom, a few plants of this species make a grand show.

Finally it should be observed that Zinnias are comparatively free from insect pests and diseases. If heavy watering is practised blight may cause losses. At the University of Manitoba Gold Finches have played havoc with flower heads containing mature seeds and left unprotected. These birds seem to be very fond of Zinnia seeds!

Give the plants the light or shade they need. You will be rewarded for the extra care given.

Treat the plants carefully when you transplant. Plants have only one means of getting the necessary plant food and moisture, that is through the roots. Disturb the roots as little as possible in transplanting and thoroughly compact the soil about them.

A little judicious pinching, done early, induces side branching and often adds to the beauty of the plant.

Do not overwater your garden; cultivate instead. The push or Dutch hoe is useful for garden cultivation.

A FEW VEGETABLES FOR THE SAKE OF HEALTH

T. O. GRAHAM

City dwellers no longer sow vegetable seed to any extent. A good lawn, a few flowers, some attractive trees and shrubs, and the urban dweller sits content—and rightly so—as there is no need for him to worry over vegetables when he can purchase them during the summer more cheaply than they can be grown. This condition also may long exist, as cities as large as Winnipeg are surrounded by hundreds of skilled market gardeners, and during the growing season under normal conditions the rural area surrounding Winnipeg will produce far more vegetables than the city itself can consume.

The Winnipeg dweller, however, can well afford to grow a few vegetables for the sake of his good health. If he is an office worker the exercise provided by growing a garden is needed, and if he is in a more active type of employment a constant supply of fresh vegetables consumed right from his home garden will give him during the growing season plenty of chemicals and vitamins, and build him up to face the winter in good physical condition.

In approaching the problem of gardening for health, use plenty of commercial fertilizer, especially ammonium phosphate. Do not listen to parties who inform you that your soil is rich enough. You only have a small garden. It will take just a few cents to load it with chemicals. Even if you believe there is sufficient of certain chemicals in your soil, for the sake of small expense, why take a chance? As was mentioned before, give your small vegetable plot a heavy application of commercial fertilizer, especially ammonium phosphate, which is generally sold in Winnipeg from two main sources, namely Canadian Industries (C.I.L. ammonium phosphate) and Consolidated Smelters (Elephant Brand ammonium phosphate). These two firms have many other health giving chemicals in their ammonium phosphate fertilizer, as aside from nitrogen and phosphate, they also contain in most cases calcium, sulphur, magnesium, iron and traces of boron and copper. At little cost one could also scatter in the soil of the small vegetable plot other chemicals of value such as iodine, and potassium permanganate.

On the surface of the vegetable area one should not forget to dig in a quantity of peat soil. Many a vacant city lot in spring sells rich types of peat. It is a most valuable fertilizer.

In building up your garden from the standpoint of health add chemicals and peat each season. Our soils have a "buffer" that resists the breaking down of the chemicals contained in commercial fertilizer and makes it difficult for these chemicals to become quickly available for plant growth. To break down this "buffer" it is best each season to systematically apply a quantity of chemicals and peat. If this is done the ground devoted to vegetables will eventually become a veritable treasure house of available chemicals. In sowing his garden the city dweller might find it best to confine himself to the real vitalizers such as carrots, spinach, leaf lettuce, asparagus, rhubarb and beets, and leave the other and more difficult sorts such as cabbage, cauliflower, celery, head lettuce, and tomatoes to the market gardener, as the professional gardener can start this later class in a greenhouse early in the spring and handle them to best advantage. To those unitiated in the growing of vegetables a few hints are given below:

Asparagus—(One packet of seed sows 100 feet of row.)

After winter disappears one of the first vegetables to come on the table is asparagus and for this reason it is most beneficial to health. Soak the seed 24 hours before planting. Sow in rows about 18 inches apart, and 15 to 20 seeds to the foot. Cover two inches deep. Thin the young plants to about one inch apart. Set plants 2 feet by 2 feet in permanent beds the following spring.

Rhubarb—(Purchase roots.)

This is the grand old spring corrective that when we were kids supplemented sulphur and molasses as a juvenile conditioner. You can't kill rhubarb. Just stick the roots in the ground 3 by 3 feet apart and they will soon give you surprising quantities of concentrated tonic.

Pole Beans—(One packet of seed sows 20 feet of row.)

In the city garden, bush beans are often destroyed by bacterial blight. It is best to grow Pole bean varieties, as these are a sturdy group. Pole beans can be trellised up the side of the garage or garden fence. Oregon Giant is the choicest and meatiest type.

Beets—(One packet sows 25 feet of row.)

Plant beets close to May 15th. Make rows about an inch deep and 18 inches apart. Sow seed about an inch apart in the row. Cover with soil, and press it down firmly. As soon as the tops are about three inches tall, pull out some of them and cook them for greens. Keep thinning and using the young plants until the beet roots stand 6 inches apart in the row. Detroit Dark Red is the most staisfactory variety.

Carrots—(One packet sows 100 feet of row.)

The necessity of eating raw carrots is well known to all. They are easy to grow. Seed is sown the middle of May and the rows are made the same way as for beets. Sow the seed thinly, letting it drop a little at a time from the corner of the packet. Cover seed with about half an inch of soil and press it down firmly. The varieties Amsterdam Forcing, Nantes, and Touchon are a sweet treat.

Peppers—(Purchase plants at North End Market.)

Here is vitamin in its most concentrated form. This is one vegetable you should have in your garden. When you purchase plants from a market gardener he will gladly give you full instructions as to planting.

Sweet Corn—(One packet will sow 20 feet of row.)

To obtain delicious fresh sweet corn you almost have to grow it right in your own garden. Buy seed of the old fashioned 8-row Golden Bantam.

Leaf Lettuce—(One packet will sow 50 feet of row.)

Leaf Lettuce is one of the few vegetables that will grow in shade. Sow lettuce seed as soon as ground can be worked. Make rows the same as for carrots and beets.

Peas—(One packet will sow 25 feet of row.)

Peas are not injured by light frosts and may be planted as early in spring as soil will permit. All varieties more than two feet tall do best if staked up or otherwise supported when four to six inches tall. Use sharpened branches of trees set between the double rows.

Spinach—(One packet will sow 25 feet of row.)

Plant seed as early as lettuce. Make rows about 18 inches apart. Sow seed thinly and cover with about an inch of soil. Press down firmly. When plants are about three inches tall, thin them so that they are about five inches apart in the row.

Other Types—

Aside from the few varieties mentioned, many other interesting types could be grown, including endive, okra, mustard, parsley, vegetable soybeans, parsnips, turnips, potatoes, Swiss chard, caraway, dill, sage, summer savory, and especially the delicious black Zuccini summer squash. If one is uncertain as to the proper method of preparing any of the above vegetables fro the table, valuable information can be obtained by phoning the cooking experts working on the staff of either the Free Press or Tribune.

Conclusions—

Do not feel that this outline is too involved. Remember, a small plot 15 x 30 feet will produce fresh, health-giving vegetables for a family of four. Plan this spring to have a small plot in vegetables. Top dress and dig in a quantity of peat soil and rich chemicals, water, and one week later commence sowing varieties you most require. Do this each year and you will soon have the ideal type of medicine chest right in your own backyard.

Everything, whatsoever, of beauty is seen at its best by virtue of contrasting surroundings. A precious gem is seen to perfection only it its setting.

Tearing up a native plant by its roots to gain a bloom is wanton destruction and means only one thing—the passing of beautiful flowers from the Canadian landscape.

HERBACEOUS PERENNIALS

C. RAY URE

Previous issues of "The Winnipeg Flower Garden" have discussed the general plan and planting of the herbaceous perennial border, the characteristics and habits of many common sorts, and made mention of others worth trying. It has been wisely said that perennials have formed the backbone of old fashioned flower gardens for centuries. Hollyhocks, Iris, Larkspur, Peonies and Lilies are a few of the old favorites. These still command our admiration, respect and attention, and are worthy of a prominent place in any planting. However, there are many other distinctive types, both old and new, which should be given a trial. Space will permit the mention of only a few.

The Daylilies (Hemerocallis) have been aptly called "the flower everyone can grow." Though far from new, they are definitely among the important perennials of our time. The yellow to orange, lily-like flowers stay resplendent for one day only, but are replaced the next morning by a fresh lot of bloom, hence the name. A great feature is the long period of bloom. More than this, the many species along with the development of scores of new varieties makes it possible to have continuous flowering from late June into September. This useful perennial is perfectly hardy, easily grown, and adaptable to a wide range of conditions, but flourishes best in a moist, rich soil in partial shade to full sun. The long strap-like leaves which grow in clumps provide quite a pleasing foliage effect.

The Lemon Daylily (H. flava) grows 3½ to 4 feet high, and is one of the good garden species which begins to bloom in late June. The Tawny Daylily (H. fulva) and a double form, Kwanso, are worth a trial. The orange-colored blossoms are borne on 4-foot stems in July and August. A reddish bloomed variety (H. fulva rosea) is a welcomed addition, as is the Citron Daylily (H. Citrina), a 3 to 4-foot form which blooms later in the season—August and September. Apricot, Margaret Perry, Sovereign, Golden Dream and Dr. Regal are a few of the tried varieties.

Perennial Babysbreath (Gypsophila) need hardly be mentioned. It always adds a light, care-free, airy touch to the garden. The double flowered forms (Gypsophila paniculata flore plena), especially the variety Bristol Fairy, are prize additions to any border. The flowers are not bold but of a retiring nature, so that greater contrast is secured when placed beside those with more

stimulating color and stronger foliage. Any good garden soil with full sunlight provides amiable conditions for growth.

Globeflower (Trollius) is a most interesting subject when well grown. The beautiful, bright yellow to orange globelike flowers borne on long stems in May are really appreciated at that time. Success with this plant is only assured when proper soil and moisture conditions can be given. In fact, it is more urgent in its demands than some of its close relatives, the buttercup species. They may be grown satisfactorily in ordinary garden soil if it is rich, cool and quite moist all summer. Apparently no soil can become too wet for this fellow. They are quite hardy in these surroundings, while on the other hand, dryness means sure death. Partial shade improves the quality of bloom.

Liatrus, commonly known as Gayfeather or Blazing Star, is a very useful border plant which is receiving more attention. It is characterized by long, bold, wand-like spikes of rosy purple and purple flowers in July and August. The 3-foot spikes of brilliant color adds a touch of cheerful gaity to their surroundings. Many slender, light green, grass-like leaves spotted over the stems makes the foliage quite pleasing. The Spike Gayfeather (Liatrus spicata) is worth trying. They seem to flourish equally well in sunshine or partial shade, and as for soil, a good rich loam is best but they are not critical of soil type. The flower possesses a unique habit of opening from the top of the spike downwards.

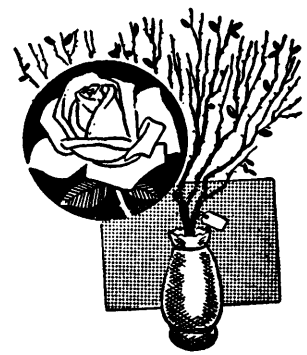
Loosestrife (Lythrum) is a good thing for the extensive planting. It will fill a place as a background plant in the narrow border. While shrubby in appearance, and often associated with shrubs, it dies back to the ground, perennial-like, each fall. In the spring a great many vigorous new shoots, covered with willowy leaves, develop to form a compact bush. Beginning in early July bold flower spikes form from the tips of the branches and this is the signal for a profusion of bloom which will last into August. It is right at home in a deep, rich, moist soil and partial shade. Good drainage is necessary. Few plants are more floriferous or pleasing, either in masses or as clumps against a shrubbery background. The Purple Loosestrife (L. salicaria) is the common form and grows 4 to 5 feet. A much better and more attractive form is the variety known as "Morden Pink," a selection made at the Mordern Experimental Station.

The Sneezewort and Yarrows or Milfoils, (Achillea ptarmica) and (Achillea Millefolium) respectively, should be considered. These plants are suited to sandy as well as the heavier soil types, stand up well under dry conditions, but prefer fair moisture, and are generally hardy. Place them in a sunny spot. A great

feature of the Yarrow is their long blooming period which lasts from early June into September. Red, white and purple flowered forms are available but the red and purple are most popular. Both the Yarrow and Sneezewort grow to a height of 1½ to 2½ feet. Pearly white clusters of small double flowers terminate the ends of each branch of the Sneezewort to give a mass effect of pearl white bloom. It appears in July and August. A disagreeable trait is the tendency to become somewhat straggly in appearance after blooming. The spreading habit of the plants requires a little attention occasionally to keep it within bounds.

The Stonecrops (Sedums), Veronicas (Veronica), Monkshood (Aconitum), Pinks (Dianthus), Gaillardia (Gaillardia), and Columbine (Aquilegia), are a few others which seem worthy of mention.

Many people object to the feature that some perennial flowers have a short blooming season, after which they may die back and leave a bare unsightly blank in the bed. While this is true to some extent with certain types, there are many kinds with attractive foliage which may be used. Then too, there are sufficient species to select from that one can have continuous bloom from early spring until freeze-up. They offer, also, considerably more range in height, mass, and size of bloom. The fact that many perennials bloom for a short period may not be as objectionable as it might first appear. If the lovely peony, distinctive iris, or stately hollyhock were to remain in bloom all season we would soon tire of them and they would become commonplace. It seems better that each flower should awe the onlooker for a time and then give way for others to follow.



THE ROSE BY THE WAYSIDE

D. A. DROWN

A little rose bloomed in the way
In which I roamed one sunny day;
It looked so fair,
I wondered why alone it grew,
And why so long concealed from view
While nestling there.

Its blushing petals, wide outspread,
A richer perfume quickly shed,
Dripping with dew,
Which seemed in whispered tones to say,
As soon I put the thorns away,
"I bloomed for you.

"The sunshine kissed my lips at morn,
Soon as I peeped to hail the dawn,
With blushes red;
I was content through day to day;
No roaming footsteps passed this way
By beauty led."

I claimed the treasure, pure and fair,
As all mine own; with special care
I kept it long;
I said sweet sayings o'er and o'er;
But one bright morn it spoke no more;
Its leaves were gone.

Thus in the varied paths of life,
Amid its cares, its toils, its strife,
We often roam;
Then some sweet memories charm us here,
Some holy thoughts dispel all fear,
And guide us home.

And when earth's charms, like withered flowers,
Amid affliction's darkest hours
No longer cheer,
A holy peace, a quiet joy,
Which unbelief can ne'er destroy,
Brings Heaven near.

—From Favourite Poems.