THE WINNIPEG FLOWER GARDEN

PRESENTED BY

The Winnipeg Horticultural Society

1938

THE WINNIPEG HORTICULTURAL SOCIETY

ESTABLISHED 1930

President

Dr. W. J. Riley, 502 Medical Arts Bldg.

Vice-President

J. A. McPhail, P.O. Box 2915

Secretary

W. A. Cumming, 722 Dominion Public Bldg.

Directors

Prof. John Walker	850 McMillan Avenue.
Prof. F. W. Brodrick	31 Furby Street.
R. W. Brown	675 Valour Road.
Dr. Percy G. Bell	285 Montrose Street.
J. E. Blakeman	152 Sherburn Street.
F. C. Cave	Fort Garry Drive.
Dr. Bruce Chown	593 Wardlaw Avenue.
P. H. Hammond	1202 Wolseley Avenue.
J. T. Hodges	166 Glenwood Crescent.
R. R. Nichol	1204 Wolseley Avenue.
W. J. Shepherd	95 Hillcrest Avenue.
Dr. H. M. Speechly	232 Home Street.
Harris McFayden	180 West Gate.
T. O. Graham	McFayden Seed Company.

A PERSONAL FOREWORD BY THE EDITORS

This is the second annual booklet issued by the Winnipeg Horticultural Society. A list of the articles that made up last years' booklet appears at the end of this one. If you have not a copy you may read one at any branch of the City Libraries, the University Library or the Provincial Library.

It is the desire of the Society to increase the growing of flowers, shrubs, fruits and vegetables in and around Winnipeg. Through the medium of our annual booklets we aim to make available gardening knowledge gained in and applicable to our local conditions. To do this we need your help. We would like you to share your special knowledge with your fellow horticulturalists. If you have a prize garden, or have been a prize winner with flowers or fruits or vegetables, or have been particularly successful in growing some unusual plants, or have made a study of some plant or family of plants, will you not set down your experiences for us? Have you perhaps transplanted some of our wild flowers to your garden and made them happy there. Will you not share that knowledge with us? Tell us how you transplanted them, the soil and sun and moisture that they liked. Are you, perhaps, an amateur hybridist, and we badly need hybridists among our amateur gardeners, what have been your hopes and your experiences? It does not matter whether you have ever written for publication before; send us your notes or an article long or short.

The pioneers of horticulture in Manitoba have placed us all in their debt. We owe it to them to make sure that the seed of their endeavors does not fall on stoney ground. We would multiply the good things they have given use, at the same time adding new treasures to the hoard of beauty. Our gardens grow slowly because much of the knowledge gained is a personal thing and passes with its possessor. The Society desires to be a repository as well as a distributor of special knowledge, so that it may not be lost year after year. Let us explain more specifically what we mean. There are to be had from Manitoba nurserymen at least five species of dwarf Phlox. They are lovely things, some dressed in brilliant, glowing pink, some in coolest blue. Yet one rarely sees them in our gardens. Why? Because, perhaps, they need some little special care to make them thrive; full sun or semi-shade, heavy clay or sandy loam, frequent division or strict abstinence of all disturbance. Perhaps YOU have grown them to perfection. Will you not tell us how you did it so that, should a new enquirer come, desiring to grow these lovely things, we may have that information on hand and be able to pass it on to him. So with a thousand other plants. The wild fall gentian will not grow alone, but only when its roots twine close with roots of other living things; the periwinkle loves the hottest sun; the mountain avens must be stoned to life. Will you not share your knowledge with us, that we may make our City and our Province places of beauty in which to live.

The Winnipeg Flower Garden

FORECAST OF GROWING THINGS

THE year will wake with daffodils
And hurry on to border frills
Of snaps and stocks. The iris next
Will raise their colored banners flexed
Against the wind. The trees will gleam
Agains the puffing clouds of spring.
Summer will come a-hurrying
With basket-loads of rosy bloom,
Pursued by all the lazy zoom
Of bees and gnats; and all too soon
The plump, orange-tinted autumn moon
Will sail across the corn-stacked fields.
Farmers will count their apple yields,
Chrysanthemums will thrive in frost.
The whole bright, changing scene being lost
In snow that flowered from icy rain,
Then the year sleeps to wake again.

—VIRGINIA BRASIER

A FEW HINTS FOR THE NOVICE GARDENER

H. P. HAMMOND

INTRODUCTORY

The aim of the Winnipeg Horticultural Society is to make Winnipeg a real garden city, every home with a well kept lawn and colorful flower beds, every "back yard" a place of beauty and repose.

The writer has always felt that most articles on gardening are written by experts for experts.

This little thesis is the product of an arrant amateur who has learned what little he knows in the school of practical experience, and is written in the hope that it may be of some assistance to others who are starting out from scratch to make their home surroundings really worth while.

And since the vast majority of homes are built on lots of twenty-five to thirty feet, this condition has been given special consideration.

Generally Speaking

A garden is to your home what a frame is to a picture, and should be considered in much the same way. And while it is true that every property requires individual treatment, there are certain principles which should be kept in mind.

The house should be tied to the ground with foundation plantings of shrubs or flowers. The lawn should be as unbroken as possible to give an effect of spaciousness even when space is limited. The outside beds should be laid out to conform to the size of the lot, and an endeavour should be made to obtain an harmonious whole—not a succession of unrelated patches of bloom. An effort should also be made to consider your home in relation to other homes and plantings on the street.

The Ground Plan

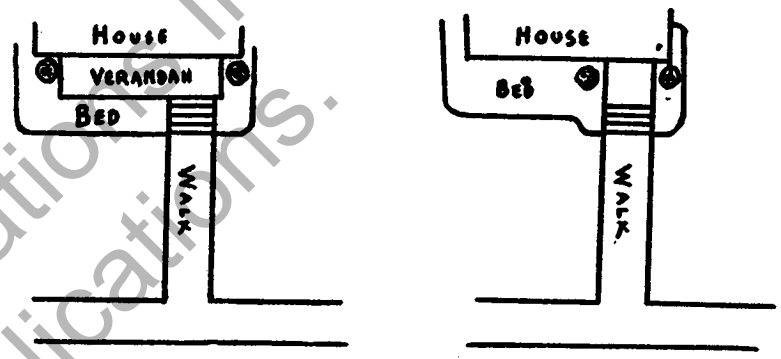
All too many of our Winnipeg homes are built on twenty-five foot lots, and probably ninety per cent of our homes are on lots with a frontage of thirty feet or less.

The house is usually set back from ten to twenty feet from the street, there is a narrow strip between it and the next building which gets little or no direct sun, and there is thirty to forty feet back of the house, which may have to take care of a garage perhaps ten by twenty feet.

In this way the space is divided into three sections, so distinct that it is best to treat each as an entirely separate unit.

The Front

Since the front of the property comes in for immediate attention, suppose we give first consideration to the best possible treatment of this area, a space of twenty-five to thirty feet wide by ten to twenty feet deep, which will look something like this:—



First and foremost, because the area is small, don't make it look smaller by fences or hedges. Don't have trees of any kind inside the lot line. Don't use even large shrubs such as lilacs or honeysuckle. Don't use detached flower beds,—one good bed well arranged, immediately against the front of the house is about all that can be attempted, but this bed should be a real point of interest.

Start at the back of this bed, with something quite high, a row of dahlias spaced two feet apart will give you bloom at a level of from three to six feet. Nicotine, Canna lilies, annual larkspur, or giant zinnias will also give you height. Next a row of giant snapdragon, scabiosa, or other flowers blooming at about two feet. Then a row of shorter bloom, about a foot high such as stocks, medium snapdragon, marigolds, or verbena. Then if you wish you can finish with a row of alyssum and lobelia. This will give you a bed about four feet deep.

The best plan for the beginner is to look over other gardens during the summer. Make a note of the beds which appeal to you as being more attractive than your own and duplicate these ideas in your own garden next year.

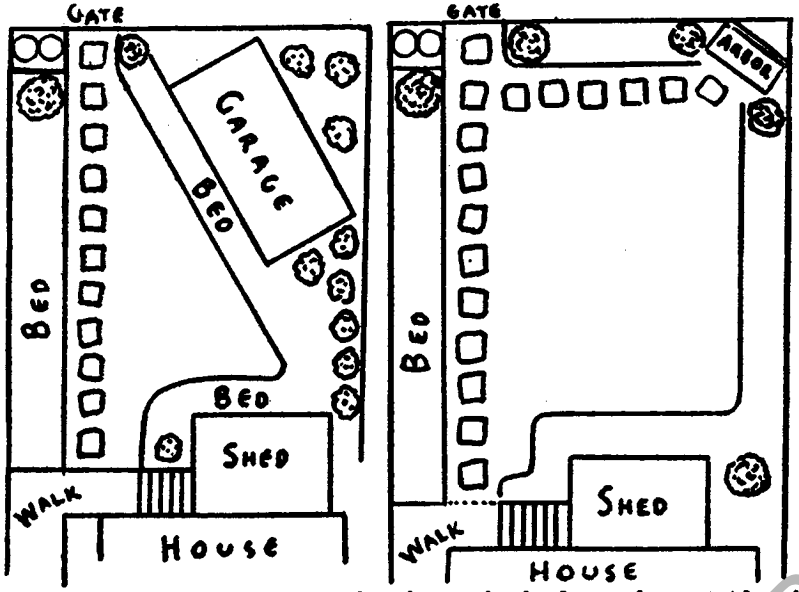
Angles formed by the steps or verandah may be helped by a small shrub. Various types of spirea are perhaps best suited for this purpose, though Cotoneaster or Barbary give good effects and are quite hardy.

If there is a fence dividing the properties, a narrow bed can be used to grow plants which will cover its unsightliness.

Some gardeners like a bed on each side of the walk, but if this treatment is used the material planted should be kept as low as possible.

The Back

The rear garden comes in for next consideration. It may be laid out something like this:—



Here again it is essential to keep the beds on the outside of the area, leaving the center to grass. The same plan should be followed, building up from short material in front to taller plants at the back of the beds.

The garage may be covered with vines of some kind; chicken wire will carry morning glory, sweet peas or scarlet runner beans. The space back of garage can be filled with shrubery. A shrub may also be placed in front of the platform on which the garbage cans are kept next to the lane.

An alternative plan is to plant shrubs all around the garage so as to conceal it, and along the back fence. For this purpose lilacs and honeysuckle can be used. It must be remembered however that shrubs of this type get very large in a few years and their roots take the moisture and nourishment from a considerable area.

Where there is no garage a much better layout can be made, carrying the border all the way round. If you have a good eye for contours you may like to lay out the beds with a swinging outline. Otherwise they can be straight, perhaps with the corners rounded. Flat limestone slabs make attractive paths which can be constructed very cheaply. If there is a fence it should be covered with vines, or tall flowers such as Dahlias or Cosmos will make a good background. The same bedding treatment can be used as in front, possibly making the beds a little deeper.

The Side

The side area between you and the next house is a serious problem, particularly if only a few feet wide. Not only is there a lack of sunlight, but the eaves of the two adjacent houses catch most of the rain with the result that the ground is kept very dry and needs more watering to promote growth than any other section of the garden. This fact is frequently overlooked, the natural thought being that because the spot is shaded it will be damp.

However, something can perhaps be done if you have as much as five or six feet. If the area is divided between you and your neighbor possibly you can suggest to him that you will look after the entire strip. Ferns planted on the south side will do quite well; just the wild ones which are easily obtained. Between the path and your own home creeper may be planted to run up a lattice-work if enough sun is available or at least a row of dwarf petunias will give a note of color.

Consider the Soil

The soil supplies nourishment to the plant, acts as a medium for storage of moisture, and is an anchorage for the plant roots. It must be firm but not hard. Dig in the fall so that the frost may crumble the lumps. Each time you dig bury as much manure as you can obtain. Leave the lumps as big as possible so the frost will get a chance to break up the soil. In the spring just rake the surface smooth and it is ready for your plants or seed. Do not re-dig. **Never step on a bed.** Work from the lawn or path. A footprint on Winnipeg soil develops a solid impenetrable lump. If your soil is practically all clay you should mix in coal or wood ashes and plenty of manure. The quicker scheme, of course, provided you can afford it, is to remove the soil from the bed to the depth of ten or twelve inches, and replace with good top soil. But much can be done with the heaviest, most unpromising soil by patient working.

If Spring digging is unavoidable, wait until the soil is dry enough so it will not stick to the fork. Bury manure. Break up the lumps very fine before they have a chance to harden. Rake well rotted manure into the top couple of inches.

The Lawn

Your lawn is of the utmost importance. It should be level, well covered and free from weeds. To obtain a good grass crop you must sow a certain amount of seed every year. This seed must have two to three inches of good soil to grow in.

You cannot grow grass in pure clay. It must be cut two or three times a week. It must be kept moist all summer. It should receive a dressing of manure or fertilizer once or twice a year. It will not stand too much tramping, particularly from high-heeled shoes. If these details are looked after you will have little trouble with weeds. Weeds will not grow in thick grass, neither do they prosper if cut regularly.

And with a good lawn of course go clean-cut edges to your flower beds. Don't use boards, stones or bricks unless the condition of your walks and layout make them absolutely necessary.

In planting remember that the foliage of the flowers should never touch the grass of the lawn. There should always be a certain amount of soil showing, so that the edge of the lawn is visible when the plants are fully grown.

The article by Dr. Merkeley gives full instructions in regard to lawns composed of creeping bent. While lawns made from standard mixtures possibly require less attention, top dressing and watering as outlined will give worthwhile results.

Annuals

Undoubtedly annuals will give you the best return for your money and effort in quantity and continuity of bloom. Perennials can be added slowly and carefully as the soil is worked into shape.

Don't attempt to transplant the seed catalogue into a small garden. Start with a limited number of easily grown varieties. You can do a little careful experimenting with novelties later on.

The varieties given in the following paragraphs are arranged in order of relative ease of culture, continuity and quantity of bloom. This grading is based on the writer's personal experience and is, of course, subject to challenge.

Seed. Many flowers can be grown from seed sown right where they are to bloom. Don't plant too deep. Press the soil down firmly over the seeds but not so firmly that it will pack. Keep the soil moist until the plants show. Don't sow too thickly and don't hesitate to thin out once the plants are well up.

Plants. When buying plants it is well to get them from a reliable dealer. See that they are stocky. The largest plants seldom give the best results. They should have sturdy stems, a good root system and with the exception of pansies should not show any sign of bloom. If possible buy by color. If you want to mix colors do so yourself so the bed will be even in color value. It is very important that your plants be kept moist and cool from the time they are taken from the flats until they are in the ground.

Planting. If you have the right kind of plants, putting them in is easy. Make holes the proper distance apart and put a good quantity of water in each hole. Wait until this water has soaked into the ground. Put the plant in plenty deep enough—at least half the the length of most plants should be below the surface. Fill in loose earth until the hole is half full. Press down firmly but gently. It is important that there are no air spaces around the roots. Put in another small quantity of water and fill the rest of the earth around the plant loosely. If planting is done properly you should not lose more than one in a hundred plants.

Zinnias (seed or plants) are sturdy growers, prolific bloomers and get along with minimum of attention and the poorest soil conditions. Of recent years the colors have been vastly improved and the range of varieties is almost unlimited. The new "Cupid", "Fantasy" and "Scabious Flowered" are particularly attractive.

Marigolds (seed or plants) are also sturdy growers and good bloomers. Can also be grown from seed but better from plants. The newer types of "French Dwarfs", "Harmony" and "Guinea Gold" are particularly attractive. Marigolds are steadily gaining in popularity with Canadian gardeners.

Snapdragon (plants) are one of the finest flowers for cutting or bloom in the garden. They have a long blooming season. The colors are varied, delicate, and brilliant, and occupy first rank in garden material. A certain amount of extra care required is well worth while. Giants grow two and one-half to four feet. Half dwarf one to one and one-half feet. Dwarf nine to twelve inches. "Majestic" Varieties — half dwarf—are recommended.

Petunias (plants) in the single varieties bloom from early spring till frost. Single bushy varieties in pink, white and blue are the most reliable for bedding purposes. Double are not so compact or free flowering, but flowers are more beautiful.

Nasturtiums (seed) grow best in the poorest soils with little water but lots of sun. The newer double varieties are not only beautiful in the garden but make wonderfully attractive table centers.

Nicotine (plants), good as a background, has a long season of bloom and adds perfume to the garden in the evening when its snow-white flowers show up well in the semi-darkness.

Cosmos (plants) grows three to five feet high and takes some room. Gives a good show of bloom from mid-July till frost. Fine for cutting. New "Sensation" is finest variety and gives really immense blooms.

Sweet Peas (seeds) are the finest cutting flower in the garden. Plant as soon as frost is out of ground in well manured ground. Grow best facing East.

Lobelia alternated with **Sweet Alyssum** makes an attractive low border. If the lobelia dies back, as it sometimes does, the Alyssum will cover the vacancy. Plant one root of Alyssum to two Lobelia—Lobelia three inches apart, Alyssum five inches apart. Lobelia must be grown from plants. Alyssum may be seeded direct in row.

Pansies (plants) grow well in part shade, go off a little during the summer, but come back in the fall.

Tuberous Rooted Begonias are one of the few flowers which bloom best under trees. The brilliantly colored big waxy flowers are most attractive. If the tubers are dug up and kept over winter they may be used year after year. They should be started indoors in February and set out about June 1.

Gladioli, grown from corms (bulbs), are beautiful blooms but are difficult to work into a small garden. If used, plant in groups of five to eight among other material.

Asters (plants) can be grown on new land for one year and are one of the most beautiful garden flowers. They are very susceptible to rust and wilt which usually attacks them the second year they are planted in the garden.

Perennials

Perennials have a fascination for many beginners because it seems so easy to put in a plant which will bloom year after year with little or no attention. And it certainly is wonderful to watch the first shoots of a peony or delphinium pushing their way through the soil almost before the frost is out of the ground.

Actually perennials are much more difficult to grow successfully than annuals. More care must be exercised in their planting both for type of soil and location. Always you must remember that perennials bloom profusely for a short time each season and then sometimes die back leaving a bare unsightly blank in your bed. Do not plant perennials therefore until your garden soil is in good condition

The **Peony** is the safest of all perennials and will grow under nearly any condition, the only proviso being that it must not be planted too deep, or it will never bloom at all. Keep the crowns **two inches** below the surface and see that the top soil is loose and free from manure. Every home garden should have at least one or two peony roots. The flowers are beautiful and the foliage is attractive throughout the entire summer. When purchasing get a good variety even at a slight additional expense.

Delphiniums are easily grown from plants, less easily from seed. They give height to the border and the newer varieties have a stately beauty which is most compelling. They bloom later than the peony and remain in flower for about four weeks.

Perennial Phlox has been developed in a number of beautiful shades—blooms from August 1st until frost. White is perfectly hardy and makes a fine show in the evening. Colors sometimes kill out, apparently with a type of root rot.

Iris is one of the earliest perennials and makes a brave show in June. Looks a little ragged the balance of the season. They must be planted with crowns just below surface and in full sun.

Hollyhocks add height and color either in single or double varieties. Singles reproduce from seed the second year. Doubles are not so hardy and should be brought in for the winter. They follow the Delphinium and bloom till frost.

Window Boxes

Window boxes have an important place in the beautification of the home. The box itself should be painted to harmonize with the building. It should be a fair size so it will not dry out too quickly. Water plentifully and frequently. Use good earth—rich and not too heavy. Balcony Rose and double Petunias give a good show of color and trail over the edge of the box. Geraniums and Tuberous Rooted Begonias are effective. Trailing Lobelia, Brown Eyed Susan, Nepeta and Wandering Jew are easily grown and fall over the edge, concealing the box itself. Golden Gleam Nasturtiums also do well.

Fertilizer

The best fertilizer is well-rotted manure. In Winnipeg it can be obtained cheaply. Use plenty of it. It not only contains plant food, but opens up the soil and helps to hold moisture, at the same time allowing air circulation to keep the ground from going "Sour". Commercial fertilizers may be used during the growing season when required with good effect but must be applied strictly according to directions. Bone meal raked into the soil at planting time promotes thrifty growth. Sheep manure is excellent as a fertilizer for lawns.

Cutworms

If you have trouble with cutworms take a piece of paper two inches square and wrap it around the stem of the plant before planting so that half is below and half above the ground.

Cultivating

When cultivating during the summer do not go too deep. Just loosen the top soil and cut off the weeds. And remember —don't step on the soil either when planting or cultivating.

Water

Water is the staff of life so far as plants are concerned. Few gardens get enough. Water long enough to penetrate six to eight inches into the ground once a week. Sprinkle lightly every evening if convenient.

Finally . . .

When you plan your garden keep in mind the amount of money and time you are willing to spend. It is better to do a little well than a great deal indifferently. Start carefully and you will not be discouraged. Each year you can do a little more.

All of us are fundamentally people of the soil. Like Antinous, contact with Mother Earth refreshes and invigorates. And a garden is the only means a city dweller has of obtaining this re-vitalizing contact. Decide today that you will have a garden this summer if you had none last year—or that this year you will have a better garden than ever before.

And when the frosts of coming winter write "Finis" to the efforts of the summer, check over your triumps and your failures, decide that **next** year will be even more successful than this one.

• • •

HOW I GREW A CREEPING-BENT LAWN

HOWARD MERKELEY

The lawn area of my new home is about 60x80 feet, fully open to the sun, with no large trees to shade it to draw its sustenance from it. Last spring this lawn, if it could be called such, presented that cloth of gold effect so little appreciated by the home beautifiers. In fact it is quite safe to say much more space was occupied by dandelions than by grass. Certain spots presented that brown coloring so often seen where old bricks and such rubbish has been used as a fill and then covered with an insufficient layer of good soil. Some spots were low, others hilly.

This was the prospect as presented. The question was, what could be done? Gardeners advised me to put in a creeping bent lawn and estimated the cost at between $500 and $600. That seemed somewhat excessive so I delayed. Then there were various types of bent, each with its very definite characteristic. Those that were suitable for putting greens were not necessarily the best for lawns. Next I discovered that a bent lawn demanded the use of a special mower, that cost around $100 to $125.00. So further investigation was undertaken and the matter discussed with all available authorities, until it was felt that we had all the information we needed and were ready to proceed. So early in July we started.

First the whole area about 60x80 feet was spaded to a depth of a foot or so, the dandelion roots, some of which were two feet long, were all taken out as far as possible. Then about 3 inches of manure were hoed in with the top soil. Next we levelled the whole area with a slope towards the curb, about 2 feet of a drop in 80 feet, for, not having any sidewalk, we included the boulevard in the lawn. Next about two inches of sandy loam from Bird's Hill was spread over the whole surface. We summer fallowed this for a month, meanwhile coaxing the weeds to grow by frequent watering. All dandelions in their entirety were removed as they revealed their presence, and so at the end of the month a weed free surface was shown, and we were ready for planting of the bent.

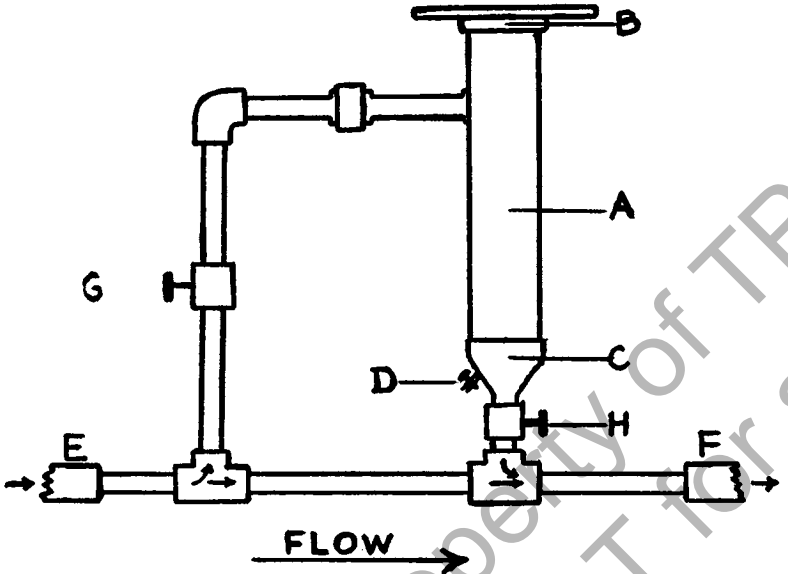
As before suggested there are many varieties of bent, some very fine, others coarse; some tending to run in one direction, producing a definite grain in the lawn, which, is undesirable. Eventually we chose a medium fine grass, that tended to stand up straight. Someone has locally tacked the name Metropolitan to it, so it goes under that name now. It is unwise to seed with bent grass seed as a stand is thus obtained that often includes not only weeds but many varieties of grass as well. So the runners, or stolons as they are called, are used to start bent lawns.

About the middle of August nine bushels of stolons were obtained at a time when a damp spell seemed in prospect. A crew of four men strewed the stolons over the lawn, then lightly scattered sifted Bird's Hill sandy loam over them, and the planting was done. These stolons so planted took root at each node so we soon had a large number of nuclei from each of which a new plant started to stool out. Fortunately a couple of dark days ensued at the time of planting and this, with frequent watering, kept the whole surface moist and hastened the rooting process. Parts of the stolons assumed a brownish cast, but within a month a very excellent start had been made towards a covering of the whole ground area. A roller was then put into operation, and another light dressing of sandy loam spread. At the freeze-up we had a fair lawn.

Bent grass in common with other lawn grasses is quite susceptible to snow mould so some treatment is necessary just before the snow comes. It has been found effective to use corrosive sublimate for this purpose and for my own use I find one pound of this chemical thoroughly mixed with one-half bushel of sifted sandy loam and scattered broadcast insures against snow mould winter kill. It should be used on the dry grass very late in the fall. We have found that winter killed patches are not all due to snow mould but are often due to areas of a grassed surface not having roots. That is, the stolons

may not have rooted, either due to too infrequent top dressing or to too infrequent cutting. So we scrub the whole lawn once a month starting with the time the lawn is dry enough in the spring. A street cleaner's broom is used, followed by the mower. In the summer, cutting is done twice a week varying to direction of cut four ways: side to side, end to end and corners to corners. This keeps an excellent pile rubbed up and eliminates any unrooted stolons which, in the following spring, would show up as winter kill.

Bent grass demands plenty of moisture and frequent dressings of a fertilizer. Chemicals are the best, as they eliminate the probability of weed growth, and are easily applied. It has been the custom to broadcast ammonium phosphate and sulphate and then water them in, but this means a browning that persists for some days, so a simple method was evolved. We now by-pass water through a chamber containing the fertilizer and so apply a dilute solution when watering. (See diagram)



"A" is a piece of 3-inch iron pipe about 2 feet long. On top is a screw cap "B" to which is welded a straight piece of iron to act as a handle. At the lower end of "A" is a reducing nipple "C" into which is let a drainage tap "D". The pipes are ½ inch or one inch according to the size of pipe or hose used in the garden. To operate fill the nipple end of "A" with steel or copper wool as a strainer, and the remainder of "A" with chemical fertilizer. Close "B" and "D". The whole being connected to water supply (usually hose) at "E" and outlet towards spray at "F" the water is turned on. Open valve "G" to full extent and valve "H" as required. All parts are standard plumbers' supplies.

The concentration is controlled by valves that control the water flow through the by-pass chamber. This has proven simple, effective and safe, so that a number are now in operation patterned after our original one.

It is found that dandelions do not get a start in bent lawns but clover may. The acidifying of the soil by the fertilizer discourages most other weeds so a beautiful mat is produced. Mowers are often procurable from the golf courses where ones may be obtained that will no longer stand constant use, but are quite suitable for private use a couple of hours a week. Most of these mowers have eight blades and are of English make. Recently American firms have placed a mower on the market that seems good. It has six blades, will cut very short grass and costs only $35.00 or so.

Bent grass is not satisfactory where the drip of trees can affect it, nor is shade desirable. Children can play on it in the summer, but must not in the winter as this ices it over and will cause considerable damage. In fact, it is often better to shovel off the remaining snow in late spring rather than chance an icy covering that will smother the bent.

In general the care of these bent lawns can be summed up as follows: keep them well watered, keep them growing by the use of chemical fertilizer (I use 20 pounds a year on a plot 60x80 feet), keep them cut short, scrub them once a month.

It has been suggested that bent lawns are a great deal of bother, but if one considers the time spent in digging dandelions and other weeds from a grass lawn, and also the time and expense of top dressing and caring for it, to find you have only a grass plot in the end, it must be admitted that the same amount of time and expense expended on creeping bent gives much greater returns. In fact it gives you a lawn, a real lawn, one that needs no excuses but on the contrary can be exhibited with pardonable pride.

• • •

ANNUALS

J. R. ALMEY

Chairman, Flower Committee, Manitoba Horticultural Association

In this brief article I have dealt with annual flowers that have proven adapted to common cultural practices, and of known merit under Manitoba conditions.

I cannot place too much emphasis on strains of varieties. For instance the variety of Alyssum, Carpet of Snow can be purchased from almost all seedsmen, but the true type, a close, compact spreading plant, growing not over three inches high, is rarely obtained or seen in our gardens. From this one can

only conclude that the seed being sold as Carpet of Snow is some poor strain or variety masquerading as Carpet of Snow. Pronounced variation in height of plants, as well as color, is often encountered in poorly selected strains of seed.

The varieties of annuals as here listed are considered chiefly from their garden effect. Varieties better suited for cut flower purposes could no doubt be selected. In many cases where the color is not indicated in the variety name, color is given.

Amaranthus—Pigmy Torch, crimson panicles for bedding purposes.
Molten Fire, very bright intermediate height.
Salicifolia, taller, long pendant leaves.

Ageratum Var—Blue Cap, used mainly for edging purposes. Good strains necessary, as weakness is variation in heights and shade.
Silvery grey varieties little used.

Alyssum procumbens—Carpet of Snow. Used for edging purposes. Mauve varieties lack color during heat of Summer.

Antirrhinum—Composed of dwarfs, intermediates and talls. Dwarfs not satisfactory. Those varieties between intermediates and talls best.
Majestic strain (large flowered, intermediate).
Golden Dawn, golden buff.
Eldorado, golden yellow.
Rosamond, rose pink.
Red Chief, bright red.
Triumph in four colors.
Intermediates—Gorgeous, deep cerise.
St. George, orange cerise.
Eclipse, crimson.
Scarlet Triumph, scarlet.
Tall —Feltham Beauty, deep rose pink.
Goliath, salmon rose.
Canary Bird, yellow.

Balsam—Two types, Rose flowered and Camellia flowered, obtainable in separate colors. Camellia flowered most showy.

Calendula — Bedding and cutting types. Bedding varieties Orange King, Radio, Apricot Queen.

Calliopsis—Bicolor dwarfs—Crimson King, The Garnet, The Sultan, C. Drummondii, Golden Wave.

Candytuft—Giant Hyacinth flowered. Mixed or separate colored varieties.

Carnations—Chabaud in mixed or separate colors.

Celosia pyramidalis — dwarfs—Fiery Feather, scarlet; Golden Feather, golden. Tall p. Thompsoni.

Centaurea cyanus—Jubilee Gem, dwarf blue.

Centaurea imperialis—(Sweet Sultan) mixed or separate colors.

Chrysanthemum segetum—Separate colors or mixed.

Clarkia elegans—double. Many separate colors and mixed.

Cobaea scandens—Violet and white varieties.

Cosmos—Variety Pinkie and Purity.

Cosmos—Hybrid Orange Flare.

Delphinium paniculatum—Light blue 1½′ to 2′.

Dianthus heddewigii—Singles and doubles in variety.
Cyclops, single dark red.
Morning Glory, single salmon pink.
Violet Queen, double.
Loveliness, lacinated.

Eschoscholtzia California — California Poppy, dwarf compact varieties: Fireflame, Mandarin, Mikado, Scarlet Beauty.

Felica adfinis—Blue, yellow centre.

Gaillardia grandiflora—Indian Chief.

Godetia—Many varieties double and single—Sybil Sherwood, salmon pink, double and single.

Opomaea—Morning Glory—Heavenly Blue early strain.

Larkspur — Base Branching—Imperial varieties in separate varieties or mixed.

Larkspur—Dwarf Emperor varieties in separate varieties or mixed.

Lavatera—(Mallow) Sunset, carmine rose.

Linum rubrum—Scarlet Flax.

Lobelia—Compact dwarf varieties, Cambridge Blue, good blue light foliage.

Lobelia—Crystal Palace, deep blue dark foliage.

Lobelia—Trailing—Sapphire, navy blue, white eye.

Mesembrianthemum crystallinum—Ice Plant.

Mesembrianthemum criniflorum—Mixed colors.

Mimulus tigrinus—Monkey Flower.

Marigold—African—Tall and dwarfs.
African—Lemon, all double, tall.
African—Orange, all double, tall.
African—Orange Queen, dwarf.
African—Yellow Queen, dwarf.
French—Harmony.

French—Golden Ball.
French—Lemon Ball.
Mexican—Dwarf Orange.
Tom Thumb—Golden Crown.

Nasturtium—Dwarfs—Double, Golden Globe, Scarlet Globe.
Semi-Dwarf—Golden Gleam.
Dwarfs — Single, Empress of India (scarlet), Sunset (Orange pink).

Nemesia strumosa—dwarf compact mixed, Fire King, Orange Prince.

Nicotiana—Crimson Bedder.

Nicotiana affinis—White.

Nierembergia hippomanica — A new blue dwarf Campanula-like kind, but treated as an annual.

Pansy—Mixtures and separate colors. Canadian Beauty (mixed); Ullswater, deep blue; Golden Queen, pure yellow; Lord Beaconsfield, violet purple; Snowflake, white.

Petunia—Single dwarf compact plain petal — Celestial Rose, Rose of Heaven, Silvery Lilac, Snowfall, Alderman (purple).
Fringed large flowered mixed.
Giant ruffled in variety for window boxes.
Doubles, various varieties for window boxes.

Phacelia campanularia—Gentian blue.

Phlox drummondii—Grandiflora in mixtures or separate colors.

Phlox drummondii — Dwarf compact, growing about half as high as above varieties. Can be used in smaller plantings to good effect. Can be obtained in mixtures or separate colors.

Portulacca—Doubles in mixtures and separate colors.
Singles in mixtures and separate colors.

Rudbeckia — Bicolor hybrida and hirta rich brown-orange shades.
Bicolor mostly yellows.

Salpiglossis—Mixed and separate colors. Emperor strains for compact flowering habits.

Salvia splendens—Reselected Harbinger.

Salvia farinacea—Lavender blue.

Scabiosa—Blue Cockade—azure blue.
Azure Fairy—light lilac.
Loveliness—salmon rose.
Tall and dwarf types, mixtures and separate colors.

Statice sinuata—Separate colors or hybrids mixed.

Stocks—Large flowering Dwarf Ten Weeks and Imperial Ten Weeks, consistant over a long period as dependable for bloom. In separate colors or mixtures.
Giant Perfection, Nice and Perpetual varieties give plants that have a tendency to fail to bloom.

Tagetes signata pumila—Gnome, golden yellow; Little Giant, deep orange.

Ursinia Anethoides—Sunstar.

Verbena—Hybrida Compact Dwarf varieties in mixtures and separate colors.

Verbena—Hybrida Violacea, bleu.
Hybrida Danneborg, scarlet.
Hybrida Carmine Ball.

Verbena drummondii—Rosy lilac.

Zinnia gracillima—Red Riding Hood, scarlet pom dwarf.
California Giants, mixed.
California Giants, separate colors.
Dahlia flowered, similar to California Giants, plants not as tall, bloom smaller, but more shapely and numerous.
Linearis, orange, single dwarf.
Fantasy Stardust, yellow.
Lilliput or Pom Pom mixed.

The following can be successfully sown outside where they are to bloom, but if you want the best of bloom, be sure to thin them to eight inches to a foot apart: Alyssum, Bartonia aurea, Centaurea, Cosmos, Eschscholtzia, Godetia, Larkspur, Linaria, Linum, Mallow, Mignonette, Nasturtium, Phacelia, Poppies, Sweet Peas. Most of these may be sown in the fall for earlier summer bloom, but further sowings should then be made in late spring for succession.

• • •

LILIES

F. L. SKINNER
Dropmore, Man.

The experience of the past twenty years has shown that the Lily is one of the most satisfactory bulb plants for Western Canada and should equal the Gladiolus in popularity. Gladioli are preeminent as cut flowers but as a garden plant the Lily has certain advantages not possessed by the Glads. In the first place the Lily does not require annual lifting and storing of the roots over winter. Also the flowering season is a long one the sweet-scented yellow Monadelphum sometimes offers its first flowers towards the end of May and can be relied upon

to flower during the first half of June, then there is a long procession of colour until we reach the end in September when Lilium Henryi makes a good display.

Some of the Lilies are also among our easiest flowers to grow and even the veriest amateur can succeed with such varieties as the Candlestick Lily (L. dauricum), the Coral Lily (L. tenuifolium, or as it is more often named now L. pumilum), and the Tiger Lily (L. tigrinum) provided he will take care to plant the bulbs right side up in a soil that is not wet and sodden over winter. On the other hand, for those who fancy themselves plant wise, there are Lilies that will tax the skill of the most experienced gardener to grow them well in this climate. L. Farrerii and L. Wardii are two of these, both are hardy but seem to require a slightly acid soil and fairly continuous moisture during the growing season. All Lilies can stand an abundance of moisture during the growing season but only when good drainage is provided. The surest way to eventually kill Lilies is to locate them where there will be stagnant moisture at the roots. Even the Meadow Lilies of the East, L. canadense and L. superbum, though they like a rich moist soil in summer must have a well drained location. L. canadense with its pendant bells is one of the most graceful of all Lilies.

L. auratum, the gold banded Lily of Japan, is one of the most fragrant and showiest of all Lilies and always attracts attention. Unfortunately cultivated bulbs from Japan are frequently infected with mosaic and partly on that account this Lily has not been cultivated very successfully so far. Another reason why this Lily has not been more successful is that there are both northern and southern races and early and late flowering strains. An early flowering strain came to us two years ago as collected wild bulbs. These started to flower early in August and the bulbs have come through the past winter in excellent condition. Apparently the Gold Banded Lily does best on a frugal diet as these bulbs were planted in a prepared bed where the soil was removed to a depth of 15 inches and replaced with a mixture of sand, leaf mould and ordinary garden soil.

The Regal Lily with its glorious trumpets and exquisite perfume does quite well if planted as flowering bulbs in the spring but it is not reliably hardy under ordinary conditions and it might be advisable to plant it about 6 to 8 inches deep in a specially prepared bed such as we used for L. auratum.

With the work that is being done on Lilies today on this continent and in Europe it is not too much to expect that we will have a truly regal lily as easily grown as the Candlestick Lily is at present.

CULTURE OF THE LILAC

JOHN WALKER

University of Manitoba

As you glance through your living room or dining room windows across the lawn, do you not think the beauty of your garden would be enhanced by one or more attractive lilacs? Could the bareness of that southwest corner of the verandah or sunporch be relieved by a permanent and ornamental flowering shrub like the lilac, or is there a bare spot around the cottage at the lake where a bright, purple lilac would be an asset?

Lilacs thrive in lime saturated soils, but may be successfully cultivated in relatively poor soils devoid of free lime. On the latter types of soil occasional dressings of bone meal are desirable. According to one authority the two most important factors for successful cultivation of lilacs are a position open to the sun and correct physical condition of the soil.

Culture

In the first place a sunny position is necessary in order to ripen the growths and produce flower buds; at the same time, one would not choose a dry, parched position open to the blazing sun without the slightest protection, since few flowers fade more quickly if exposed to intense light. Six to eight hours a day of May and June sunshine should be sufficient, provided branches of trees do not overhang. Sufficient sun and rain in late May and June is needful if we are to be favoured with a good lilac season the following year.

As to the physical condition of the soil, lilacs need a moist but well drained soil, which at no season becomes waterlogged. They are comparatively shallow rooted shrubs, and, when grown on light sandy soils, are among the first to show signs of wilting during drought. Such a condition should be corrected by liberal dressings of decayed manure, or the addition of any other ingredient (leaf mould) which would enrich the humus and fibre in the soil, and so increase water retention.

Pruning

On vigorously growing, established plants, annual pruning is generally necessary. This should be carried out immediately after flowering. The aim should be a well shaped shrub, with no overcrowding of branches, and from which weak and over-rank growths are removed. When this regular and systematic system of pruning is adopted, the branches are open to the ripening influence of the sun.

It is, of course, understood that when this summer pruning is carried out, all dead flower spikes are removed. Care should be taken to cut these shoots back to the first well-developed wood bud. This all tends to encourage better size, and quality in next year's blossoms.

When lilacs are eight to ten years old they develop into tall straggling bushes with a few unsightly branches. Drastic pruning in the dormant season is then necessary, and the shrub should be sawn down to within two or three feet of the ground. I submit, that there are many lilacs in gardens around Winnipeg whose beauty and usefulness would be enhanced by such treatment. I see them every day on my way to work.

Following severe pruning, vigorous growth will take place, but there will be no flowers until the second season. May I suggest that severe pruning be carried out over a period of two or even more years, so that the lilacs will not be entirely without blossoms any one year. Early spring pruning is recommended. One or two main branches should be selected to be cut back each year, keeping in mind a bush reasonably well shaped throughout the transition stage.

It is well to remember too, that, by the time the flowers are over, the elongation of the wood on normal flower-bearing branches is approximately complete, and the next season's flower buds, although not mature, are in embryo form. That means, if one shortens back the current season's shoots after flowering, or leaves pruning until the winter, the following year's flowers are lost.

Varieties

Dependable varieties of the common lilac (Syringa vulgaris) are:

White—Miss Ellen Wilmott (double, late).
Mme. Lemoine (double, compact).
Marie Legraye (single, pure white).
Vestale (single, outstanding).

Lilac Mauve—Jules Simon (double, showy).
Michael Buchner (double, free flowering).
Pres. Carnot (double, long clusters).
Mme. F. Morel (single, graceful clusters).
Buffon (single, early, reflexed petals).

Purple (Red)—Chas. Joly (double, large clusters).
Paul Thirion (double, rich effect).
Leon Gambetta (double, roselike florets).
Chas. X. (single, dark, large clusters).
Ludwig Spaeth (single dull).
Reaumur (single, large florets).

Of the hybrid lilacs **(Syringa villosa x Syringa reflexa)** the following are noteworthy:

Pink—Handel, Audrey, Coral.
Red—Elinor, Redwine, Hiawatha.
Lilac Blue—Nocturne, Jessica.
Purple—Royalty.

These hybrid lilacs are usually in bloom around the middle of June, produce spikes of bloom abundantly, and usually blossom freely as quite young plants.

The problem of sucker growth from the roots confronts most people growing lilacs. Plants of the common lilac especially offend in this regard. Suckers develop on named varieties of lilac, although to a lesser extent. If the root stock of grafted lilacs is common lilac, care must be taken to remove any suckers that may develop, otherwise it may be difficult to distinguish stems arising from the roots from stems of the variety in question. Own-root lilacs will produce plants like themselves from suckers.

Nurserymen use Amur privet, species of ash and villosa lilac as understocks, when propagating named lilacs. With lilacs grafted on these stocks the problem of detecting sucker growth is made easy. The use of growth substances has also facilitated the propagation of lilacs by cuttings.

Let us therefore, treat our lilacs according to their season of flowering, habit of growth, means by which they have been propagated and, if the varieties we are growing do not please us, would it not be to our advantage and future pleasure to replace them with the newer better varieties.

• • •

HEDGES

Horticultural Staff, Dominion Experimental Station, Morden.

The hedge is a tree or shrub fence. It has a number of uses in any landscape but is especially serviceable on the open prairies where winds are frequent. The steppes of Russia are being planted to thousands of miles of field shelters, which will probably prove a valuable blessing. The planting of similar hedges on the Canadian Prairie fields will prove equally as good policy. Strangely enough, in the Soviet they have adopted Canadian White Spruce as the leading subject for hedge making. The Canadian Prairies have returned the compliment and taken over the so-called Siberian Pea Tree or Caragana arborescens. In both instances good choices have been made. The tree shelters will lessen the dry effects of summer winds, induce accumulation of snow drifts, afford

shelter, shade, and homes for insect-devouring birds, and add some variety to the general landscape.

At the Dominion Experimental Station, Morden, about 90 different kinds of trees and shrubs have been given trial, as trimmed hedges. These afford the best possible answer to the visitor who asks "What is the most desirable hedge material where a screen of 4 feet high is desired?" The visitors are directed to the hedge garden where there they may come to their own choice. There is room for differences of opinion which, in a large way, accounts for horse trades and other transactions. Similarly, one person may prefer the fleshy Hawthorn as a hedge, another one the Native Dogwood and another Buffaloberry.

Hedges are planted to advantage in April. Caragana and Lilacs are spaced a foot apart in the row. A single row is preferable to a double row of plants. Two of the problems in hedge care relate to keeping the hedge within bounds in width and to maintain neatness. The single row is more easily tended in these respects. Most ornamental hedges are set with plants 18 inches in the row. Spruce, Pine, and Larch may be spaced at 2 feet. Small subjects such as Dwarf Pea-Shrub furnish the row quickly if set as close as 8 inches.

Shape is vitally important. Low branches require direct sunlight to develop vigorous buds, so the hedge is trimmed to somewhat conic form, with rounded top. The sides angle in towards the top at from 15 to 30 degrees. This encourages the hedge to continue compact and healthy right to the ground. Perpendicular sides are likely to result in loss of low branches and in open bottoms and so defeat the first purpose sought, namely, durable ground shelter.

The hedges most planted are Siberian Pea-tree and common lilac.

Others worthy of approval include:

Low—Dwarf Pea-shrub, Native Gooseberry, Alpine Currant, Scotch Rose, Purple Osier Willow, and Tibetan Crab.

Medium—Cotoneaster lucida, Cotoneaster acutifolia, Silver Buffaloberry, Cherry Prinsepia, Alder Buckthorn, Red Osier Dogwood, Swiss Stone Pine, White Spruce, Fleshy Hawthorn, Salt-tree (silver leaf form), Altai Rose, and Amur Maple (Ginnalian Maple).

Tall — Hungarian Lilac, American Larch, Dwarf Asiatic Elm and Russian Olive.

Two of the best of these, the Tibetan Crab and the Salt-Tree, should be on foreign roots—the former on Siberian Crab, the latter on Siberian Pea tree (common Caragana). Tibetan roots are large and difficult to transplant. Salt-tree roots sucker terrifically.

The Dwarf Pea-shrub (Caragana pygmaea)has been given the rather descriptive local name, Manitoba Box. A Station hedge, 11 years old, trimmed to rectangular form 4 inches by 10 inches, is used as an edging and prompts many visitors to utter the adjectives cute, tidy, and useful.

Subjects with grey leaves include Salt-tree, Silver Buffaloberry, and Russian Olive. The showiest hedge with red foliage is the Cistena Cherry. Glossy leaves cloth Alder Buckthorn,

the two black-fruited Cotoneasters, Tibetan Crab, and Hungarian Lilac.

Hedges armed with spines, thorns or prickles, include Gooseberry, Roses, Silver Buffaloberry, Hawthorn, Prinsepia, Salt-tree and Caraganas.

Extensive hedges are trimmed rapidly with a scythe blade on a D-fork handle.

Finally, persons undecided as to the hedge to select are urged to visit their Experimental Stations, and there make a choice from the established exhibit.

• • •

WATERMELONS

The International Travellers

T. O. GRAHAM

Within the last five years the watermelon has been made practical from a Western standpoint. Not only can the new types be grown in the western home garden, but they are so delicious that even northern market gardeners can now compete on a fairly equal footing with melons imported from the South.

Watermelons hail from the jungles and deserts of Africa. It is thought that years ago they came directly from Africa to the shores of North America. It is known that they penetrated the plains of Russia from Turkey and Middle Asia. As far back as 600 years ago there existed in Moscow State large fields of watermelons, and today Russia is one of the largest producers of this vine crop. Not only did the watermelon spread west through Russia, but it also in early times travelled east through Southern Asia, and eventually reached the islands of Japan. It is only very recently that the growing of Japanese melons has commenced in the United States and Canada, and at the present time these oriental varieties are creating a complete change in the northern watermelon picture.

The early history of the watermelon in North America is obscure. The present-day descendents of the original types are often late, and are generally confined to the South. It is true, though, that the original melon was cultivated much farther north than might be expected. As far back as 1803 Lewis and Clark describe seeing an Indian melon grown by the Arikara tribe in North Dakota, and Geo. F. Will, pioneer seedsman of the Northwest, states that many years ago his father collected a native variety within 10 miles of Bismarck, North Dakota. A descendent of this melon is now grown in the north under the name of Will's Sugar. Mr. Will is still

growing seed of the original melons raised by the Indians on the plains of North Dakota. These native types are lacking in quality, but some day will have real value in creating new varieties that are hardy and very desirable.

From early times the growing of high quality melons has been fairly well confined to the south. It is true that an influx of Russian varieties has tended to push the melon farther into the north. Once Russian immigrants began to work in the seed growing districts around Rocky Ford, Colorado, the value of the Russian melon became apparent. From this area many Russian types have been recently introduced, such as the varieties Winter Green, Alaska, Winter King, and possibly Sweet Siberian, and the well-known Klondike now so popular in California. This discovery stimulated watermelon growing in the Middle States, but as these Russian Types were either medium late or poor in quality they found little enthusiasm in the north.

It remained to Dr. Troy Currence of the University of Minnesota to break the chain that held watermelons in the south. Dr. Currence was born in the mountains of West Virginia. He is a true son of the Southern hills and a recognized expert with the watermelon. He ran across a distinctly delicious introduction from the Union of Soviet Socialist Republics. In 1931 he commenced to inbreed and purify this strain and in 1934 he placed it on the market under the name of Northern Sweet. Its immediate acclaim completely surprised the Horticultural Staff of the University. Probably at that time its full value was not understood. The climate by 1934 had changed radically and summer heat across the northern plains was dry and intense. As Northern Sweet was extremely early, market gardeners found a ready market for this new find, and northern farmers for the first time could come from their hot field and pick a cool delicious melon right in their own garden. This discovery by Dr. Currence flung marketable melons far into the north, and even at Winnipeg market growers had good sale for this variety, while in the home garden it was received with delight.

But at this time Dr. Currence made an even more important find. He grew his first Japanese melons. These he found more delicious and earlier than even his Russian type. This discovery not only gave highly desirable watermelons to the northern sections of United States but it also allowed the growing of watermelons to become practical throughout almost every farm area in Canada. The University of Minnesota has cradled many an important agricultural find, and it should look with pride on the vast area that its good work has opened up to the successful culture of watermelons.

The Japanese Watermelon

One of the main faults with raising watermelons in the north in the past, has been the fact that the melons would commence to ripen after the heat of summer was over. This is not the case with Japanese melons. Even as far north as Winnipeg, it is an easy matter to have these melons ripening during some of the worst heat in August. In fact, during the last two years ripening has progressed so rapidly that by September 1st. very few green fruits were to be found on the vines.

Japanese melons are small in size, averaging in the north from 4 to 10 pounds. Many southern melons will run 30 to 40 lbs. Such size often tends to scare away the average buyer. The Jap melon is just a good family size; you do not have to purchase it by the slab or slice. Not only that, but the different varieties come in an attractive diversity of colors: red, orange, yellow and white.

At the present time there is a welter of Japanese melons on the American continent. A few of the outstanding varieties are well worth mentioning. The earliest maturing sort is known as Favorite Honey and was brought to the American side by the Oscar H. Will Seed Company of Bismarck, North Dakota. It has orange flesh. Under drought it will weight as low as 1½ lbs. but with rain it will go higher than 6 pounds. Some conception of its earliness can be gained when it is understood that for the last two years at Winnipeg, seed sown May 28th has ripened on an average August 12th. Favorite Honey is the earliest melon so far tested by Government institutions at Minneapolis and Fargo, and at Morden in Southern Manitoba. This watermelon was created from the Chinese variety Baby Cream by Professor Hashimoto of the Agricultural College of the Kyoto Imperial University, Japan.

Another promising find which has the merit of being the earliest red fleshed marketable melon so far grown on the northern prairie, was brought in from Japan by a most outstanding vine crop firm, the J. C. Robinson Seed Company of Waterloo, Nebraska. In 1936 seed sown May 28 on the plots of the McFayden Seed Company at Winnipeg commenced to ripen August 15th. So enthusiastic did gardeners in Manitoba become over this melon that the J. C. Robinson Seed Company, in 1936, named it Early Canada.

The variety at present most popular in the north has an interesting history. It was created in 1929 by the Agricultural Experimental Station of Nara Prefecture, Japan. The Japanese had students each year cross two varieties known as Yamato and Kanro and then sold this hybridized seed. This is

probably the first case where hybrid vigor has been continually utilized in the creating of a commercial watermelon. The Japanese called this hybrid Sweet Japanese. Later they inbred Sweet Japanese for eight generations. This inbred strain was brought to the American side by the McFayden Seed Company of Winnipeg, and introduced as Sweet Sensation. In 1937, George Roy, gardening at Tisdale in Northern Saskatchewan, ripened Sweet Sensation on August 12th from seed sown May 28. With him under drought it averaged 5 pounds. It is now the most widely grown variety in Western Japan.

In 1928 the Japanese introduced the white fleshed variety, Honey Cream. They state that this is their sweetest watermelon and one can almost see the sugar in its white flesh. The Japanese have many more varieties that could be mentioned, as they are constantly improving and adding to their long list of desirable types. Just at present one more outstanding sort, King of the Orient, is making rapid gains in Japan, and preliminary tests show that it may have real value on this side of the Atlantic.

The East Asiatic Melon

One might wonder if the Japanese melon differs widely from the American. This may be so. Dr. N. E. Hansen of South Dakota, the Dean of the American fruit and vegetable plant explorers, has a first hand knowledge of the vegetables grown by the Japanese. He states they are using the East Asiatic melon. Dr. Hansen collected Asiatic watermelon strains as early as 1897 and has always maintained that the East Asiatic types would be a real help to the short season gardener. In a recent conversation with Dr. Hansen he said the Chinese living along the trans-Siberian Railroad saved their own seed, and each gardener had his own selections. As the Chinese are clever in their own way, there are a great number of different watermelon strains in Manchuria and Eastern Siberia that will fit into Great Plains culture. The writer has tested many strains from Harbin in Northern Manchuria. These are the same as the Japanese types but their flesh is less highly colored and their texture is often coarse. It is possible that the Japanese plant breeders, as they are highly skilled, have given us through rigid selection, hybridization and inbreeding, an Eastern type that further exploration may find difficult to improve. However, Eastern Asia presents a vast northern area with a host of vine crop material still untouched. Who knows what new colors, forms, flavors, and disease-resistant types will still be found?

The mystery surrounding these oriental melons grows even deeper when the Japanese themselves are approached on the

subject. They state that up until 1916 foreign varieties such as Florida Favorite, Mountain Sweet, Ice Cream, Kleckley Sweet and Cole's Early dominated the Japanese market. Around 1908 two varieties, Yamato and Kanro, commenced to gain a foothold. As time progressed, these two melons, as well as hybrids resulting from combining these two with themselves or other types, made rapid strides. At present these strains, due to their superior quality and hardiness, have almost driven foreign varieties completely out of Japan. Where Yamato and Kanro come from, the Japanese do not know. The writer, after growing Yamato and Kanro, could see a strong resemblance in outward appearance between these two varieties and types grown in northern Manchuria. It is not possible to be definite, but it would appear as if in oriental melons we have a new type with which to tackle our watermelon problems.

Watermelon Improvement

One outstanding case is already on record in which crossing the American with the Japanese watermelons has given good results. Iowa has always been a commercial watermelon growing state. Suddenly their melons started to go down badly with wilt. By 1932 this disease had cut the acreage by 90%. It was discovered that a white-fleshed oriental variety known as Japan No. 7 was resistant to wilt. This melon was then crossed on Stone Mountain, which is a most delicious American type. This resulted around 1934 in the new wilt-resistant Stone Mountain No. 5. An improved strain of this variety had the exceptional earliness of the Japanese types and is being grown with success all the way from Iowa to just over the Western Canadian boundary.

In 1936 a most ingenious scheme was reported for the creating of early watermelon types. Melons if grown together will cross in all directions. An amateur plant breeder connected with the well known seed firm of Gill Brothers in Portland, Oregon, took advantage of the ease with which watermelons carry on cross-fertilization by growing all the first early varieties together. He then made the best selection resulting from the crossing that occurred between the differnt varieties. This gave rise to the delicious sort Early Arizona, which is the choicest of the medium early types so far grown in Canada. In 1937 seed sown on May 28th at Winnipeg ripened its first fruit on August 22nd. Early Arizona has a most attractive appearance and its popularity will extend far beyond the cooler regions of the Pacific Coast. The average weight of this melon differs all the way from six pounds in Manitoba to twenty pounds in New York State.

Another new discovery is also going to add to the value of the northern grown watermelon. In the hands of skilled experts astonishing results are being accomplished from the use of in-breeding. Dr. D. R. Porter of the University of California is the father of this new method. Work by selection in watermelons was initiated in California in 1923. In 1930 Dr. Porter commenced to inbreed Striped Klondike. By 1936 he had progressed far enough to release Striped Klondike No. II, which has the honour of being under chemical test the sweetest watermelon growing on the American Continent. By inbreeding also seven generations for resistance to wilt, he placed on the market in 1937 the wilt resistant Klondike R7. This outstanding work has proven that through inbreeding within selected strains it is possible in the case of the Klondike variety to increase both the sweetness and relative resistance to wilt. Inbreeding may become a strong factor in the selection of earlier and sweeter melon strains for the north. The Japanese have used eight generations of inbreeding in their variety Sweet Sensation. This has given the west such a good melon that upon sampling this sort the well-known horticulturist Dr. A. F. Yeager declared that this variety was almost ideal for the state of North Dakota. Dr. Currence of the University of Minnesota has also had the same astonishing results through the use of this method. By inbreeding the Soviet variety, Northern Sweet, he shortened its season to such an extent that today it is being grown as far North as Indian Head in central Saskatchewan.

With so many new extra early watermelons on the market and with highly improved breeding technique, it should not be long until every section of the prairie has a watermelon to fit its needs.

• • •

REGULATIONS CONCERNING THE IMPORTATION OF PLANTS

C. A. S. Smith and W. A. Cumming

Practically all of you who are interested in Horticulture, either as amateurs or as a matter of business, know that when you wish to replenish your stock or to secure new varieties of plants from a foreign source you must secure a permit to import these, and that the plants must be inspected before they are released from the customs. Sometimes these requirements by the Government may seem onerous. You think that it is so much trouble to go to just to bring in a few inexpensive

plants that you saw advertised in a catalogue or a newspaper or heard advertised over the radio. Perhaps it does cause some inconvenience, but, like everything else you do, familiarity with the procedure renders the task simple and perhaps even enjoyable. There is a definite value in controlling the movement of trees, shrubs and plants from one country to another. The enactment of insect pest legislation is not for the purpose of discouraging international trade, but rather for the protection of you who are lovers of plants and things beautiful. It is a well known fact that the most insidious of our insect pests and plant diseases are of foreign origin, and it is to prevent the introduction into Canada of further pests that the "Destructive Insects and Pests Act" was passed. The Department not only operates this preventive service at Ports of Importation, but is engaged in carrying on extensive field projects with a view to controlling and, if possible, erradicating those pests that have secured a foothold and are proving a menace.

The question of why permits are necessary has often been raised. The two most important reasons are first, to prevent the importation of plants that are prohibited entry on account of some specific pest or disease, and, secondly, to assist the Department of National Revenue in the enforcement of the regulations. With regard to the first point, it should be mentioned that if an importer is refused a permit for plants that are prohibited entry, he is saved the cost of the plants, which would have to be seized on arrival in Canada, as well as the transportation charges on a shipment that the law would prevent him from clearing Customs.

Under the Act there are a series of general regulations, seventeen foreign and nine domestic regulations. The General Regulations empower the Department to inspect any plant or plant product that is offered for entry into Canada and which, if found infested with any pest or disease, may be refused entry, treated or destroyed. Provision is also made for the inspection of export shipments, powers of inspectors, the disposal of infested material, the importation of plants for scientific purposes, etc.

The regulation of greatest interest to us will undoubtedly be Regulation I (Foreign), which deals with the importation of nursery stock from all countries.

In accordance with the regulations, the importer is required to secure a permit. This may be secured from the Secretary, Destructive Insect and Pest Act Advisory Board, Ottawa, by the use of an application form provided by the government, or it may be issued upon application by ordinary letter.

It is essential that the Department be advised as to the quantity and varieties of plants to be imported, in addition to the name and address of both the consignee and the consignor. The permit must be presented to the Customs as the ports of clearance before release of the shipment can be secured. The number of the permit must be supplied to the shipper, which must be placed on the container together with a copy certificate of inspection. Nursery stock may be imported at any season of the year but only through one of the following ports: Halifax, N.S.; St. John, N.B.; Montreal, Que.; Ottawa, Ont.; Niagara Falls, Ont.; Windsor, Ont.; Winnipeg, Man., and Vancouver, B.C. On arrival at one of these ports the nursery stock is either inspected or permitted to proceed to destination for examination.

Provision is also made for the forwarding of small shipments by parcel post. When an importer applies for a permit and indicates that the shipment is to be forwarded by mail, he is supplied with an official mailing label which should be forwarded to the shipper to affix to the package. This ensures the package being inspected at one of the ports designated above, and including Toronto. If, after inspection, it is found or believed to be free from pests or diseases, it will be permitted to proceed to destination in bond without the payment of additional postage.

Quite often people travelling in other countries bring back plants that they have seen growing, and find on arriving at the border that these are confiscated. To avoid such complications plants secured should either be expressed or mailed in care of the Inspector on the nearest direct route to the destination. When it is possible to anticipate bringing plants back with you a permit can be secured from Ottawa before-hand.

We all know that the introduction of insect pests and diseases is not confined to shipments of nursery stock. They may come in on any product whatsoever, or on vehicles, freight cars, boats, etc., as well as on personal baggage and clothing. It would be impossible to maintain a rigid inspection of everything that came into the country, but, in-so-far as staff and time will permit, plant products, in addition to plants, arriving from all parts of the world, are inspected.

The success of an undertaking of the nature of this inspection service is largely dependent on the assistance and co-operation of all those participating, the importer, the shipper, the transportation companies, the Customs brokers and the officers of the Dominion Government. For any one to neglect his part means delay and possible injury to the plants, which

everyone is anxious to have arrive in good condition. It is very gratifying to state that the spirit of co-operation and willingness to assist is very evident on all sides and it is to be hoped that this preventive service may operate more and more successfully for the benefit of lovers of flowers and horticulturists in general.

Articles Appearing in 1937 Issue:

GARDEN PLANNING
THE SOIL IN RELATION TO THE PRODUCTION OF GARDEN CROPS
FERTILIZER FOR WINNIPEG GARDENS
SHRUBS FOR MANITOBA
THE GLADIOLUS
ROSES
HERBACEOUS PERENNIALS
ANNUAL FLOWERS
SWEET PEAS
ROCK GARDENING
PEONIES
GROWING BULBS FOR WINTER BLOOM

The Winnipeg Horticultural Society wish to thank the following firms for donations toward prizes in last year's flower show.

J. H. ASHDOWN HARDWARE CO., LTD.
BREWERY PRODUCTS LTD.
CANADA PACKERS LTD.
JOHN A. FLANDERS & CO., LTD.
McFAYDEN SEED CO.
OLDFIELD, KIRBY & GARDNER LTD.
SWIFT CANADIAN CO., LTD.
WINNIPEG CITY HYDRO ELECTRIC SYSTEM
WINNIPEG ELECTRIC CO.

They also wish to express their appreciation for the co-operation of

THE T. EATON CO. LTD.
WINNIPEG AQUARIUM SOCIETY
WINNIPEG GLADIOLUS SOCIETY
WINNIPEG PUBLIC PARKS BOARD
PROVINCE OF MANITOBA

in making the show a success.

Canadian Publishers Limited
619 McDermot Avenue, Winnipeg