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Thinning Fruits: The Strawberry Harvest: Color Schemes for Garden

The Canadian Horticulturist

JUNE, 1907

Volume 30, No. 6

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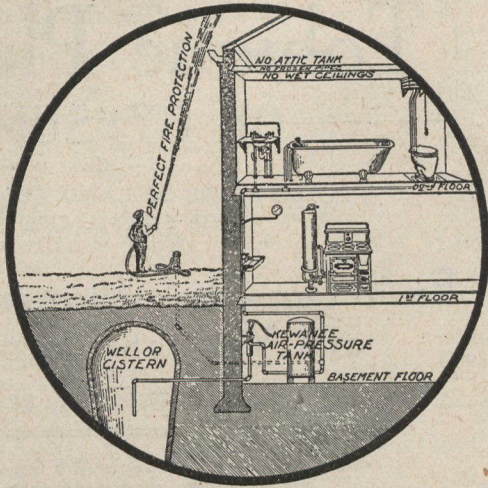
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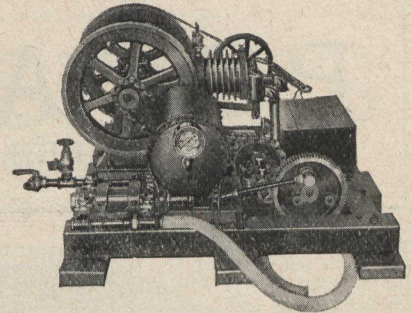
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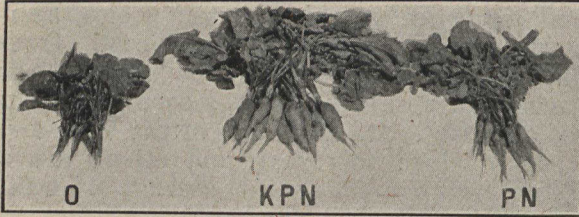
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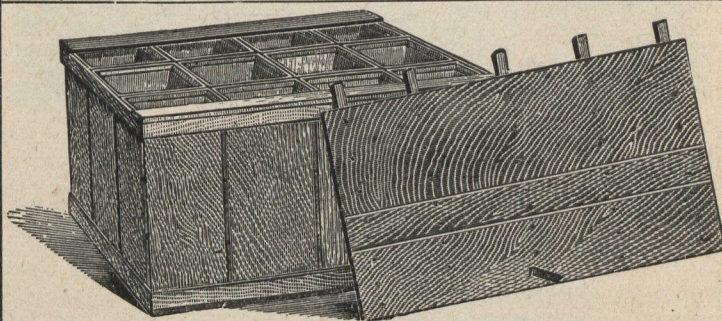
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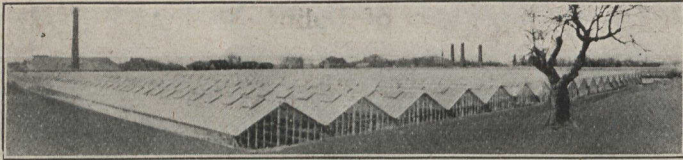
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Vol. XXX

JUNE, 1907

No. 6

Thinning Fruit on Trees Increases Profit

PRUNING the wood and thinning the fruit are allied processes in fruit culture. Any system of pruning materially affects the productiveness of the tree in the following and succeeding seasons. The practice of heading-in peach, pear and plum trees is virtually a thinning process as it removes a portion of the bearing wood. To supplement the work of pruning and to affect the productiveness of the current season it is necessary to remove by hand the superfluous fruits. By doing this, some important things are accomplished. The trees will be stronger and more shapely; they will not break or be injured from an over-burden of fruit; the crops of fruit will be more regular; the labor in culling will be reduced; and the fruits will be greatly improved in size, quality and appearance, and consequently will bring a much better price. Thinning is a means of insurance against insect and fungous enemies, as it not only destroys infected specimens, but by stimulating the growth of foliage and twig, it enables the tree to better withstand such depredations.

Many growers think that the operation of thinning is expensive. As it is performed when the orchard is giving no returns, it may seem expensive at the time, but after-profits and increase in profits fully compensate for the early expenditure. A carefully recorded trial for one season will convince the most sceptical that *it pays to thin*.

When apple trees are thinned, the larvæ of the codling moth are killed when the removed fruits dry up or decay on the ground. The same thing occurs in the case of pears and quinces. When plums and cherries are thinned, it destroys also large numbers of curculio.

Peaches should be thinned as soon as the fruit is nicely formed, and before the seeds commence to harden. The usual custom is to thin soon after the so-called "June drop," which takes place when the peaches are about the size of marbles. All diseased, stung, distorted and injured specimens should be picked off, regardless of position. A sufficient number of others should be removed so as to leave on the trees the

best specimens, not less than five or six inches apart. The best grade of fruit is obtained when no more than three or four peaches are left on a fruiting branch, the previous year's growth. In the following letter to THE CANADIAN HORTICULTURIST, Mr. E. D. Smith, M.P., of Winona, Ont., states his experience:

"My experience in thinning fruit on trees has been eminently satisfactory. Some four or five years ago was my first trial, and it was in the nature of an experiment. I had ninety Triumph peach trees, four years old

A Marked Improvement

I congratulate THE CANADIAN HORTICULTURIST on the very material improvement that has taken place in its make-up and in the character of its articles during the past two years. May it have the greatest measure of success.—William Stuart, Horticulturist, Vermont Agricultural Experiment Station.

This is a variety that loads very heavily. These trees were in the pink of condition and, in June, I made an estimate of the number of peaches on an average tree, which was about 1,000. I estimated that these trees could not sustain more than 400 peaches to bring them up to the size of No. 1 peaches, or eighty to the eleven-quart basket, making five baskets from a tree. I therefore, thinned off an average of 600 peaches from every tree, leaving the peaches on an average four inches apart. I harvested just about five baskets to the tree, seventy-five per cent. of them being No. 1, which I sold at sixty cents a basket. The remainder were good, strong No. 2, which I sold at forty cents a basket. I left five trees as a check. These five trees were so heavily laden that the peaches were too small for even No. 2, though the land was exceedingly rich. They were not suitable to send to my customers; I sent them to a commission market, where they could be sold for what they were worth. I got

for them just enough to pay for the baskets and the express and cost of picking, no more. Besides that, two of the trees were split to pieces and took three years to recover.

"After this experience I did not require to make further experiments. The only fault in this one was that I did not thin quite close enough. If I had thinned a little closer I would have had all No. 1 peaches. This should be the aim of every grower. There is no necessity for any No. 2 peaches being grown, barring accidents or extraordinary dry seasons. The price of No. 2 peaches ought to be set very low by buyers.

"The knowledge of the immense benefits of thinning peaches is beginning to produce a revolution in regard to the varieties of peaches to plant. All varieties which bear extremely heavy are necessarily bound to produce small peaches. On the other hand, most of the varieties which bear heavily are naturally hardy and produce almost annual crops. Take, for instance, Crosby and Longhurst. These two varieties scarcely ever fail of a crop and can be planted over a much wider area of territory than such varieties as Early Crawford, Late Crawford, Fitzgerald, Elberta, etc. These and many others are large, fine sorts. Of late, people have stopped planting in the fruit belt all white peaches and all varieties that do not naturally grow to be large in size, realizing the absolute necessity of having large, yellow peaches, but now they are beginning to discover that there is another way of getting large peaches and a much surer way because, with the varieties named and most others of the large sorts, there is a great uncertainty as regards the crop. One year there is a good crop, the next year, perhaps, there is a failure owing to the buds being comparatively tender. Not so, however, with these hardy sorts; they bear almost annually, and if the peaches are thinned down to about five or six inches apart, they will be of a size to go for strictly No. 1 peaches. On good ground they are perfectly satisfactory for No. 1 fruit, and the Longhurst is of a specially good quality for canning. The Crosby is also of excellent quality.

"In consequence of finding this out from the very considerable amount of experimenting that has been done during the past few years in this line, many growers are now contemplating planting these hardy, regular bearing sorts, which produce fruit of choice quality. Thinning is an inexpensive matter. I kept an accurate account of the cost on

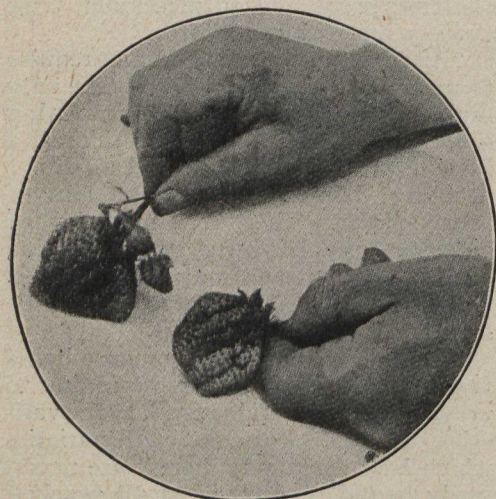
many occasions, and it only amounts to about one cent a basket on the fruit on moderate-sized trees. On large trees a step-ladder had to be used and it would cost more, probably two cents a basket.

"Just about as many baskets can be got from a tree, however, by thinning to five or six inches apart, as if left unthinned, and the peaches are worth two

or three times as much money per basket. The maturing of the seed of the peach seems to be the heaviest drain upon the tree; consequently, when from one-half to three-quarters of the peaches are pulled off, the drain upon the tree is immensely reduced and this unused strength goes to develop the size of the peaches remaining."

Ripe Strawberries and How to Handle Them

BEFORE picking time, the strawberry patch should be mulched between the rows with straw or cut grass. This may have been done earlier in the spring by the use of ma-



The Right and Wrong Way to Pick Strawberries

The strawberry in the left hand shows how it should be picked, with just enough stalk to catch hold of. The berry in the right hand is wrongly and carelessly picked.

buyer. For the best market, choice fruit should be picked by pinching off the stem, touching the berry as little as possible. See the illustration. For the general market, the fruit may be picked by running the fingers beneath the fruit and hull and removing without any of the stem adhering. In either case, the picker should not take direct hold of the fruit.

Fresh picked berries should not be left in the sun. Each box should be placed 'neath the shady side of the foliage, and when four or five are picked, the number depending upon the size of the carrier used, they should be removed at once to the shed. For rapid work, small boys or girls should be employed to carry the picked fruit from the picker to the shed and to supply the former with fresh boxes.

Boys and girls are not satisfactory as pickers, but when labor is scarce they must be employed. Women make the best pickers because they have better judgment in sorting and caring for the

fruit, are much less inclined to idleness and play and know better the value of their wages. In a field of considerable size, a superintendent constantly on the ground is essential. He must keep a close watch on the work of the pickers, see that the berries are picked clean and at the proper stage of ripeness, that none are destroyed by lounging or tramping upon, that assorting is properly done and the boxes or baskets well filled, and that the boxes are properly crated for the delivery wagon.

The boxes should be as clean and bright as they can be secured. Nothing will detract more from the price of a quart of strawberries than a soiled box. The crates also should be clean and well built and should bear the grower's name.

In crating the boxes, they should be alike from top to bottom, both the berries in each box and the boxes in each crate. As far as possible, a crate should be made up of one variety. In an exacting market, there is much importance in this assorting and care of the fruit.

terial that was employed as protection for the winter. Unprotected patches and those on which the covering was light, or from which the material was removed in the spring, should be mulched a few days previous to the time for harvesting. The main purpose of this mulching is to prevent the berries being sanded by rain and wind near picking time. It will make the work of picking easier and it will help to conserve soil moisture and thereby increase the size of the fruit.

Every fruit farmer who grows strawberries for market should erect a shed to be used to shade the fresh fruit from the sun, and to be used in packing crates and preparing for market. The shed can be built in the field or made portable.

There are two distinct classes of strawberry growers, the few who cater to a fancy trade and the great majority who aim to sell in the general market. The former cannot succeed unless he has private customers or has the intelligent cooperation of his commission merchant. These growers are particular in their methods of picking and marketing, more so than are those who sell to the general



Packing Shed on Fruit Farm Where Big Strawberries Are Grown
Plantation of Mr. Newton Cossitt, Jr., Grimsby, Ontario.

The Relation of Tillage to Soil Moisture

PROPER and timely tillage is one of the great secrets of success in orcharding. Tillage improves the texture of the soil; it brings the plant foods of the soil into that condition most easily absorbed and used by the plant; it saves soil moisture; it destroys many insect pests; it benefits the soil in many ways. In this article we shall discuss one phase of the question only: The relation of tillage to soil moisture.

GRASS IN THE ORCHARD

In many parts of our country, orchards in grass or weeds are very common, so much so that one would judge

acre of land by cultivation would be equal to, at least, one-fourth of an inch of rainfall, or about 7,000 gallons. These investigations, and countless others that could be cited, show that cultivation of the soil is productive of good results, that tillage is most important in the conservation of soil moisture.

Cultivation, or stirring of the surface soil, saves the moisture in the depths below by producing a top layer of loose soil and thereby preventing evaporation of moisture from the surface. In other words, it covers the soil with a surface mulch of earth. It is a common observation that ground beneath a

tillage alone depends largely upon the quantity of water that has been stored in the soil by the snows and rains of winter and spring.

Tillage also increases the water-holding capacity of the soil. If the surface soil is light and loose, the rains that fall during the summer months will readily soak into it. But if the surface is allowed to become hard and baked, much of this rain is lost by surface drainage. Seldom, however, sufficient rain falls in summer to meet the demand of orchard trees. Hence, the conservation of that which does fall is an important factor in orchard management. We



Rye Cover Crop in Dwarf Pear Orchard

A part of the fruit orchards of W. M. Orr & Son, Fruitland, Ontario, taken about five years ago. See illustration on next page.

this method of treating the orchard the correct one. In exceptional and isolated cases, it may be advisable to have the orchard in sod. Usually, however, the fact is, as the writer once heard it aptly put, grass in an orchard has the same effect as a number of pumps in the land, pumping the water out of it, and robbing the soil of the moisture needed by the fruit trees.

Investigations have proven that the loss of moisture from a soil covered with growing grass is nearly $2\frac{1}{2}$ times greater than that lost from naked soil; also, that evaporation from a soil that is kept constantly stirred by cultivation is only four-fifths that from a hard surface. Definite experiments under natural field conditions have shown also that water saved during a week on an

light covering of straw, sawdust or even boards, is always moist even in time of severe drought. This covering has merely prevented the escape of the moisture that was already in the soil. A mulch of finely pulverized soil acts in precisely the same manner.

WATER MORE IMPORTANT THAN FOOD

Orchard trees suffer more from a lack of moisture than they do from a lack of plant food. This is particularly true in seasons of long droughts. A drought seems a great calamity but, oftentimes, it is not quite so formidable as one might suppose. In some of the western parts of the United States, fruit trees are carried through a season of no rains, lasting five months, merely by thorough cultivation. The length of the season that can be bridged by

should husband this rain by tillage and give our trees the moisture needed for best results.

Deep working of the land and fall plowing also play an important part in controlling soil moisture. The former, by encouraging the roots to go deep, rather than run along just below the surface; and the latter, by leaving the surface of the soil uneven and thereby permitting the soil to absorb and retain large quantities of the winter rain and snow.

WHEN AND HOW TO CULTIVATE

In the preceding remarks, the attention of the reader has been directed to the principles of the operation. The detail of the actual work rests with the grower and his particular conditions. If he has clearly in mind the objects to be

obtained, the practical application of the principles should be a comparatively easy matter. As a general statement, however, that tillage is best that begins as early in spring as the land can be worked and continues at intervals of 10 days or two weeks until midsummer.

Cultivate also after every rain, so as



Clean Culture in Quebec
Orchard of R. W. Shepherd, Como.

to keep the surface mulch in good condition. Cultivate every particle of soil to a depth of three inches. On heavy clay soils, deeper cultivation in early spring will sometimes give good results; but clayey soils should not be worked when too moist. About midsummer, when the wood of the tree is nearing maturity for the season, cultivation should cease altogether. At the last cultivation, a cover crop should be sown.

The Currant

Wm. Fleming, Owen Sound, Ont.

Currants will grow in any soil, but will not bear sufficient crops to make them profitable except in rich, cool soil with a clay subsoil. Do not plant too close. Currants do not bear much until the third year. By that time the plant should be quite large, five or six feet across, and there should be plenty of room for sunshine and scuffling, hoeing and gathering the fruit; therefore, seven to eight feet apart each way is what gives the best returns. Two-year plants should be set and, to ensure a perfect catch and a large bush, set the plants double in well-cultivated, clean, rich ground, the same distance apart each way, so as to allow cultivating by horse two ways.

There are many varieties of black currants that deserve notice, and which give good satisfaction, such as Black Naples, Lee's Prolific and Champion. Lee's Prolific is equal in quality to the others and is the best bearer.

The best of the red currants are: Fay, Ruby, Cherry, Victoria, Versailles, Star, Red Cross and Perfection. Victoria and Versailles are the most abundant

bearers, but small in size of fruit. Ruby bears larger fruit and commands a higher price. Fay is the largest fruit, but a shy bearer. Perfection, a new variety, being a cross between Fay and White Grape, promises to be the best red currant so far. It is large in size and an abundant bearer.

In the white currants, the leading varieties are White Grape and White Dutch. The former is by far the better. It is large in size, of fine quality and an enormous bearer.

Currant Bush Pests

W. E. A. Peer, Freeman, Ont.

The currant worm is, perhaps, the most serious pest of the red and white currants. These, if left alone, in a very few days will strip a bush of its leaves, and the fruit for that season becomes of little or no use. These worms make their appearance in the middle or latter part of May. If treated at once to a dose of Paris green they will give little or no further trouble. It sometimes happens, however, that a second brood makes its appearance about the time the fruit is ripening. As the fruit is about ready for market, many neglect their bushes at this time, thinking that the loss of leaves then is of little consequence. Here they make a mistake, as the leaves have yet to develop the fruit buds for the next season and prepare the plant for the coming winter.

When branches of a currant bush show loss of vitality, and the currants wither, there is in all probability a currant borer at work in the pith of the

branch, sapping its energy. When this occurs, cut out the branch at once and burn it, thus destroying the pest it contains. In localities where the San Jose scale exists currant bushes should be carefully watched. This insect seems to thrive and do exceedingly well on this particular plant, upon which it is frequently overlooked. Orchardists frequently have had their spraying operations partly nullified by neglecting old currant bushes that were badly infested with scale in close proximity to their orchards.

Planting Fruit Trees.—When fruit trees are to be planted the soil should be dry and in good condition, thoroughly plowed, and so prepared as to be fit for the production of a good crop of corn or wheat. If naturally moist, it should be thoroughly drained, and if exhausted by cropping, carefully dressed, as trees will not thrive on weak soils, or on such as are saturated with stagnant moisture.

Care of Peach Trees.—I try to keep my peach trees healthy by fertilizing them and cultivating frequently. In June I hoe around the trees and cut out all borers. In the early spring the trees are pruned slightly, especially the varieties that are in the habit of overbearing. In June those that overbear are thinned by picking off the surplus, leaving the peaches three to six inches apart. In pruning I aim to keep the trees headed back to force new wood and prevent them getting too high.—J. M. Metcalf, Grimsby, Ont.



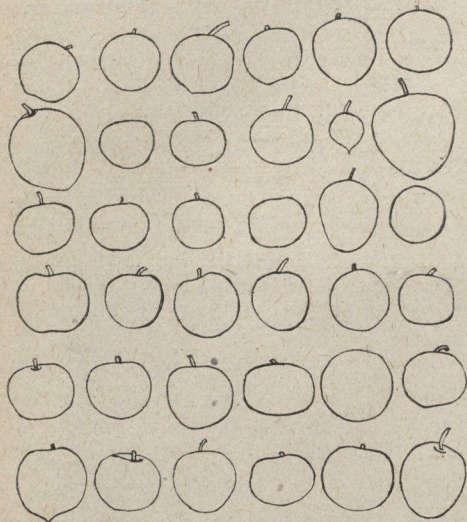
View of Dwarf Pear Orchard this Spring
corner of orchard illustrated on page 137.

Improving and Originating Varieties of Apples

B. S. Pickett, Champaign, Illinois

(Continued from last issue)

WITH his ideal definitely in mind, the breeder studies the varieties most nearly approaching it, either in one particular or in a number for with



Types of Seedlings

All from one variety, showing about the normal variations of apple seedlings.

these he will work. Certain varieties will present highly productive qualities, and possibly poor dessert quality. Other varieties will present the opposite alternative; while still others will exhibit intermediate characters. A very much diversified classification might be made, but for the sake of simplicity let us place the available sorts into three classes: number 1 to contain the most productive sorts, regardless of quality; number 2, the standard commercial sorts; and number 3, the varieties of high quality, regardless of productiveness. If the following apples are available, Baldwin, Ben Davis, Duchess, Fameuse, Tolman Sweet, Jonathan, McIntosh, Northern Spy, Oesopus Spitzenburg, Gravenstein, Stark, Tompkins, King and Wallbridge, the classification is about as follows:

CLASS I.	CLASS II.	CLASS III.
Baldwin	Baldwin	Fameuse
Ben Davis	Ben Davis	Jonathan
Duchess	McIntosh	McIntosh
Fameuse	Northern Spy	Northern Spy
Stark	Spitzenburg	Spitzenburg
Wallbridge	Tompkins King	Tompkins King
Tolman Sweet	Fameuse	Gravenstein

From this list should be discarded those varieties whose season, color, or size seems unfavorable for use in his experiment. Duchess, Fameuse, Wallbridge and Tolman Sweet would be eliminated from class 1; McIntosh and Fameuse possibly from 2; though their high color and flavors might suggest a trial in spite of their early season; and for the same reason, McIntosh, Fameuse, and Gravenstein might be retained or discarded from class 3. With a comparatively few varieties before him, the

breeder studies the apple race or group to which each belongs. Baldwins and Ben Davis appear in both classes 1 and 2. Both are varieties of wide distribution and adaptation. Each is weak principally in point of dessert quality; and, therefore, these two varieties would immediately suggest themselves for use in the experiment. Flavor and quality represent physiological units not to be obtained readily by selection (though, once obtained, they may be intensified by selection); hence, the breeder must rely on crossing or upon the appearance of a "mutation" to obtain the desired combination of flavor and other attributes. With what varieties shall the crosses be made upon Ben Davis and Baldwin? Ben Davis impresses its character very strongly upon its seedlings, as seen in Gano and Black Ben Davis (Ragan's Red), so that if favorable results are to follow its use, wide crosses, i.e., with distinctly unrelated varieties, should be made. Baldwin, on the contrary, belongs to a group of highly flavored sorts, the Spitzenburg group, including both Jonathan and Spitzenburg; hence, crosses with its near relatives would be advisable. Of course, it would be advisable to make other

Spy, another variety with which work would certainly be done, considerable scope for improvement is offered by means of bud-selection, since Northern Spy is quite variable and since selection would be in the direction of precociousness in bearing, uniformity in size, and better keeping quality, all of which characters are much more easily augmented by selection than would be such a character as flavor. Northern Spy is, moreover, prepotent, having impressed its character on various crosses, Ontario, Pewaukee, and so on and is recognized as a valuable parent for crossing. Thus through the list the breeder goes, studying each variety and planning his crosses; and some such plan as the following would be decided upon, the crosses being made reciprocally:

- Ben Davis x Northern Spy
- Ben Davis x Jonathan* (using imported pollen)
- Ben Davis x Spitzenburg
- Baldwin x Northern Spy
- Baldwin x Jonathan* (using imported pollen)
- Baldwin x Spitzenburg
- Jonathan* x Spitzenburg
- Spitzenburg x McIntosh
- Baldwin x McIntosh

*Jonathan is recommended in spite of the fact that it is not an Ontario apple, because of its close relation to Baldwin and Spitzenburg.



Plowing-in Mammoth Clover with a Sulky Gang Plow
Illustration from Hillcrest Orchards, Kentville, N.S.

crosses as well, but the practice of both animal and plant breeders points to the advisability of such crosses as those mentioned. In the case of Northern

Having secured his crosses and propagated his seedlings, the process of elimination begins. In accordance with the score card, the seedlings are examin-

ed from time to time, and the weaker ones are thrown out; and, finally, on fruiting, those which stand the tests of growth and health are compared as to performance.

The production of an improved new variety may be far from complete at the end of the first cross. In studies of the behavior of crosses, it has been observed that the offspring of the crosses frequently show a wider range of variation than do the crosses. The breeder must, therefore, make provision for testing the offspring of his crosses, as well as the original crosses themselves. To hasten the fruiting of his crosses, he will resort to grafting on older trees, using scions from each of his seedling crosses, and planting seed from this generation, *fertilized by pollen from the same cross*, as soon as blossoms can be obtained.

Moreover, it may be necessary to intensify the characters of a cross by further crosses. For example, a variant appears among the Ben Davis x Spitzenburg crosses essentially Ben Davis in everything save a faint suggestion of Spitzenburg flavor. Such a variant should be crossed again with Spitzenburg; for, according to the laws of hybrids (which apply with equal certainty to all pure characters in all crosses) somewhere among the offspring must appear some individuals possessing the desired flavor character in a marked degree. Indeed, were the crosses themselves fertilized among themselves, the intensified flavor "character" would appear somewhere, providing numbers sufficiently large were used; but the probability is greatly increased by using pure Spitzenburg blood in the second cross.

It is impossible to state the number of seedlings that should be grown from each cross. The breeder will be limited by his facilities for testing, rather than by the number of pollinations that can be made. The more seedlings that can be grown, the greater the chances for success. In the instance just given, I believe that 1,000 first generation seedlings should be grown from each cross, and twice as many second generation seedlings, in case the desired variations fail to appear in the initial trial. This makes a total of 9,000 first generation seedlings, and 18,000 second generation seedlings, of which at least one-half should be eliminated within three years of age, and probably two-thirds before bearing age. Planted 10 x 12 feet apart, these would require 12 acres for the testing of the first generation and 24 acres for the testing of the second generation; or, planted 12 x 15 feet, would require 18½ acres for the first generation and 37 acres for the second. The writer believes, however, that the former distance is sufficient for testing purposes.

The example given is typical of the methods employed in originating new varieties of orchard fruits. Each case will, however, require its own particular treatment, as regards choice of foundation stock and method of procedure; that is, whether by bud selection, importation of foreign varieties and species, change in environment of the plant, crossing and so forth.

Weeds in Lawns

In many lawns, weeds are persistent nuisances. No matter how careful has been the selection of seed or fertilizers, weeds will make their appearance. Frequent mowings will destroy many young

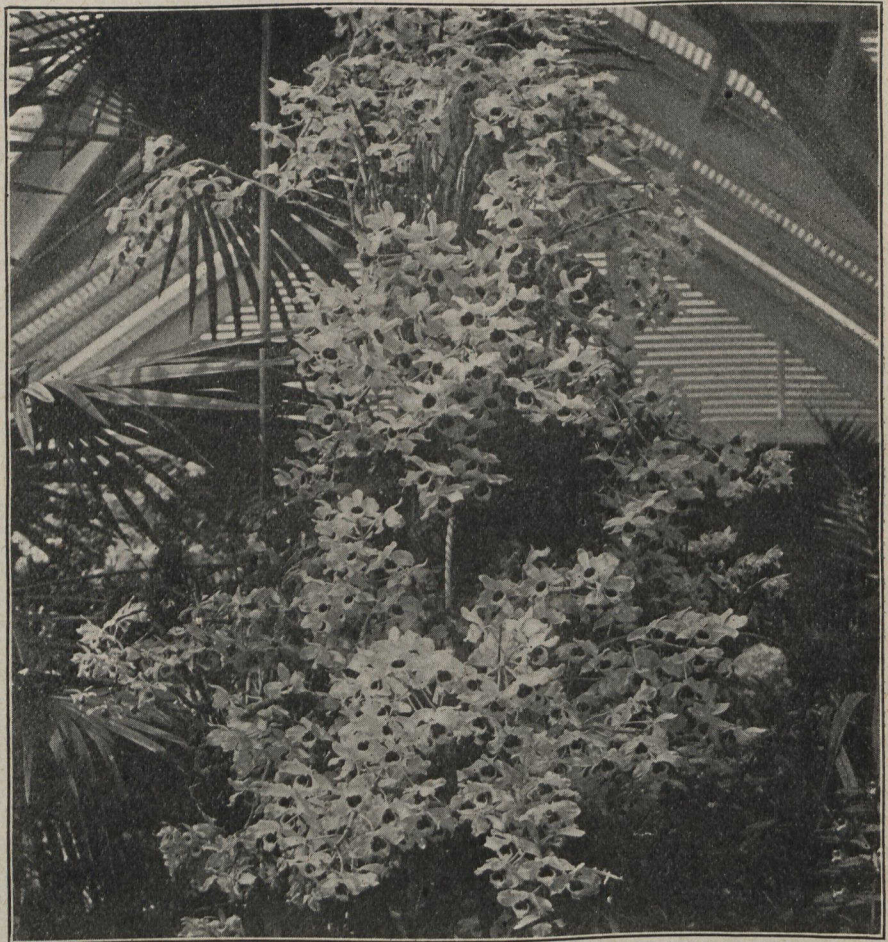
disturbing the surrounding sod. It is an inexpensive device and should be in everyone's collection of garden tools.

Weeds are more prevalent in thin lawns than in those that are thick and velvety. By improving the turf, thickening it, most weeds will disappear.

Dendrobium Wardianum

The illustration on this page represents a beautiful specimen of *Dendrobium Wardianum* Lowii as grown in the greenhouse of Mr. R. B. Angus, of Montreal. The photograph was taken in the third year of flowering.

While this variety of orchid is a free bloomer, as may be seen from the illus-



A Free Blooming Orchid in a Montreal Greenhouse

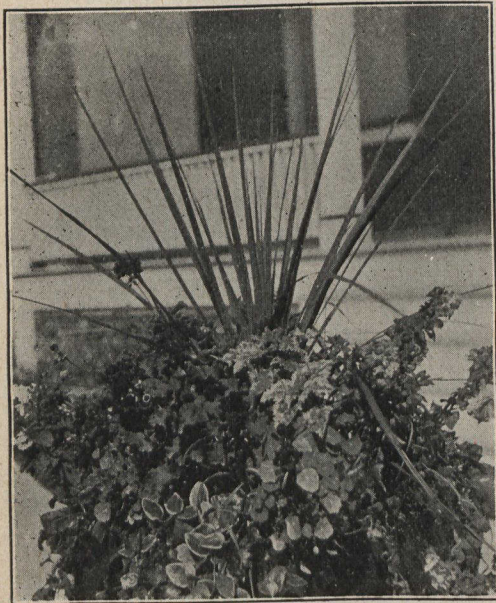
weeds, but too frequent cuttings in dry weather often weakens the grass and sometimes weeds get the upper hand.

In a newly-made lawn, it is necessary to keep a careful watch on the weeds. They should not be allowed to get a start sufficient to make them troublesome. Dandelions, narrow-leaved plantains, docks and that class of weeds can scarcely be gotten rid of except by spudding. These tools can be secured from any seedsman. There also are other excellent tools for ridding lawns of weeds. Among these is the Cleveland Lawn Weeder. With it, one can get at the root of the evil and remove it without

tration, it has not proved to be a durable one with private gardeners. This may be owing to the flowers being allowed to remain on the plant too long or to the necessity of having to place them, when in flower, in the cool and often draughty conservatories. That they may be grown with much satisfaction when given particular care and attention is evidenced by the success that has been attained by Mr. Wm. J. Wilshire, gardener for Mr. Angus, in the production of the specimen illustrated. It should be an incentive to greater efforts on the part of others who are growing this valuable variety.

Lawn and Garden Hints for June

THE only way to secure satisfactory results in the flower garden is by giving the details careful study. Many pleasing effects may be had by the exercise of forethought. Even tropical



Box of Plants on Lawn

A cheap and effective means of adornment—an ordinary wooden box, painted and filled with plants—a central dracaena surrounded by coleus, geraniums, vincas, petunias and nasturtiums.

effects may be had by the judicious selection of plants that are appropriate. One of the best of these is the ricinus or castor oil plant. It can be grown from seed. It has immense palmate foliage of a rich green, shaded with red with a metallic lustre. It grows to be eight or ten feet high, and branches freely. It is excellent for the centre of a circular bed.

The canna is a sub-tropical plant, and may be combined with others to excellent effect. Some varieties are tall growers, while others are dwarf. In addition to its fine foliage, it bears brilliant flowers that give color to the arrangement. For beds of this kind, there are other plants such as palms, screw pines, ficus, caladiums and aspidistras, that can be put out of doors in summer with advantage.

AMONG THE FLOWERS

The best of all the summer flowering bulbs is the gladiolus. It is a flower anybody can grow, and it is lovely enough to suit the most exacting. You can have it in the most delicate colors if your taste runs in that direction, and you can have it in colors of much brilliancy if such are your preference. For cultural directions, read the article by Mr. Groff that appears in another column.

In the annual flower beds, be sure to have plenty of mignonette. It is one of the most useful flowers for cut-

ting. Among other common annuals that should be in every garden are marigold, petunias, eschscholtzia, portulaca, calliopsis, salpiglossis, balsam, zinnias and poppies.

One of the best general purpose hardy border plants is the perennial phlox. It gives an almost solid mass of color for many weeks. Give it a good, rich soil, keep the grass and weeds away from it, and that is all the attention that it needs.

Have plenty of hollyhocks but do not plant them singly. They are more effective when grouped. It is a good plan to sow a packet of hollyhock seed each summer. By doing this, you will

have a fresh lot of young plants for each season's flowering. It is from young plants that you must expect your finest flowers.

During the summer, the size of pansy flowers can be kept up by watering two or three times a week with water in which cow manure has been soaked. You can hardly give them too much. If it gets on the leaves, rinse them with clean water. Pick off the faded blossoms.

If you want to get extra large flowers of sweet peas for exhibition or otherwise, disbud and only let the number of buds that you require come to maturity.



Fairies in Flowerland

Twin granddaughters of Mr. Amos Hill, Great Village, Nova Scotia, taken in a garden of sweet peas. Photograph furnished by Mr. J. W. Nairn, Truro.

Do not plant dahlias or cannas until all danger of frost is past. Many amateurs plant dahlias too early. Those whose growth has been retarded will produce the finest flowers. Dahlias do not bloom so well during the heat of summer as they do in fall when the nights are cool.

Thinning, weeding, cultivating and watering are the most important chores

THE VEGETABLE GARDEN

Commence to cultivate and hoe as soon as the young plants appear. Do not wait until the weeds get a start. By stirring the soil early, many weed seeds that have sprouted and not yet appeared above the surface, will be killed.

The best time to water the vegetable garden is in the evening, but water it

When danger of frost is about past, sow seed of such tender vegetables as cucumber, pumpkin, squash and melon.

To secure early tomatoes, train them to a trellis or to stakes. Pinch off all the side shoots and allow the strength to go to one stalk.

Hand weeding is necessary in the onion patch. The young plants are easily choked by weeds.

Thin the beets, but do not destroy all the superfluous little plants. They may be used on the table as greens, or they may be transplanted after cutting off most of the leafage. Water them until they become established.

The squash bug is troublesome. Its depredations may be lessened by means of a decoy. Lay small pieces of boards near the squash plants and kill the bugs under them every morning. Squash and melon plants may also be protected from bugs by covering with cheese cloth.

Besides common vegetables there are many that are unusual but worth growing. Why not try something new? Swiss chard, a type of beet, is excellent as a boiled green. Sow the seeds as early as possible. When the plants are up, they may be thinned from time to time, and the thinnings boiled for table use, or they may be transplanted.



Large Mammoth Squash Growing Abundantly in an Out-of-the-way Place

this month. Do not neglect them if you desire the best results.

Prune all the flowering shrubs that bloom before the leaves appear, as these will produce their flowers next spring on this season's growth.

WITH THE FRUITS

If you want to grow larger and better fruit on your trees than you have done in the past, thin the fruit on the limbs this month. Read the article on this subject that appears on another page of this issue.

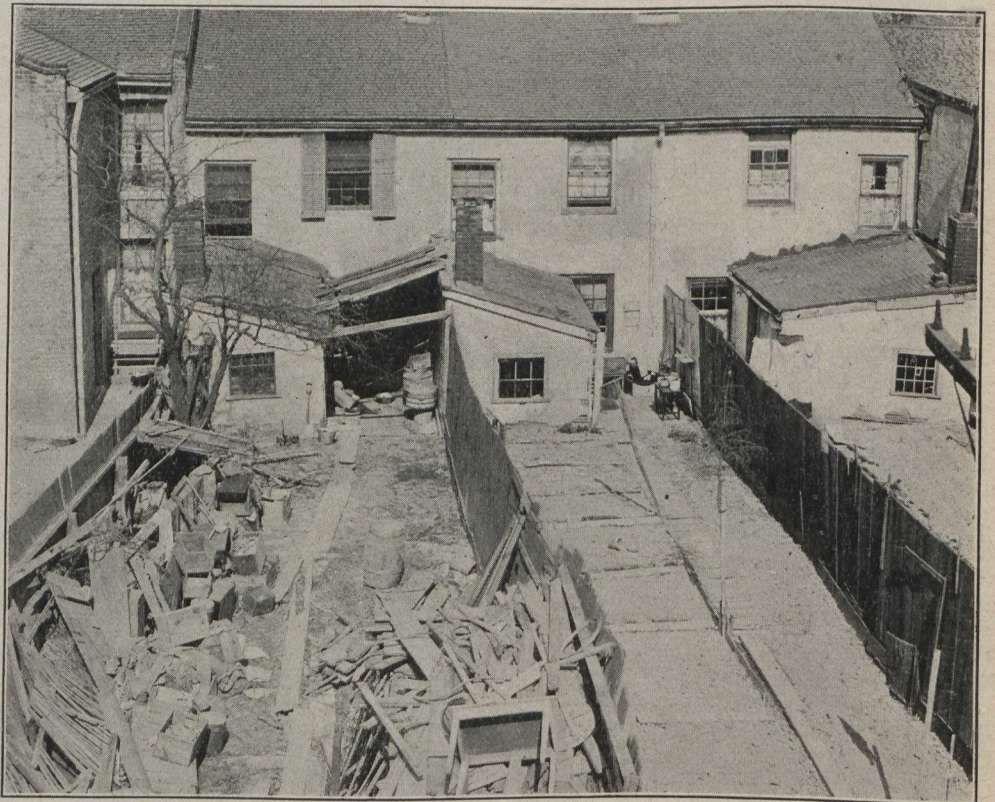
When picking strawberries, keep the newly-picked berries out of the sun. The best way to pick the berries is to grasp the stem and remove about one-half an inch of it with the fruit. Do not separate the berry from the hull until about to be used on the table. The new strawberry bed should be cultivated continually. Remove all the blossoms and allow the strength of the plant to go towards producing a strong crown in the old plant and an abundance of runners. These pointers are for the matted row system. Larger berries, but not so many of them, may be produced by growing the strawberries on the hill system. In this case, all runners should be removed. If a strawberry plant collapses, dig a hill and kill the white grubs.

Fruit trees and bushes should be sprayed if clean fruit is the object. If the home orchard is large enough, the purchase of a knapsack sprayer or even a barrel pump will be a profitable investment.

Gum or sawdust near the base of peach or plum trees indicates the presence of borers. Dig them out or they will kill the tree.

any time rather than allow it to suffer from drought.

Sweet corn can be sown at any time during the month. Late cabbage and



Twin Backyards that Betray Respectively Crude and Refined Ideals

These home gardens, side by side, are object lessons. One, unkempt and uncared for, is a horrible example of a home unimproved; the other, clean and made ready for flowers and vegetables, is a model for others similarly situated to follow. Note also the backyards illustrated on pages 143 and 145.

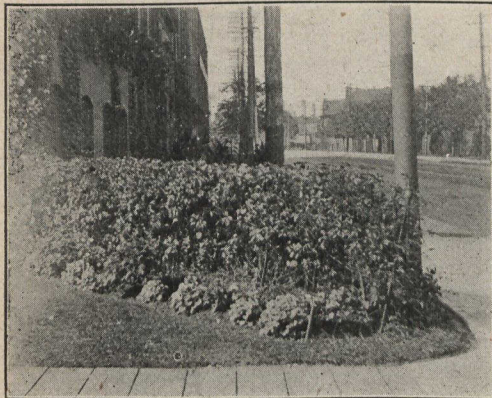
cauliflower oftentimes can be planted between the rows of early potatoes before the latter are done. Try some Savoy cabbage; they are excellent and delicious for table use.

There is no fleshy root as in the case of common beets. Other vegetables that are worth trying are, kale, Brussels sprouts, globe artichoke, cardoon and Chinese cabbage.

Color Schemes for Formal Gardens

Wm. J. Wilshire, Montreal

THE old-time formal garden with its terraces, vases and statues, severely trimmed hedges and trees, and its walks, borders and flower beds, bordered with narrow strips of grass, tiles



A Corner Garden

Planted for beauty and a practical purpose. It prevents short cuts that mar so many lawns near busy city streets. Besides the type illustrated—a hedge bordered with flowers—rockeries are as efficient and as ornamental.

or box-edging, is practically unknown in Canada. The "formal garden," as we know it, is usually a lawn or garden containing a number of flower beds and borders. Sometimes it is laid out in the form of a more or less pleasing design, but often no attempt at artistic arrangement is made, the garden or lawn being crowded with flower beds of every size and description, lack of space alone being the limit to the variety of designs displayed. This is an all too-common practice and one that cannot be too severely condemned. If the arrangement is bad, the design poor, or unsuitable, or the beds are out of proportion either in size or number, the most skilful planting will never entirely hide the defect.

Color schemes for separate beds, especially if they are some distance from each other, are easier to carry out than when they are grouped together in the form of a design. In the former case, no account has to be taken of the effect the colors used will have on those in adjoining beds. In either case, harmony of color should be made the first consideration. This may be produced by forming sharp but pleasing contrasts, or by a combination of different shades of one color. To give an extended list of combinations suitable for single beds would only lead to confusion; therefore, a few examples only will be given. Those which follow have all been seen in different plans in this locality, some being particularly effective:

1. Iresine Herbstii, purple-red and Abutilon Savitzii, planted alternately; border, alyssum, "Little Gem."

2. Geranium, "Flower of Spring," silver leaf, coleus, "Glory of Autumn," and dwarf silver leaf geranium; border, Alternanthera amoena.
3. Abutilon Savitzii, white and heliotrope "Montreal Bedder," purple; border, alyssum, "Little Gem."
4. Geranium, "J Vind," rose-pink, Centaurea gymnocarpa, white, and Begonia Erfordii, carmine; border, Dactylis variegata, white striped.
5. Acalypha Macafuena, bronze-green and red, and Abutilon Savitzii.
6. Canna, "Alphonse Bouvier," crimson, planted sparingly on a ground-work of Abutilon "Souvenir de Bonn," green and white; border, Coleus Verschaffeltii, maroon.
7. Dark blue ageratum, Centaurea candidissima, white and light blue lobelia; border, alyssum, "Little Gem."
8. Canna "J. Vaughan," yellow, planted with Eulalia zebrina; border, Pennisetum Ruppellii, ornamental grass.
9. Canna "Black Beauty," dark bronze, Coleus Verschaffeltii and bronze-leaf geranium; border, yellow alternanthera.
10. Heliotrope, "Montreal Bedder," purple and celosia, "Sutton's Yellow Gem"; border, alyssum, "Little Gem."

adjoining beds. White can be used with any color, and is often valuable for separating colors which would do violence to each other if planted side by side.

For smaller designs, different shades of pink, yellow to bronze, light to dark red or maroon, can be made to give a fine effect; or, if desired, white may be used in combination with either. Most of the plants mentioned in this article having either white flowers or foliage, would be found suitable. It is impossible to say exactly what varieties should be used, or how the different shades should be combined; no particular form of design being under consideration.

For pink, geraniums present a number of fine shades, and can be used with Begonia Erfordii, the pale and bright pink varieties of B. Semperflorens and the carmine-tipped Alternanthera versicolor. For yellow and bronze, bronze-leaf Cannas, yellow-flowered cannas, Acalypha macrophylla, coleus, bronze and yellow-leaved geraniums, Anthericum picturatum, and alternanthera in two or three shades. For red and maroon, cannas, coleus, geraniums, achyranthus, begonias "Vernon" and "Duke Zephlin," and alternanthera.

Narrow borders will of necessity have to be planted in the "ribbon" line style; but, for wide borders, a pleasant change from that method may be made by



Much Pleasure and Enjoyment can be had in a Backyard like this

Vinca major variegata makes a fine ground-work for a bed in any position. It is very effective when planted among upright growing subjects.

Mass planting, that is, each bed in a separate color, is probably the best for large designs. Almost all the ordinary bedding plants possessing one dominant shade of color can be used, care being taken to avoid harsh contrasts between

planting the different varieties in groups, irregular in size and shape, merging the colors one into the other, or arranging them to form agreeable contrasts. For borders in shady positions, nothing can beat fuchsias and tuberous begonias, planted on a ground-work of Anthericum variegatum bordered with Dactylis variegata. Carpet bedding, once the rage, is rapidly going the way of all fads.

Probably few regret it; for it is, without doubt, the most troublesome and unnatural style of planting. For this style of bedding, a combination of delicate shades of color would be unsuitable. The lines of color have to be somewhat sharply contrasted; otherwise, any designs the beds might contain would be too indistinct to be effective. Almost any low-growing plants that will stand being pinched or sheared can be used for this class of work, among which are the following: Coleus, achyranthus, santolina, alternanthera, pyrethrum, echeveria, lobelia, mesembryanthemum, alyssum and others.

It is not necessary to confine oneself to the above list, many other plants and many other ways can be found to make summer bedding effective. No arbitrary rule exists as to what should, or should not, be planted, or how the arranging should be done. Much depends upon the taste and skill of the operator. Common plants, in the hands of the skilful planter, are often made to produce finer effects than the choicest material in the hands of the unskilful.

Mowing the Lawn

It is not well to mow a newly-made lawn until the grass is three or four inches in height. Give the grass a chance. Do not cut too closely at first. When mowing is commenced, however, it is necessary to repeat it about twice a week. Frequent mowings increase the body of the sward. In dry seasons, it may not be necessary to mow so often.

Do not mow a well-established lawn too closely. There must be enough grass blade left at the root of the plant to make a good showing of green if one expects the turf to look well. Cutting close gives the lawn a brown look because the dead leaves usually found at crown of plant have a chance to show through the green leaves that are left.

To maintain an even surface of turf, the grass must be cut with an up-to-date lawn mower. There are many of these on the market. It is well to select one that will do the work easily and well. Every person that has a lawn should have a hand lawn mower. They are inexpensive and will last for many years. For parks, public squares, large estates and other places where the lawn is of large area, it is necessary to use a horse or power lawn mower. These do the work much more rapidly than the hand mower and are cheap in the end.

There is a difference of opinion as to whether or not the trimmings or clippings of the grass should be removed when cut. Some gardeners advise leaving them to decay and, as they say, to enrich the surface of the soil. It would seem, however, that actual experience discredits this theory and shows that soon such a thick mat of decayed

leaves is left on the roots of the grass that it molds, smothers the grass and even kills it. It is said that many dead patches seen on lawns are the result of leaving the clippings thereon. We would suggest that amateurs whose lawns are small, rake off most of the clippings. It is easier, of course, to leave them where they lie, but it is not in the best interests of the turf to allow the clippings of all summer to remain there. This is a point of general interest. Letters telling the experience of our readers are solicited and will be published for the benefit of fellow-gardeners.

Growing Gourds

Gourds are excellent annual climbers. They produce blossoms profusely and the curious fruits hanging in clusters add novelty and attractiveness to the garden. They are grown somewhat in the same manner as squashes and cucumbers. As they are tender, they should not be planted until all danger of frost is passed. A better way is to start the seed in the house in early spring, usually March, and transfer the plants to the open when the right time comes. Good results may be obtained, however, by planting the seed outside. Give them a location that is fully exposed to sun.

Gourds must be trained on some support, such as fences, trellises, arbors, and summer houses. A rustic effect may be produced by allowing the gourds to run over a dead tree. Go to the woods or fields and find a small tree or old top. Nail on this in irregular fashion any old sticks or limbs that are available. Unless you intend to give the larger varieties particular attention in the way of support when they attain their size, it is advisable to use the smaller sorts so that they will not be damaged in case of a windstorm.

Try some gourds this year, and, to make the experiment doubly interesting, engrave a name or motto on the fruit when young. This may be done with a knife or any instrument. When a gourd is once scratched, the blemish will always remain, no matter how small it may be. On the other hand, if the puncture is large, the fruit will rot. Care should be taken to see that the markings are not made too deeply.

Statice—Sea Lavender.—The statices are great favorites of mine. They are among the most beautiful of our perennials, very hardy, and are not known as well as they ought to be. They grow from two to three feet high. There is nothing better for cutting, and they keep long after being dried. They are very attractive in the border, flowering during August, September and October, lavender blue in color. Variety *latifolia* is the best for general culture.—Roderick Cameron, Niagara Falls South.

The Mixed Flower Border

Wm. Hunt, Ontario Agricultural College, Guelph.

For practical purposes, the plants for a mixed flower border could be divided into two classes, permanent and temporary. The former could consist of perennial climbers for covering the fence, if any, and all kinds of hardy perennial border plants such as delphiniums, pæony, iris, and other similar plants. Hardy border lilies, lily of the valley, as well as tulips and narcissi, and other spring flowering bulbs, could be planted for permanent occupation in different positions, best suited to their height, habit and color effect. A few carefully selected shrubs or a few of the commoner hardy roses could be made very effective in large borders. Annual climbers and border plants could be sown in May to fill in the spaces between the more permanent plants just mentioned.

Plant for effectiveness, so as to avoid a too monotonous or set appearance of the general contour of the border. Planting for color effect may be done by grouping varieties of plants that harmonize. Avoid any stiffness or formality in the general effect. It is not advisable always to copy the plan oftentimes followed of planting only the tall-growing plants at the back of the border, medium height plants in the centre, and the quite dwarf plants only at the front edge of the border. This method gives the border the appearance of being stiff, formal and artificial. It is just as necessary to have relief in form and outline as it is to have relief and variety in color effect. In planting the mixed border, try and avoid anything approaching formality or too much regularity from any point of view.

To make the mixed border effective from early spring until late autumn, select plants that will cover the season with successive bloom. Seeds of perennials can be sown in a nursery bed out of doors, from May to August, for next season and future flowering. These could be planted in the border the following spring. Spring flowering bulbs should be planted in October. Pæony roots and dielytra (bleeding heart), iris and a few other herbaceous perennials could be planted or divided and transplanted in September, or early in October. Most of the border perennials, however, such as gaillardia, phlox and so forth, are best transplanted about the end of April or early in May. Dormant roots of dahlias can be planted the end of May, Canna roots early in June. Gladioli corms can be planted any time during May. Seeds of annuals can be sown as soon as the ground is in good condition in spring, about the first week in May. A border was published last month.

Grow Salad Crops at Home

EVERY person who has a garden should plan to grow a succession of salad plants. They are easily grown and will succeed under most adverse circumstances. Much of the crispness and tenderness of salad plants bought from the grocer are lost by the necessary handling from the producer

lettuce in quality, having a crispness, tenderness and flavor particularly its own. The long and narrow leaves require to be tied, when they soon form solid heads and quickly bleach to snowy whiteness. They become as stiff, crisp and as sweet as celery stocks, and are delicious when eaten in the same manner

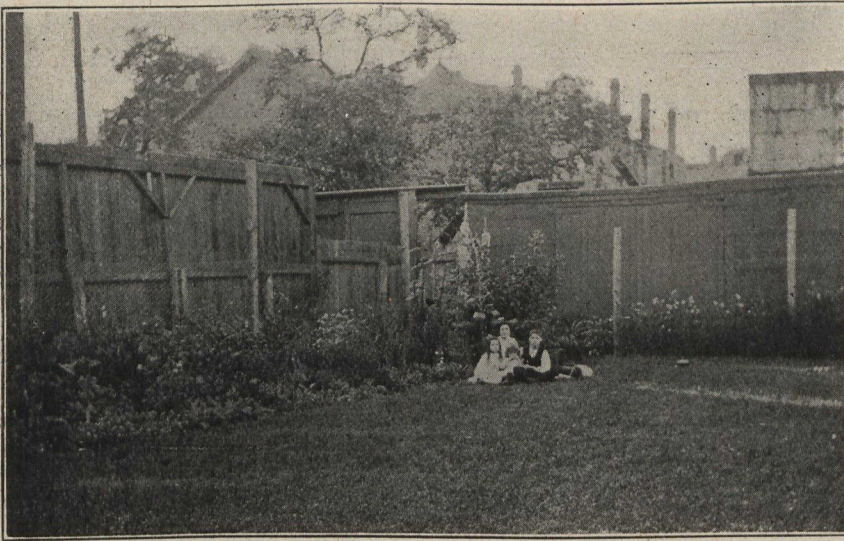
already done so. It is a tender and delicious salad. Sow in June and have a succession until late fall by sowing a new row every two weeks. The leaves will have to be blanched before used, either by tying together with some soft material or by standing boards on each side of the row, allowing the tops of the boards to meet over the centre. The rows should be one and one-half feet apart, and the plants should stand about 10 inches apart in the rows.

CORN SALAD

Corn salad, or fetticus, is one of the earliest spring salad vegetables coming into condition to use with spinach. Sown in fall and protected during the winter, it starts into rapid growth when the cover is removed in March or April. The seed may be sown also in spring and the plants will be fit to use in six or eight weeks. One packet of seed will suffice for a small family. Sow in rows a foot apart.

CRESS

The curled garden cress is a useful plant, as its leaves may be used for garnishing as well as for salads. It will grow in any good soil. Sow early in spring and a crop may be cut in four or five weeks. A succession of sowings must be made as it runs quickly to seed. Sow thickly in drills about a foot apart.



A Simple and Effective Summer Playground for Old and Young

to the consumer. To have them fresh every day and in variety throughout the season, the amateur should set apart a place for them in the home garden.

LETTUCE

The salad plant that is grown the most extensively in the home garden or for market is lettuce. It has one serious drawback, however, and that is it cannot stand the hot summer sun. This does not prevent its culture during the summer, but necessitates a little extra trouble to afford it a screen to ward off the sun's rays. These screens may be made of laths or cheese cloth, tacked on frames and placed a foot or so above the plants.

Early spring lettuce may be grown in hotbeds and cold frames. Not much bottom heating is required. The seed is sown in March. Some of the plants may be allowed to mature in the frame and others are transplanted to the open.

As soon as the soil is fit to work in the garden in spring, the seed may be sown out of doors. Seed thinly in rows 10 or 12 inches apart, and, for head lettuce, thin the plants to stand 10 inches in the rows. The thinnings may be transplanted into new beds. For a succession, however, it is better to sow seed every two weeks. There are many good varieties, among which are Big Boston and Hanson. For a loose leaf or cutting lettuce, probably Black Seeded Simpson is the best.

Cos or celery lettuce exceeds all other

or prepared for salad. Plant cos lettuce in rows 10 or 12 inches apart, and thin to six inches in the row.



The Beautiful Home of a Horticultural Enthusiast

The residence of Dr. Dryden, Guelph, Ontario. Note particularly the effect produced by window boxes and read the short article on page 147.

A salad plant that is at its best during the summer, when good lettuce is scarce, is endive. For this reason, you should cultivate a taste for it, if you have not

Water cress grows rapidly on the edges of springs, brooks, open drains or ponds. A few plants for private use may be grown in a frame, provided a

retentive soil is used and attention given to watering the bed often. Water cress is propagated by seed or from pieces of the stem used as cuttings. When once established, it will take care of itself year by year.

CULTIVATED DANDELION

The cultivated dandelion also may be used for salads. It is quite different in quality and appearance from the ordinary weed. The plants attain a larger size, and the leaves are much more tender. Seed may be selected from the best field growing plants, but it is better to buy the French seed of the seedsmen. Sow in spring in well-manured soil, either in hills or in drills one foot apart. The first cutting of leaves will be had in the fall. The leaves should be blanched to improve their delicacy.

Rose Pests

With the increasing heat of summer, insect pests are sure to make their appearance on the rose bushes. It is wise to adopt preventive measures rather than to rely on an attempt to cure when the insect appears. Too often the application of remedies and preventive measures for the extermination of insect and fungous pests is left until the plants have become too badly infested that they are hopelessly spoiled for floral or decorative purposes for the rest of the season.

It is a wise course to give rose bushes a sprinkling of hellebore powder as soon as the foliage is partly developed and before the flower buds have shown themselves prominently. By doing this and repeating the operation about once a week, until the flowers commence to open, the foliage as well as the flowering buds can be saved from disfiguration and partial ruin, particularly from the rose slug. The best time to apply the hellebore is early in the morning, whilst the foliage is damp with dew.

Another insect that is troublesome throughout the whole season is the rose thrip. It secretes itself on the under side of the leaves, and oftentimes is not detected until the foliage has become bleached and whitened by its destructive attacks. A close inspection of the foliage will detect them. The bushes should be treated early in the season. An application of tobacco in some form is the best and most effective preventive.

Another enemy to the successful culture of the rose is the red spider. Climbing roses are more liable to attacks than are bush roses. The red spider delights in a dry atmosphere. Roses that are trained close to a wall or fence offer splendid inducements for its ravages. One of the first indications of the presence of this pest is an unhealthy, whitish appearance of the leaves and finally the constant falling of the dried, half-de-

voured leaves, unless they are stopped before they have reached this stage. As the red spider cannot exist in a damp atmosphere, constant syringing and sprinkling with cold water is the best preventive.

The aphid or small green fly is also troublesome. Constant syringing or an application of tobacco water usually rids the bushes fairly efficiently of this insect. Remedies for all insect pests should be applied early in the season and before the pests have become uncontrollable.

Culture of Gladioli

H. H. Groff, Simcoe, Ont.

The gladiolus is not exacting in its demands upon the soil. I have grown it on one block of land yearly for over fifteen years, the only fertilizer used being well-rotted stable manure and hard wood ashes applied before plowing in the autumn. No fertilizers are needed on strong new soils as a rule.

Profuse watering at intervals is desirable where local peculiarities of soil and limited rainfall prevail during the season of active plant growth and blooming. A brief period of ripening before the latter season is beneficial, if not too severe, as this hardens the plant tissues and assures flowers and spikes of increased durability and quality. Excessively succulent growth is not beneficial to plant, flower or corm.

For best results, plant in full exposure to the sun, in locations having a free circulation of air, avoid crowding by other plants or overshadowing by trees, buildings or hedges. Plant from two to four inches deep according to the size of the corms—matured corms never less than four inches—two to four inches apart in double rows, which may be made as close as twelve inches in beds or borders. The greatest satisfaction is secured by growing several thousand in the vegetable garden for daily cutting as the first flowers open. In the next issue of THE CANADIAN HORTICULTURIST will appear an article on how to cut and care for the flowers.

Bedding Plants

When striking and peculiar effects are desired in the flower garden or on the lawn, it is customary to make use of what florists term "bedding plants." This term is used to designate such kind of plants that bloom well when planted out in beds or have striking foliage whose colors take the place of flowers.

The most important bedding plant is the geranium. No other gives such a brilliant show of color throughout the season. To keep a geranium blooming from June until frost, it is necessary only to remove the flowers as they fade, and

thereby prevent the formation of seeds. The double varieties are the most popular for bedding, as the flowers last longer and give more solid color effect.

Tuberous begonias are excellent bedders. They are rich in color and produce a fine effect. The verbena is one of the best, being a very free and constant bloomer, and having intensely rich and beautiful colors. Other flowering plants that are popular for the purpose are salvias, petunias, fuchsias, asters, cannas, gladioli and Phlox Drummondii.

Among the foliage plants, the most popular is the coleus. By planting it closely together and keeping the plants well cut back, solid effects of color can be obtained. The colors being so varied and distinct, the coleus is much used in carpet bedding, in which a set pattern is worked out. Other plants that bear cutting well, and that are used in the production of pattern effects, are achyranthus and alternanthera. Centuria gymnocarpa has a soft, gray leaf that contrasts well with coleus. Sweet alyssum also may be used for the border.

For most bedding plants, a medium heavy loam is best, as it retains the moisture for a longer time. Before planting, the soil should be dug deeply. It will not need fertilizing if the bed was left in good shape last fall. If tulips or hyacinths were planted, however, the bed will require a heavy coat of well-rotted manure. For putting out the plants, choose a cloudy day if possible. Water them well and shade for a day or two. Stake those that require it. The plants should be tied to the stakes frequently as growth develops.

To Grow Good Poppies

R. B. Whyte, Ottawa

The best soil for poppies is a sandy loam; if good garden soil, it will not require any manuring, but if very poor, spread about two inches of well-rotted stable manure over the surface before digging, and turn it well under, so that none of it will touch the seed. After digging, rake the earth with a sharp rake till it is as smooth and fine as you can make it. Make your bed where it will get the sun all day if possible.

A convenient shape for the seed bed is about two and a half feet wide and 15 feet long. The seed may be planted in rows one foot apart and about four to six inches apart in the row; or it may be scattered over the whole surface, thinning the plants out after they come up, to eight or nine inches apart. As the seed is very small you must be careful not to cover it too deep. A good way is to plant it on the surface, and then draw the rake very lightly over the top so as to stir the soil a little, then pat it firmly with a hoe or piece of board,

so as to bring the earth into close contact with the seed. If planted in rows, your bed will be more easily kept free from weeds, as you can do the work with a hoe, but scattering the seed over the whole surface makes a much more attractive show bed in the garden.

Keep all weeds pulled and stir the earth frequently between the plants to keep it from getting hard. It is not necessary to water, as poppies grow best in hot, dry weather. Do not allow any seed to ripen. Cut off the seed pods every day, as soon as the petals fall off.

Window Boxes

Every home should have one or more window boxes of foliage or flowers. No form of gardening is more appropriate to redeem the barrenness of countless homes in our cities, where there is scarcely a spot of green grass or workable soil on the premises. For such homes, the effectiveness of a simple display of flowers outside the windows cannot be estimated. Not only is it for homes of this kind that window boxes are useful, however, but also for houses everywhere, even those that are surrounded with flowers, plants and trees in great variety.

It is not a difficult or expensive matter to make boxes suitable for growing plants at the window. The simpler and less obtrusive the box, the better. A plain wooden box painted green or a rustic box finished in natural bark is far superior to one made of expensive material with fancy frills, and decorated in all colors of the rainbow. The box should be strongly made, as it is required to support a heavy weight of soil. Supply drainage by holes bored in the bottom, six inches apart, and covered with pieces of broken flower pots.

Secure good soil for the plants to be grown in. A good mixture is one-third ordinary garden soil, one-third well-rotted manure and one-third sand. If ferns and begonias are to be used, omit the manure and use instead well-rotted leaf mould.

Among the plants best for window boxes are geraniums, ageratum, snapdragons, verbenas, vincas, tradescantias, petunias, Phlox Drummondii, Asparagus sprengeri, and for trailing or climbing, nasturtiums, morning glories and Cobea scandens.

Window boxes must be given plenty of water every day, or they will dry out quickly from exposure to the sun and wind. A little care will be rewarded.

Vines that are bare at the base may be improved by training the new shoots downwards.

Lawns require liberal fertilizing. Many Canadian lawns are underfed.

Cultivating the Market Garden

BY the proper cultivation of the market garden soil, many important things are accomplished. The surface soil is brought into the best condition to resist drought and to conserve moisture in the soil. Plant foods are made more valuable for the use of the growing crop. Weeds are kept out so that they do not rob the crop of moisture and food. Various methods of working the soil are practised. The following are some of them:

CULTIVATING ONIONS

"When onions are about two inches high," wrote Mr. Herbert Hachborn of Echo Place, Ont., "they should be weeded and thinned; that is, if the seed was sown rather thickly. It is my custom to weed onions about twice during the season. I cultivate them with a wheel hoe once a week until they commence to form bulbs. After that, I cultivate with an ordinary hand hoe until time for harvesting."

The planting and cultivating of late cauliflowers as practised by Mr. John N. Watts, of Portsmouth, Ont., is as follows: "I make three sowings of seed, the first about May 15, the second about the 24th, and the third before June 10. I make also three plantings; the first about May 25, the second in June, and the third about the first week of July. The last planting gives the best results. It often happens that a fair crop may be obtained from any one of the three plantings, but in case the first or second should fail the third is almost certain

to succeed. Good cultivation and care must be given. When setting out the plants, care should be exercised not to have them too old or woody. Have a fine bed for them to root in. After they have started, a deep hoeing should follow. The soil between the rows should be well cultivated to prevent injury from drought. When the young plants have attained the height of one foot the cabbage worm will put in his appearance. It can be destroyed by the use of one quart of flour in which a teaspoonful of Paris green has been mixed. Dust this on the plants once a week with a box having a perforated lid."

GROWING POTATOES

"The first step in the cultivation of the potato," wrote Mr. H. A. Blunden, of Sarnia, Ont., "is made at the time of planting when a ridge of earth is left over each row. Just as the young plants are making their appearance, the grower must go crossways of the rows with a horse weeder or light harrow and partly knock down the ridge. This operation kills countless numbers of newly-sprouted weeds. In the course of a week afterwards the soil should be cultivated with a horse cultivator. Between the rows, hoeing should be done to make the ridge level with the soil between the rows. Continue to cultivate once a week during the growing season. The first cultivation should be about four inches deep. Cultivate gradually shallower and narrower. At the last cultivation the rows should be moulded."

Cauliflower Growing

Frank F. Reeves, Humber Bay, Ontario

IN sowing cauliflower seed I prefer to use a seed drill, for two reasons: I can get the plants more even, and the seed goes in at a more regular depth. One ounce of seed should sow from 350 to 400 feet of row, and should produce at least 1,500 plants. In growing cauliflower as a second crop sow about May 17 to 24. This gives lots of time to produce stout stocky plants by the time the ground is ready for planting. It is advisable to make two or three sowings so as to have plants the right size when wanted.

A great enemy to young plants is the small fly. The best way to check this pest is to take wood ashes, or air-slaked lime, and dust along the row when the dew is on the plants. Tobacco dust sprinkled on the ground also is a good preventive. No workable plan has been found to combat the root maggot.

One of the most important factors in the cultivation of cauliflower as in all other crops is to find land that is most

suitable for them, and then stay with it. A good sandy loam inclined to clay is the ideal spot in which to grow this crop. Being a rank feeder it is necessary that the land be well manured. It is best to grow them after a crop of early radish or spinach. To do this, manure the land well in the fall. About the middle of June, plow in another good coat of manure, let the land lie for a few days, till the weeds begin to show themselves, then start the disc or harrows going. By doing this, weeds do not attain any size, and moisture is conserved.

I plant from July 1 to 15. The ground should be harrowed and boarded as often as possible to get it solid. This causes the plants to take hold far quicker and be able to withstand dry weather and hot winds. Make the rows three feet apart and place the plants two feet apart in the row. If the land is marked both ways, it can all be scuffled. This saves a lot of hand hoeing. If possible

plant on a cloudy day or immediately after a rain. Make the roots firm.

Use the scuffler every week or ten days. After the plants begin to grow nicely, it is wise to use the potato moulders, as it will prevent the plants being blown around by the wind.

When the heads show about two or three inches across, they should be tied to prevent discoloring. Many use

bunching string for this. A hoop made of bale wire with a hook at each end is very handy for the purpose.

There is always a lot of plants that will not head-in during the season. These should be stripped of their bottom leaves and planted closely in a roothouse or cool cellar. A large majority will then produce nice cauliflowers.

Transplanting Tomatoes

Angus McInnis, London, Ont

WHEN tomato seedlings are four or five weeks old from the time of sowing the seed, I transplant them about three inches apart each way. Then, when they begin to crowd, I transplant a second time, giving them as much space as I can, from five to eight inches. This is done with early plants but applies equally as well to the later crop, in which case one transplanting is sufficient. Have the bed to which they are transplanted just rich enough to support the plant, as soil that is overly rich induces too fast a growth, making the plants soft and retarding their growth when they are again put into poorer soil.

When planting in the field put lots of manure on the land, especially if it is poor, and spread it as evenly as possible. A good way to accomplish this is to go over it with a disc harrow two or three times, which cuts the manure very fine, then plow the ground. This must be done as early as possible. Then work the land every week with disc or cultivator; no more plowing is needed after the first one. The last cultivating should be done a few days or a week before planting. It is a great benefit to the crop to use 40 or 100 pounds of potash an acre.

Give the plant bed a good watering the day before planting and also on the day you take up the plants. In the field we take a line that reaches from one end to the other. We use a light marker about three feet long with a tooth at each end, marking along the line, while on the opposite side a man digs a hole at the point indicated. We would rather set out the plants before blooming, as we think the digging injures them more than.

At the plant bed there is a man to take up the plants with a good strong trowel. A nice lump of earth is left on each one, and they are placed in flats or boxes that hold about 15 or 20 plants. They are loaded into a waggon, and taken to the field. We drive along the line and a man or boy hands the plants out. We always give a light watering when planting.

The rows are eight feet apart, and three feet from plant to plant. We like this method much better than the square

planting, as the same number of plants an acre gives us more room than the latter way. When plants do their best they soon cover the ground, and when it is thickly covered with vines the sun does not shine on it and thus keeps the earth cool in square planting. In planting three by eight feet we can cultivate much longer, keep our ground cleaner, and the sunshine heating the earth causes the tomatoes to ripen much better. We can also do better work in picking the fruit as we do not need to tramp the vines; we have plenty of room to set our baskets or crates between the rows, and if necessary, we can use a stone boat for carrying off the fruit.

Growing Celery

J. Friendship, Kingston, Ont.

The quickest and easiest method for setting is the best. Open trenches with a plow, four feet apart and about 10 inches deep, so that when plants are set they are only a few inches below the level. The celery does much better this way than in deep trenches, and requires less labor. I set the plants close, not more than six inches apart, so that a 30-rod row will hold 1,000 plants. By having everything in readiness a man with two smart boys can set out 25,000 in a short time.

CULTIVATION

Celery must be kept growing steadily to get crisp, tender stalks. It requires more cultivation than other vegetables. The ground must be kept loose and mellow so as to keep up the growth and make it easy hilling up. This should not be done too soon. The plants should be allowed to grow to a fair size before the banking or bleaching is done. At this time the gardener appreciates the value of the fine loose soil on the surface. With it he can do his work well and with pleasure. My plan is to bank as much as I can with the horse. I use a shovel plow, which pushes the loose soil up under the leaves almost as well as a man can do it by hand. Then two men, one on either side, with hoes 20 inches long, or scrapers as they are generally called, shove the soil still more firmly against the plants. They work together so as to

keep the plants in place. It is light work and the field can be gone over quickly. Then leave the celery to bleach until danger of frost.

As soon as ground becomes cold, bank up the plants until covered, taking care to keep stalks straight. Before heavy frost, cover with coarse horse manure. In this manner the celery will continue growing and when used will be very crisp and tender, but will not keep long.

For digging the crop, which should be done before a heavy frost, use the horse, and plow a heavy furrow from each side of the row. Have the plow so arranged that it will cut close to plants without injuring the stalks. This leaves them loose enough to pull by hand.

When storing leave the roots on, but remove all old or useless leaves. For long keeping, celery needs close trimming and requires a dry, cool storehouse. Place the plants in an upright position, as close as possible, so that they will continue bleaching without wilting. For immediate use, keep the roots damp, so that the growth will continue, making that nice, crisp celery so much called for during the holiday season. The most profitable kinds to grow are White Plume and Golden Paris, for early; Giant Pascal for medium or early winter; and Rennie's Winter for late keeping.

Vegetable Notes

Cabbage for money must be set out in the field by May 24," said Mr. J. L. Wood, of Toronto. "Before the last transplanting the young plants must be hardened off. Too long in the hotbed makes the plants spindly. Transplant to a cold frame. Harden off gradually or they will blacken and die."

The green fly on lettuce can be kept in check by dusting with tobacco. It should not be put on after the plants begin to close.—H. E. Reid, Toronto.

The earlier the tomato plants are set out the less liable is the fruit to rot, and the more can be harvested before the rot comes.—A. Courtice, Toronto.

To avoid black rot in tomatoes, the plants should be set on poorer soil. Too much manure in the land frequently causes destruction by rot.—Jas. Gibbard, Doncaster, Ont.

If frost nips the tomato plants after I set them out, I get up early in the morning and use the water-can freely to prevent them from being damaged.—H. E. Reid, Toronto.

A western man who has had considerable experience in raising potatoes, says that by planting two or three flax seeds in each hill not a bug appeared in the patch. The flax acted as a repellent. He claims to have tried it several years in succession with always the same results. This is a simple and inexpensive experiment, and is worth trying.

OUR QUESTION AND ANSWER DEPARTMENT

Readers of The Horticulturist are Invited to Submit Questions on any Phase of Horticultural Work

Cost of Wood Ashes

Are wood ashes at 15 cents a bushel, delivered in orchard, expensive?—S.W.C., Swearing, Ont.

Wood ashes at 15 cents a bushel, delivered in the orchard, may be very cheap, and, again, may be very expensive. All will depend upon the amount of potash that there is in the ashes. If we were to value what is taken as the average composition, say five per cent. of potash and one and a half per cent. of phosphoric acid, the wood ashes would be worth \$6.50 a ton, without allowing anything for the lime. It is, however, impossible to say what amount of potash there is in the ashes. We have analyzed samples containing five per cent., and have also analyzed samples containing one per cent., said to be unleached hardwood ashes. If you know the history of the ashes, whether they have been mixed with earth or hard coal ashes, and that they have not been leached, I think you are safe in paying 15 cents a bushel for them.—Answered by Prof. R. Harcourt, O.A.C., Guelph.

Charcoal as a Fertilizer

What is the value of charcoal as a fertilizer? Is it worth using in large quantities on a small fruit plantation?—Mrs. C. S., Nelson, B.C.

Charcoal acts as an absorbent of gases and is used to sweeten the soil. It is of little value on a fruit plantation unless obtainable at little or no cost and then not unless the soil is acid.

Analysis of Ashes

Please publish the analysis of hard and soft wood ashes and of coal ashes.—E.G.F., Shediac, N.B.

It is impossible to publish an average analysis of soft and hard wood ashes that will truly represent the composition of ashes under all conditions. Different kinds of soft and different kinds of hard wood will differ in their percentage amounts of the constituents. The composition of the wood from which these are taken will vary greatly and will have a marked effect on the composition of the ashes. In general, it may be stated that soft wood ashes are light and, weight for weight, will not contain as much potash as hard wood ashes. On the other hand, it is claimed by many that, bulk for bulk, one will contain about as much potash as the other.

We have made a number of analyses of the ash from different kinds of woods, and do not find any very wide percentage difference, except in the case of elm

and black ash, in which the percentage of potash was very high. It would, therefore, be impossible to give any figures that would represent the composition of the two samples. It is also impossible to give the composition of any kind of ashes, because they vary so much that one can never buy ashes that will contain the amount that might be given as average. For instance, in our analysis we found wood of the hard maple to contain 9.3 per cent. of potash. We have also analyzed what have been said to be unleached hardwood ashes, which contained a little over one per cent. of potash.

Hard coal ashes contain very little of anything that is of value. Several samples were analyzed in our laboratory, and these we found to contain little or no potash, but they did contain a small amount, less than two-tenths of a per cent. of phosphoric acid, and a trace of lime and magnesia.—Answered by Prof. R. Harcourt, O.A.C., Guelph.

Pruning Spruce Hedges

When is the best time to prune a Norway spruce hedge that has been allowed to grow in a wild condition? How should it be treated?—J.S., Cayuga, Ont.

The hedge should be pruned this spring, before growth begins. The top may be pruned back severely, but great care should be taken in pruning the sides, as if the trees are cut back to wood without foliage they will not throw out new leaves as deciduous trees do. Prune to bring the hedge into shape, but leave sufficient green foliage all over the sides and top so that there will be enough buds left to furnish new growth all over.—Answered by W. T. Macoun, C.E.F., Ottawa.

Phosphates for Vegetables

Which is the cheapest source of phosphoric acid for growing vegetables, ground bone or superphosphate? How should each of these be applied, at what time, and in what quantities?—R. S., Picton, Ont.

The phosphoric acid in ground bone is in the tri-calcic phosphate form, and is, therefore, insoluble in water; while a large part of that in the superphosphate is soluble in water and consequently immediately available to the plant. The tri-calcic phosphate of the ground bone is, however, quite readily brought into solution through the action of the carbonic acid in the soil, but it is not so available as the superphosphate. The ground bone contains about 14 per cent.

of total phosphoric acid, with 12 to 13 per cent. of available phosphoric acid. The ground bone will sell at about \$30 a ton and the superphosphate at \$16 to \$17 a ton. The cost will depend largely upon the nearness to some source of supply.

Potash substances should be applied on the surface of the ground and harrowed or worked into the top soil. The application had best be made during the time when preparing the ground for seed. The ground bone may be applied at the rate of 100 to 200 pounds an acre, larger quantities would do no harm, and the phosphoric acid would not be leached from the soil. The superphosphate may be applied at the rate of 200 to 300 pounds an acre. Too large quantities of this substance, especially on soils that are rich in organic matter, may be detrimental in that it will tend to make the soil acid. Soils that have been heavily manured, and are therefore rich in organic matter, tend to become sour unless there is abundance of lime. Superphosphate is naturally somewhat acid, and will, therefore, make conditions worse.

On soils that have been heavily manured, I would prefer to recommend the use of ground bone rather than superphosphate. The decaying organic matter will furnish sufficient carbonic acid to bring the phosphoric acid in the ground bone into an available condition. The results may not be quite so prominent immediately after sowing, but I think the best all-round results would be got from the use of the ground bone.—Answered by Prof. R. Harcourt, O.A.C., Guelph.

Pruning Moss Roses

When is the proper time to prune moss roses and how should it be done?—J. R., Hamilton, Ont.

Moss roses may be pruned either in autumn or spring. The weak canes should be removed and those that are left pruned back from one-fourth to one-half.—Answered by W. T. Macoun, C.E.F., Ottawa.

“The Keiffer pear is not in as good demand as it used to be,” said Murray Pettit, of Winona, to THE HORTICULTURIST, recently, “and I am therefore grafting Duchess on my Keiffer trees. During the past two years I have grafted 2,000 trees in this way. The Duchess is more free from blight than almost any variety of pear, and it bears regularly and ships well to the old country.”

The Canadian Horticulturist

Published by The Horticultural
Publishing Company, Limited

The Only Horticultural Magazine
in the Dominion

Official Organ of British Columbia, Ontario, Quebec
and Prince Edward Island Fruit Growers'
Associations and of the Ontario Veg-
etable Growers' Association

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GREAT BRITAIN

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Manchester, Eng., Advertising and Circulation Manager

1. THE CANADIAN HORTICULTURIST is published on
the 25th day of the month preceding date of issue.

2. Subscription Price in Canada and Great Britain 50
cents a year, three years \$1.20. For United States and
local subscriptions in Toronto, 25c. extra a year is charged
for postage. Foreign subscriptions, \$1.00 a year, includ-
ing postage.

3. Remittances should be made by Post Office or
Money Express Order, or Registered Letter. Postage
Stamps accepted for amounts less than \$1.00.

4. Discontinuances—Responsible subscribers will con-
tinue to receive THE HORTICULTURIST until the publishers
are notified by letter to discontinue, when all arrearages
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5. Change of Address—When a change of address is
ordered, both the old and the new addresses must be
given.

6. Advertising Rates quoted on application. Sworn
circulation 6,800. Copy received up to the 18th. Res-
ponsible representatives wanted in towns and cities.

7. Articles and Illustrations for publication will be
thankfully received by the editor.

Our Protective Policy

We want the readers of THE CANADIAN HORTICUL-
TURIST to feel that they can deal with our advertisers
with our assurance of the advertisers' reliability. We
try to admit to our columns only the most reliable ad-
vertisers. Should any subscriber, therefore, have good
cause to be dissatisfied with the treatment he receives
from any of our advertisers, we will look into the matter
and investigate the circumstances fully. Should we
find reason to believe that any of our advertisers are un-
reliable, even in the slightest degree, we will discontinue
immediately the publication of their advertisements in
THE HORTICULTURIST. Should the circumstances war-
rant we will expose them through the columns of the
paper. Thus, we will not only protect our readers, but
our reputable advertisers as well. All that is necessary
to entitle you to the benefits of this Protective Policy is
that you include in all your letters to advertisers the
words "I saw your ad. in THE CANADIAN HORTICUL-
TURIST." Complaints should be sent to us as soon as possi-
ble after reason for dissatisfaction has been found.

Communications should be addressed:

THE CANADIAN HORTICULTURIST,
506-7-8 Manning Chambers,
TORONTO, CANADA

UNEQUAL COMPETITION

In an address delivered recently before the
Canadian Club of Toronto, Prof. W. F. Os-
borne, of Wesley College, Winnipeg, made
some pertinent remarks in regard to the ad-
visability of Canadians supporting their own
Canadian papers. Prof. Osborne regretted the
tremendous circulation in Canada of United
States publications, and said that if the policy
of protection has a leg to stand on, there is
no better field for its exemplification than
this. He claimed that the Government would
be upheld in every step it took to discourage
the flooding of this country with cheap United
States publications, and to encourage the cir-
culation of periodicals animated by the British
and Canadian spirit, devoted to the fostering
of the British and Canadian consciousness, and
offering a fit field for the development of Cana-
dian talent.

We have felt, often, that we would like to
draw this matter to the attention of our read-
ers, but being an interested party, we have
hesitated to mention it. The ice now having
been broken by Professor Osborne, we feel
more free to refer to some points that we con-
sider important.

At the time the address in question was
delivered the Dominion Postal Department

had not announced its intention to make the
change in the postal arrangements with the
United States by which a large number of
United States publications, including the *Gar-
den Magazine*, the *Western Fruit Grower*,
Green's Fruit Grower, the *Florists' Exchange*,
and others, hereafter will have to increase
their subscription rates in Canada from twenty-
five to one hundred per cent. While we did
not raise a finger to induce the Dominion Gov-
ernment to take the stand it has, we recognize
that THE CANADIAN HORTICULTURIST will
benefit by it greatly, and would like to point
out the reason to our readers.

Few of our readers have any conception of
how difficult it has been to publish a paper
like THE CANADIAN HORTICULTURIST. In Can-
ada the number of people who are interested in
fruit and flower growing is so limited, and
the advertising field is so small, that it has
been impossible to make a success of a paper
that was devoted to either fruit or flowers ex-
clusively. It has been for this reason that in
THE CANADIAN HORTICULTURIST we have had
to cater to both fruit and flower growers. The
result has been that we have been unable to
give as much space to either fruit or flowers in
each issue as we would like. Most of our read-
ers have not understood this. This being the
case, we frequently received letters from fruit
growers who complained that we should not give
so much attention to flowers. Lovers of flow-
ers, on the other hand, contended that their
interests were being neglected and that too
much prominence was given to matters relating
to fruit. Both classes of readers compared THE
CANADIAN HORTICULTURIST to such United
States publications as *The Garden Magazine* or
The Western Fruit Grower, and wanted to know
why we did not publish as good a paper, or
nearly as good, for their purposes, as the papers
mentioned. These readers had no conception of
the difficulties we were and are laboring under.

In the United States, papers relating to fruit
and flowers have an almost unlimited field
for both subscriptions and advertisements.
Their revenue, therefore, is so great that they
are able to expend large sums of money in
turning out excellent publications. With these
large, well-illustrated papers they have invaded
the Canadian field.

In Canada the situation is the very reverse.
The number of people interested in fruit grow-
ing is small. The three chief fruit centres are
in the Annapolis Valley of Nova Scotia, the
Niagara District of Ontario, and in British
Columbia. They could not well be more
widely scattered. None of them are large.
Outside the few cities and towns in Ontario
there is little opening for a paper relating to
flowers. The field for advertisements is equally
limited, being confined, largely, to the com-
paratively few Canadian firms. United States
firms, as a rule, refuse to advertise in Cana-
dian papers, claiming that they are unable to
do business in Canada on account of the Cana-
dian tariff.

These conditions mean that a Canadian paper
like THE CANADIAN HORTICULTURIST, with its
circumscribed field, has had to fight for exist-
ence against United States publications with
their unlimited field. Sometimes the fight has
been a trying one. This was the case, particu-
larly, when we found Canadian horticultural
societies, that were in receipt of government
grants, subscribing for United States papers
that in the main gave little or no attention
to Canadian conditions, and when we were told
by the officers of these societies that our own
Canadian paper was no good, or words to that
effect. Fortunately, there have been some
thirty to thirty-five horticultural societies and
fruit growers' associations in Canada that have
stood by THE CANADIAN HORTICULTURIST loyal-
ly, year after year. We desire to thank these
societies heartily for their support. Had it not
been for their assistance THE CANADIAN HOR-
TICULTURIST would have given up the ghost

long ago, and Canada would have been with-
out a horticultural publication of any kind.

Fortunately, we are beginning to get firmly on
our feet. The new postal regulations will benefit
us greatly. Soon we hope to be able to give
more attention in THE CANADIAN HORTICUL-
TURIST to all branches of horticulture, includ-
ing fruit, flowers and vegetables. Before very
long we purpose issuing special fruit and floral
editions. In the meantime we are painfully
aware of our shortcomings. We can only hope
that our readers will overlook them as far as
possible and help us to do better. In conclu-
sion, however, we would like to say that, con-
sidering our subscription price and the handi-
cap under which we have been working, we feel
that we have been issuing a publication of which
Canadians have had, at least, no reason to be
ashamed. We intend to do still better in the
future. THE CANADIAN HORTICULTURIST is pub-
lished by Canadians for Canadians. We look
for the support of Canadians.

BEAUTIFY THE LANES

Among the most unattractive sights in some
of our cities and towns are the lanes. Most
of them are private property and, therefore,
are not under the control of the civic authori-
ties. They usually present a sorry sight.
Some owners who care not about going to the
expense of a good garbage container, dump
their garbage broadcast as well as their ashes,
empty cans, garden refuse, waste paper and
so forth. One can imagine the effect of such
a lane on the passer-by. It is impossible not
to feel sorry for the unfortunate householder
who, from the opposite side of the street where
the lane ends, has to view it day in and day
out. While this state of affairs exists in the
lane, the front part of the property, where seen
from the house and street, sometimes is kept
in apple pie order. This is poor citizenship
and does not reflect well.

When in Hamilton recently, it was the for-
tune of an editorial representative of THE CANA-
DIAN HORTICULTURIST to run across a lane
between McNab and Park Streets, south,
which was in better condition than any street
in the city, so much so that it is used as a
short cut by residents of the locality. Upon
enquiry, he found that the residents on either
side of the lane, some fourteen in number, con-
tribute a small sum each and every year to-
wards having the lane properly looked after
and cleaned every week. Besides this general
means of improvement, they have had some
hard material put on the surface of the ground,
which makes it look almost like a sidewalk.
If this scheme were carried out in all our cities,
as it easily could be, what an education it
would be for our young folks and also for the
city authorities!

THE LAST CHANCE

A short time ago we informed our readers that
we had decided to increase the subscribed stock
of THE HORTICULTURAL PUBLISHING COMPANY,
LIMITED, from \$10,000 to \$20,000, by issuing
200 shares of new stock, worth \$10,000. Our
readers were invited to subscribe for this new
stock. Since then most of this stock has been
subscribed. There remains about only \$3,000
of this stock still untaken. We intend to dis-
pose of this stock within the next few weeks.

The new postal regulations, by which most of
the United States publications, such as *The
Garden Magazine*, *Green's Fruit Grower*, and
The Western Fruit Grower, which have been our
most serious competitors in the past, have been
forced already to advance their subscription
rates in Canada, will prove of great benefit to
THE CANADIAN HORTICULTURIST. The competi-
tion of these papers having been eliminated, it
means that THE CANADIAN HORTICULTURIST is
going to have the Canadian field, for some time

at least, practically all to itself. This will result to the great financial benefit of the publication. The prospects of the Horticultural Publishing Company, Limited, were bright before the new postal regulations took effect. They are doubly bright now. During the past eight months the circulation of THE CANADIAN HORTICULTURIST has increased from 4,000 to 7,000 an issue, or practically doubled. If any of our readers would like to subscribe for some of the \$3,000 in stock still unsold, they are invited to write us immediately for a prospectus giving full particulars. This will be the last opportunity our readers will have of obtaining stock in this company.

THE CANADIAN HORTICULTURIST was informed just previous to going to press that Mr. H. S. Peart, B.S.A., of the Ontario Agricultural College, Guelph, has been appointed to the directorship of the new experimental fruit station at Jordan Harbor, Ont. While we are unable to have the information confirmed, we have reason to believe that it is authentic.

High Prices for Apples

The largest organization of fruit growers in Ontario for commercial purposes is the Georgian Bay Fruit Growers', Limited. There are about 400 members and this is expected to be increased to 1,000 in the near future. The orchards of the members range in size from two to 40 acres. The association has established a brand that is unquestioned. The organization is on the stock company plan. During the past winter, prices received for the apples of the association have been excellent. The following is the returns of one shipment made at a time when some shippers were getting returns scarcely sufficient to pay freight and other expenses:

THOMSON & MATHIESON, GLASGOW.

(A. S. Chapin, Toronto Representative)

April 27, 1907—Sold by auction 337 barrels Georgian Bay apples ex S.S. *Cassandra*.

No. 1. Ben Davis, ..135.....	26 at 20/ 107 " 19/ slack. 2 " 14/
	<u>135</u>
No. 2. Ben Davis. ...123.....	41 at 17/ 15 " 16/6 65 " 16/3 slack. 2 " 11/
	<u>123</u>
No. 1. N. Spys.37.....	2 at 32/ 14 " 30/ SS.. 4 " 29/ SS.. 15 " 28/ slack.. 1 " 25/ slack.. 1 " 15/6
	<u>37</u>
No. 2. N. Spys.36.....	28 at 20/ SS.. 5 " 19/6 slack.. 3 " 18/
	<u>36</u>
No. 1. Baldwin..... 1.....	1 at 25/
No. 2. Baldwin..... 1.....	1 " 18/
No. 1. Mann..... 1.....	1 " 26/
No. 2. G. Russet..... 1.....	1 " 20/
No. 2. Mixed..... 2.....	slack.. 1 " 16/ slack.. 1 " 13/
	<u>337</u>
	2

Information Needed

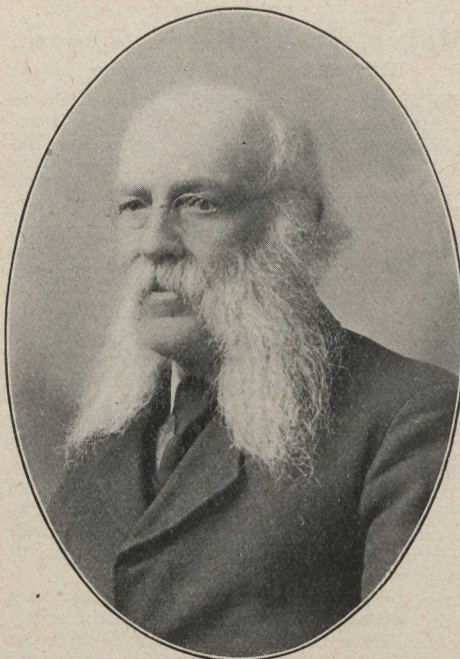
Ed. THE CANADIAN HORTICULTURIST: THE CANADIAN HORTICULTURIST is strongly advocating the spraying of trees and bushes and rightly so. Permit me to suggest that our government might well afford to spend some money in advising the practice through the daily and semi-weekly newspapers. There are hundreds of farmers and others interested who do not

take any horticultural paper and are not awake to the necessity of fighting the pests of the orchard.

I would suggest also that the San Jose Scale and other pests be described more often so that they may be recognized on appearance. While the experimental farm issues bulletins on this subject that are all right, inquiry will show that there is still a great amount of ignorance on this matter. It might be largely overcome by educating the fruit growing public by means of a generous and intelligent use of the press.—F. Williams, Ottawa.

One of Our Friends

An old and valued subscriber to THE CANADIAN HORTICULTURIST is Mr. Chris Firth, of Durham, Ont. He came to Canada in 1872, and settled in Hagersville, Ont. For five years he remained there, and during that time was a member of the Ontario Fruit Growers' Association. Then he moved to Durham and



Mr. Chris Firth

for a few years did not keep in touch with the association. In about 1883, Mr. Firth again joined the association, and subscribed to THE CANADIAN HORTICULTURIST. Since then, he has been a constant reader and friend of the publication. After a quarter of a century's connection with the Ontario Fruit Growers' Association and THE CANADIAN HORTICULTURIST, Mr. Firth writes:

"Only those of us who have been connected with the association and subscribers to THE CANADIAN HORTICULTURIST for a number of years, can understand and appreciate the great improvement that has been made in the publication during the past couple of years. It has advanced rapidly and now may be ranked as one of the leading, if not the leading, horticultural journal on the continent."

Commendable Enterprise.—A Canadian firm that is making much progress is that of Pilkington Bros. They have imported large quantities of glass for the trade and are now making delivery. Since the first of this year, they have taken orders for some 150,000 sq. ft. of glass for florists in Canada. For vegetable men orders to the extent of about 20,000 square feet have been received. This year Pilkington Bros.' sales of glass will easily total over 200,000 sq. ft. for greenhouses. This is evidence of enterprise on the part of the firm and of high quality in the commodity that they handle.

Selling Strawberries

H. W. Dawson, Toronto, Ont.

The strawberry grower who puts up his berries with honesty and care always does better by shipping on commission to some good commission house than by selling at home or delivering at any particular point. We have several large shippers who have given us their entire output for three years past, and in talking to two of them this week about selling their output this year at a stated price, they refused. "Our results the last two years have been so good," they said, "that we will not sell, but will take our chances on the market by sending them on commission."

The principal thing is to get the goods to market fresh and in an attractive package, something that is neat and clean, and to have the baskets well filled. Many shippers have the faculty of only filling their baskets about two-thirds full and then they complain if they get a much less price than their neighbors, when in reality they are getting full value. I know of shippers who are neighbors getting varying prices for their berries. One in particular has for the last three years averaged one cent a quart more than any of his neighbors. This man gives attention to small things. Others should follow his example.

Pointers on Spraying

The Nebraska Agricultural Experiment Station has just issued Bulletin No. 98, entitled "Spraying Demonstrations in Nebraska Apple Orchards." The bulletin gives the results secured from the spraying demonstrations carried on last year in six counties of southeastern Nebraska by the Nebraska Experiment Station and the U.S. Department of Agriculture. The cost of spraying and the value of sprayed and unsprayed fruit are reported in detail.

The bulletin gives the following recommendations for this year's spraying based on the results secured last year:

- (1) Spray with Bordeaux mixture after the cluster buds open, but before the individual flower buds open.
- (2) Spray with Bordeaux and some poison, such as arsenate of lead, Paris green, etc., as soon as possible after the blossoms fall, and at any rate before the calyx lobes of the apple close.
- (3) Spray with Bordeaux and poison three or four weeks after the flowers fall.
- (4) Spray with arsenate of lead about July 20.
- (5) Spray with arsenate of lead about August 10.

Use Paris green at the rate of one-fourth to one-third pound per barrel of Bordeaux. Use arsenate of lead at the rate of two pounds per barrel of Bordeaux or water.

Make Bordeaux as follows:

Bluestone.....	4 pounds
Quicklime.....	6 pounds
Water.....	40 gallons

Slake the lime, dissolve the bluestone, dilute each with half the required quantity of water, and mix thoroughly.

Use good nozzles and maintain a high pressure as uniformly as possible in order to distribute the liquid in a mist-like spray. Take care to reach all parts of the trees and to avoid drenching any part. Careless spraying should not be tolerated.—R. A. Emerson, Nebraska Experiment Station.

In the horticultural kingdom the Ben Davis apple stands only for the baldest commercialism. The sole claim that can rightfully be made for it is that it is a good seller. It flaunts its ruddy inferiority to attract the eye of the injudicious and ignorant. Almost as well might basswood be used for pies as the Ben Davis apple.—The New York Sun

Hardy Trees and Shrubs

C. S. Harrison, York, Nebraska

THERE is often a misconception regarding trees, shrubs and plants. It is thought that even a hardy tree grown 1,000 miles south of its habitat becomes tender and cannot stand up with the same tree as grown at its own home. This is a mistake. According to Professor Hansen, it takes a tree over 1,000 years to materially change its structure and nature.

Take the cherry for instance. In the main its northern limit seems to be near St. Paul; but I found over 30 years ago that cherry trees raised in Alabama were much better than those raised in Iowa. And why? Because those raised in the south were absolutely hardy, because well ripened in bud and limb, while those grown in the north, on account of severe weather, were often injured, having the black heart. These results were obtained by actual test of trees growing side by side. I showed our nurserymen the difference, and now most of the cherry trees used in Nebraska are grown in Alabama for the reason that they are absolutely sound in every bud and twig when planted.

It is just so with apples. A tree with a hardy constitution, like the Duchess, is just as hardy grown in the gulf states as in the Dakotas, and perhaps more so, for by no possibility could the southern tree be injured by cold weather, and it might be in the north.

WHERE THE TROUBLE COMES IN

A man in Manitoba reads about the hardness of red cedar. He gets a lot of price lists. He finds that he can get cheaper ones in southern Illinois. He thinks that red cedar is red cedar anyway. Now those grown in southern Illinois are worthless in Nebraska and would be worse than useless in Manitoba. Even the famous platte cedar of Nebraska could not thrive in Manitoba, for it is not hardy in North Dakota. And if red cedar is wanted for Winnipeg they must be taken from the farthest north where they grow. Now, if trees were grown in southern Illinois from North Dakota seed, and shipped back there again they would be just as hardy as if grown at home.

People hear that the box elder is hardy (this is called the Manitoba maple). A man sends to a Nebraska nursery for a lot of seedlings because he can get them cheap, and they are tender. He loses the whole lot. Had those Nebraska seedlings been grown from Manitoba seed they would have been as hardy as the home-grown.

The cut-leaved weeping birch is hardy in itself, no matter where grown, whether north or south.

Take the Russian olive, one of the very best trees for the semi-arid regions. No matter where grown, whether in Manitoba or Alabama, it is all the same and perfectly hardy. So with the Siberian pea tree.

There are now 150 kinds of lilacs in cultivation. Take out 10 of them and you will have 140 that will be hardy in Manitoba, no matter where grown. Too little attention is paid to these glorious ornamentals. A strange thing about it is that two of the Japan varieties (the *Syringa Japonica*, or tree lilac, and *S. Villosa*) are hardy at Brandon.

There are many kinds of tamarisk, *Tamarix*. A planter wishes to try some, but only one kind out of the 10 will succeed, and that is the silver, also called the Russian, the Amour, and *T. odessana*—four names to one plant and that not perfectly hardy.

The question that comes up for the northern planter is not so much where a tree or shrub is grown as whether it is of a hardy nature. Unfortunately many things offered by southern growers are not hardy in themselves. In Nebraska we find it is useless to try to grow any of the Dentzias, and of course they would be worthless further north. Most of the different kinds of philadelphus are too tender for Manitoba, while rhododendrons, kalmias, and azaleas

we have entirely discarded and they would be useless further north. Of course southern agents will swarm a rich country like western Canada, and they will have alluring pictures. Well, you may buy the pictures, for they will be hardy; but you had better examine the lists recommended by your own horticultural societies before you buy the trees and shrubs.

Another thing is that many things which do well in the moister air of the Atlantic states cannot endure the drier air of the west. The white spruce of Maine is worthless in Minnesota, while Manitoba or Black Hills white spruce is all right. White pine from Massachusetts would not be hardy by the side of white pine of northern Minnesota. The eastern oaks do not succeed in the west, while the native oaks are all right.—*The Nor'-West Farmer*.

Value of Northern Trees

W. T. Macoun, C.E.F., Ottawa

The information contained in the article on "Hardy Trees and Shrubs," by C. S. Harrison, York, Neb., is in most particulars correct, judging by our own experience, but we differ from the writer in regard to the value of northern and southern grown trees of the same variety of fruit. A trunk of a nursery tree developed in the north and going through two or three winters there, is more likely to withstand the winter in the north after planting than one grown in the south. If the tree from the south is not injured the first winter or the following spring and becomes well established it will probably do as well as the northern grown tree.

If I were planting a tree at Ottawa I should prefer a well-grown, well-ripened tree from the Niagara peninsula than one with black heart grown at Ottawa. But by growing the trees carefully the hardy varieties can be grown without black heart in northern nurseries, and I should prefer such trees to those grown in the Niagara peninsula.

It is a fact that it takes many years for a tender tree to become any hardier in the north. Our experience, covering 19 years, has not shown any increase in hardness of species or varieties of fruits and ornamental trees that killed back or proved tender 19 years ago. We do not know that it would take 1,000 years to make a change, but we believe it would take a great many. It is important to note, however, that red maple, black walnut, red cedar, or any other species having a great range from north to south in the wild condition may vary noticeably in hardness, as has been observed at Ottawa and elsewhere; hence, it is preferable to get trees from stock, the parent tree of which was a native as near the northern limit of the species as possible, or as near the point where it is desired to grow them as possible. It may be said, however, that the large majority of the ornamental trees and shrubs hardy at Ottawa have been obtained from nurseries in a warmer climate, so that with most trees and shrubs which are grown in Canada, exclusive of the tree fruits where tenderness of trunk is an important consideration, it is not a matter of great importance where the stock is obtained, providing it is well grown and the wood thoroughly ripened. No doubt the nurserymen get their stock from as near the northern limit as possible.

Farmers' Vegetable Gardens

"Every farmer should have a small vegetable garden near the house," said Mr. Linus Woolverton, Grimsby, "to grow a succession of greens and vegetables for the home table. One-half of the farms of this country have nothing of the sort. On my farm I have a small plot of 100 by 40 feet, on which each season \$50 worth of

vegetables are grown. If a family of three can save \$50 on one-tenth of an acre, how much more would a vegetable garden be worth to those farmers with large families, and with a number of farm hands to board. The vegetable garden pays. Most farmers think they have not time for small things like this; they don't stop to think that they can save money by growing vegetables instead of buying them."

Plants Must Bear Grief Well

ED. THE HORTICULTURIST.—About 1854, one Stephen B. Ainsworth, of Mendon, Ontario Co., N.Y., a professor of phrenology, became a fruit grower. He was a quaint, but intelligent, man, and a close observer of men and things. He was a member of the Fruit Growers' Assn. of western N.Y., and always attended its conventions. Upon one occasion he rose in the convention and said: "Fellow fruit growers, when you decide to plant a fruit tree select one that will bear grief well." That was his entire speech, and it was a good one.

If you wish to make a friend that you can "tie to," as they say in the west, "select one that will bear grief well." If you wish to buy a horse that will be of service, "select one that will bear grief well." To "bear grief well," is a good trait in a man, a horse or a fruit tree.

When a beginner in horticulture asks your advice as to the selection of a summer pear on quince or pear stock, do not advise him to purchase a Buerre Giffard just because it is of the best quality as a summer pear. The Buerre Giffard will not, as a young tree, "bear grief well," and when it gives up the ghost the novice in horticulture is not encouraged to try, try again. Tell him to purchase a Brandywine. He will eat the fruit thereof and be encouraged to try other varieties ripening at other seasons. When he has passed into the amateur stage as a fruit grower and lover, he will give a young Buerre Giffard, Buerre Bosc, or Winter Nihil, the care they demand to ensure success.

When a man or woman has tasted of a new fruit, or seen and smelled of a new flower, he or she wishes to know where to purchase one like it. This they should learn from the advertising columns of THE CANADIAN HORTICULTURIST. Therefore, I, as one of the founders of the Ont. Fruit Growers' Assn., am pleased to see a marked increase in the advertising pages of THE HORTICULTURIST. The men who have, and the men who desire to have and have not, meet in the advertising columns of your journal and become friends and co-workers in a most beneficent occupation. The advertising columns are in one sense, and a most important one, "news columns" to those who seek to find. The advertising columns, also, enable you to make a better journal for the same money, or the same journal for less money. You should have at least 50 pages of advertisements that pertain to the production and distribution of trees, fruits, flowers and vegetables. As the only journal of its kind in British North America, and as one of the best of its kind in the Western Hemisphere, you should have liberal support from those who have trees and plants, and all things that appertain to their successful production and distribution. May the advertising pages of THE CANADIAN HORTICULTURIST increase, is the wish of a life member of the Ont. Fruit Growers' Assn.—Frances Wayland Glen, Brooklyn, N.Y.

A little booklet entitled "Home Life of Women in Western Canada," has been received at this office. It is published by the Canadian Pacific Railway Co., and is a story of what women are accomplishing in the west. Should any reader of THE CANADIAN HORTICULTURIST desire a copy, it will be mailed to them upon receipt of a two-cent stamp sent with address to Advertising Manager, Canadian Pacific Railway Co., Montreal, Que.

The Fruit Blossoms and What They Tell

FRUIT blossoms were from two to three weeks late in making their appearance this spring. Cold weather retarded the swelling of the buds. Everything is behind time. Nevertheless, the show of bloom on most kinds of trees indicates a fair to good crop. There is reason to be confident in the prospects for an abundant harvest. The conditions in various districts is mentioned in reports from the crop correspondents of THE CANADIAN HORTICULTURIST, as follows:

MONTREAL DISTRICT

Westmount.—The season is three weeks late but the prospect is good for apples, pears, plums, cherries, strawberries and raspberries.—R. Brodie.

TWO MOUNTAINS, QUE.

La Trappe.—Season is late. Fruit buds are just developing; notwithstanding, we believe apples will be abundant, and the pear, plum, cherry and small fruit crop fair, even good. The buds do not seem to have been affected by the severe winter or late frosts.—Prof. G. Reynaud.

ROUVILLE COUNTY, QUE.

Abbotsford.—All varieties of fruit trees and small fruits came through the winter with very little injury. Present indications are for a full crop, but late frosts may change the situation.—J. M. Fisk.

PRINCE EDWARD COUNTY, ONT.

Rednersville.—Prospects for apples are favorable. Trees came through in good condition. Plums, pears and cherries also promise a crop. The cold weather made fruit trees backward in blooming.—Harry Dempsey.

DURHAM COUNTY

Newcastle.—Blossom buds are abundant, and apparently uninjured by the late frosts. Prospects for fruit crop are good. Ben Davis and Baldwins, which bore heavily last year, will have a lighter crop this season, but Russets, Spys and Stark are promising a full crop. Pears, cherries and plums have plenty of blossoms. A large acreage of young apple trees was planted this spring, and more spraying will be done than ever before. There are four power sprayers in this locality within a mile and many hand pumps.—W. H. Gibson.

DUNDAS COUNTY

Irena.—Fruit trees and bushes came through in good condition. Apples promise a good crop. Cherries, plums and pears are not grown commercially here, but the few grown show indications of yielding well. Currants, gooseberries and raspberries are looking fine.—A. D. Harkness.

ONTARIO COUNTY

Oshawa.—Prospects are favorable for a good crop of apples; the blossoms promise well. Pears are blooming heavily.—Elmer Lick.

PEEL COUNTY

Clarkson.—The outlook is favorable for a good crop of strawberries. Old raspberry patches are more or less winter killed and injured considerably by the snowy tree cricket; younger patches are looking fine. Tree fruits give indications of a good crop.—W. G. Horne.

HALTON COUNTY

Oakville.—The prospects for apples, cherries and plums are good; pears fairly good. Raspberries were badly winter killed. Blackberries will be fair; currants, good; strawberries, fair.—W. H. McNeill.

WENTWORTH COUNTY

Hamilton.—Present indications point to a good fruit crop. Peaches promise only a light yield, while plums, pears and grapes will be heavy. Strawberries may be about two weeks late owing to the backward weather, and the

crop will not be heavy. The raspberry crop will be rather light. Growers expect high prices for all fruit. During the last few years, strawberry plants have been scarce, and the acreage has not increased, while the demand for the fruit has; the result is that buyers are compelled to pay higher prices. Raspberries are being contracted for by canners at \$2 a crate of 24 boxes. There is a noticeable increase in the acreage of grapes.—Jas. H. Stephens.

Fruitland.—Fruit trees in general appear to have passed the winter exceedingly well and promise a good crop. Present indications are encouraging, but there is still time for damage by late frosts. Currant and berry bushes are looking well. It is too early to say much about grapes.—C. C. Pettit.

LINCOLN COUNTY

Grimsby.—Judging from the showing of fruit buds, this will be a favorable year for fruit growers. Cherry blossoms are abundant on both sweet and sour varieties; on the latter kinds, black knot is more abundant than for many years, and unless cut out at once will soon spread and destroy many orchards. Peaches came through the winter in good condition; there is promise of a fairly good crop. Much spraying with lime and sulphur was done this spring, although we are still free from scale; we hope in this way not to have it. Pears promise well, especially Bartletts, where the trees survived the blight of last year. Not for years has this disease shown itself so badly as in 1906. Old trees did not suffer much, losing only the young wood, but trees from 5 to 10 years planted are largely ruined, and are being cut out. This should make the price of Bartletts unusually high this year. Apples show well, even Roxbury Russet being full, and these have not borne a crop for several years in some orchards. It is too early to say much about small fruits and grapes, but in some plantations, raspberry canes were badly winter killed.—Linus Woolverton.

Beamsville.—Raspberries and blackberries promise a fine crop. Strawberries suffered severely from the open winter and the want of being protected by snow. Plants for setting are scarce and high, selling at \$4 a hundred. The crop will fall short of last year. Early cherries are now in bloom and prospects for a full crop of all varieties are good. Peaches came through the winter all right, but in some quarters, not far distant from here, they are reported badly frozen. Plums promise a full crop. Pears and apples are also in good condition for an abundant yield. Fruit growers gradually are awakening to the all-important matter of spraying and spraying thoroughly.—W. B. Rittenhouse.

Jordan Station.—Strawberries that were protected will yield a good crop. Black and red raspberries and blackberries will give a good crop on young bushes, but old bushes were frozen back. Nearly all varieties of peaches promise a good crop; also pears, plums, especially Japanese cherries, grapes and currants. Apple prospects are fair.—W. A. Hunsberry.

Port Dalhousie.—Fruit prospects are good except for strawberries. Fruit trees appear to have passed the winter very well notwithstanding the want of snow protection. The fruit buds and blossoms promise a luscious crop of fruit of all kinds. The dry season last year was not favorable to the growth of strawberries, and the open winter and hard frosts of spring make a short crop probable, especially from unprotected patches. Raspberries came through fairly well, but as there is not as good a growth of cane as last year, the crop will be rather light.—A. M. Smith.

St. Catharines.—The long, cold spell seems to be broken. Trees are bursting into leaf and

bloom with great rapidity. The country is a mass of blossoms. Nearly all kinds of trees apparently came through the winter in good shape. Raspberry canes are not looking so well. From present prospects, it would seem that we can expect a fair crop of fruit in general. Cherries and plums promise full crops; pears, medium. Prices will rule high as canning factories are paying good prices for the berry crops yet to be gathered. Looking at the largely increased acreage that is being planted this season of pears, plums, and especially of peaches and grapes, one cannot help wondering how many of the new growers will have the backbone and the stick-to-itiveness to prune, cultivate and spray the trees they are planting. If they do not, their labor will be for little or nothing. A large percentage of the planting, however, is being done by the growers who have already learned that only by taking care of their trees can they be made to pay, and the better cared for, the better will they pay.—Robt. Thompson.

KENT COUNTY

Chatham.—The prospects for apples are good, except for fall varieties, which will be light. Pears will be fair. Peach bloom is all killed, and many of the trees. Small fruits promise well. Japan plums seem to have suffered with peaches; other plums show considerable bloom; cherries also. Among apples, Baldwin, Spy and King are the most promising. Kieffer pears will be light.—W. D. A. Ross.

ESSEX COUNTY

Leamington.—Fruit growers were much surprised this spring to find that a large number of peach and other trees were dead. As the winter had been mild, no one had expected injury. The general opinion is that the harm was not done during the winter, but that it was the result of the severe frosts that came when the trees were in full leaf last October. Trees that were old enough to bear and young trees that were well ripened in wood, did not sustain much injury. Uninjured peach trees promise a good crop. Spraying has been practised generally and thoroughly. It is to be hoped that the dreaded scale will not spread so rapidly this season as last.—J. L. Hilborn.

Leamington.—Fruit prospects are not any too favorable. A large quantity of peach buds have been killed; many trees appear to be dead, still there is prospect for some peaches, perhaps a fair average crop. Cherries, both sweet and sour, show well. Apples promise to give a crop; later on, conditions may show otherwise. Strawberries are badly quite killed out; also, some raspberries. Plums differ in bloom; Abundance, full; Burbank, almost none; Lombard and some others, full. Pears show well.—E. E. Adams.

LAMBTON COUNTY

Forest.—The prospect is good for an abundant crop of fall and winter apples. Early plums and peaches are damaged to some extent by late frosts, but later varieties have come through all right.—A. Lawrie.

BRUCE COUNTY

Walkerton.—All varieties of tree fruits appear to have wintered well. Bush fruits look fairly well except raspberries, which seem to have been damaged by late frosts. The apple bloom gives promise of a fair crop; pears, good; plums, medium; cherries, good.—A. E. Sherington.

GREY COUNTY

Meaford.—Raspberries and strawberries are in condition for a good crop, except those on wet ground. Cherries, plums, and pears promise lots of bloom. Most varieties of apples will bloom well. Spys will be shy as they gave a full crop last year.—A. Gifford.

NOTES FROM THE PROVINCES

By our Regular Correspondents and Others

British Columbia

C. P. Metcalfe, Hammond

Frosts in the latter part of April and the early part of May curtailed the expectations of the fruit grower that the year would be one of large crops. Fruit growers fully expected that, owing to the lateness of the spring, the bloom of trees and plants would escape injury from frost. The crop of strawberries has been almost cut in half, especially the early varieties. Raspberries and blackberries have escaped the spring frosts, but were winter killed a little in some parts. Cherries, particularly sweet cherries, have suffered heavily, and the crop will be a light one. Plums and apples seem to have escaped fairly well. Only some of the early blooming varieties have been touched. The bloom of the prunes and pears has not fallen yet, but the prospects are for a fair crop.

Spring spraying has been nearly completed, and the weather has been all that could be desired for beneficial results. The Provincial Government is enforcing the laws regarding the spraying and care of orchards. Between 1,500 and 1,600 orchards have been inspected. The campaign for the protection of the fruit industry of the province is looked upon with disfavor by many of the owners of old orchards, who, in the past, have done nothing in the way of spraying, pruning, etc. But the enterprising fruit grower has everything to gain and will welcome these attempts to control, to a certain degree at any rate, the spread of fruit pests and fungous diseases. The government has also undertaken the spraying of the orchards on the Indian Reserves, hoping to demonstrate to the Indians the benefits to be derived and also to control the insect pests and fungous diseases in those parts.

The Okanagan Valley

H. L. Gordon, Vernon

The late spring has not retarded the operations of the local real estate agents; indeed, their activities seem greater than ever, and their numbers increased by arrivals from Winnipeg. Something very like a boom is in the air in certain parts of this valley, but a steady legitimate business is proceeding in and around the older centres.

The most notable deal of recent times has just taken place in Vernon, the capital of the Okanagan. Two estates, comprising together about 17,000 acres, have been sold for a substantial figure to a Belgian syndicate, well-known for its operations in land in South America, South Africa, Egypt and nearer home. It is said that 8,000 acres of this land is irrigable, and that a large proportion of it will be divided into small lots for sale as fruit farms. The quality of the land thus purchased is quite up to the high standard prevailing in this district, but it is only the fact that water for irrigation purposes has recently been made available that has permitted the purchase with a view to fruit-growing.

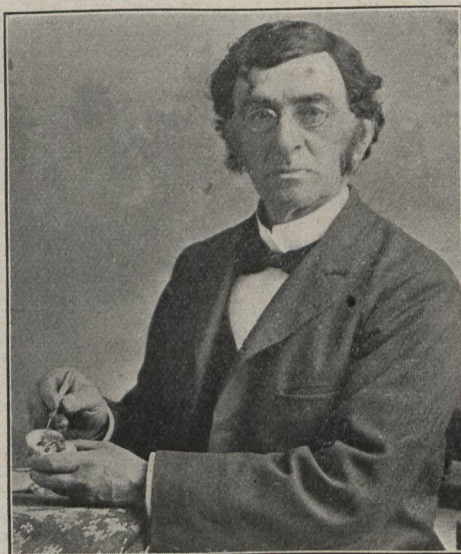
It is to be hoped that when the land is offered for sale in 10 and 20 acre lots, as fruit-land, the vendors will bear in mind that the fruit farmer requires also a little pasture or range for his horses and cow, and will offer suitable land at a more moderate price than is now asked for fruit-land. This has been overlooked in some previous divisions of property in the neighborhood of Vernon; the purchasers of lots at \$150 to \$200 an acre have naturally desired to set out every available acre in orchard, and have been denied land at a reasonable price for pasture. It thus happens that

many fruit farmers here are reduced to feeding their horses on hay costing \$25 per ton, and their families upon condensed milk. A few, a very few, amongst the many English, Scottish and eastern Canadian families, who have settled here in search of a profitable pursuit, amidst pleasant surroundings, can afford to smile at the irony of the situation; to the majority it appears an undesirable addition to the heavy expenditure incurred while awaiting the arrival of the orchard at the bearing state.

Quebec

Auguste Dupuis, Director, Fruit Experiment Stations

In the eastern and northeastern part of the province the winter has been extremely cold, 15 to 30° below zero, weather lasting whole fortnights. Snow fell early in November and did



Mr. Auguste Dupuis

Director, Quebec Fruit Experiment Stations

not melt before the middle of April. No sudden changes of temperature having occurred and the cold weather having increased gradually, the apple, pear, plum and cherry trees did not suffer; the fruit buds are perfect and promising.

The season is very backward; buds are just beginning to swell. All through the province more fruit and shade trees are planted this spring. Unfortunately great mistakes are made in the selection of varieties. Hardy ones that mature their wood promptly should be chosen. The popularity of the Baldwin, Greening and King apples for home use induces farmers to buy these varieties, quite unsuitable for cultivation in the north, where the summer is too short for maturing their wood.

Another hindrance to successful orcharding is the ignorant tree pedlar. Some nurserymen, advertising for agents, mention that no experience in tree culture is needed to sell trees; therefore, agents incompetent to guide the farmers on the selection of varieties, on planting and culture, often tell the farmers to do the least preparation of the soil and after culture possible.

The Hon. Mr. Allard, Minister of Agriculture, being informed of the losses incurred by injudicious selecting of varieties and by wrong plantation has secured the services of experts to instruct the people in practical fruit growing. The

demonstrations are made in the orchards and do much to educate the farmers.

Arbor Day was well observed this year. A great destruction of eggs of the tussock moth was made by school children in some localities. Prizes were given. This caterpillar increased prodigiously last year. Those who do not gather the eggs will see their trees defoliated. I gathered and counted 42 nests on a Tolman Sweet apple tree: if left on the trees over 10,000 caterpillars would have hatched from the eggs, each nest containing 250 to 300 eggs.

Fruit stations have been established in Berthier and Yamaska counties, where the fruit industry has been neglected. The nurseries of Ontario, whose advertisements in THE CANADIAN HORTICULTURIST is a guarantee of their products, have made extremely large sales. Whole train loads have come to this province this spring.

Montreal

E. H. Wartman, Dominion Fruit Inspector

The heavy frost of Friday night, May 10, produced ice as thick as an ordinary pane of glass, and made some of our apple orchardists fear results. I have visited a number of orchards, and on examination of buds, feel assured that no damage is to be feared, as the season being so cold, the buds are very backward. Fruit buds show up well. As the Fameuse will produce about 80% of the crop of the island, I look for more of this variety than last year. Later on I expect to see many dead limbs on our apple trees on account of being encrusted by oyster-shell bark-louse. What a pity, when proper spraying will destroy them! Raspberry canes are in a healthy condition.

Probably 3,000 barrels of apples are still in cold storage, and in irregular condition. In some barrels of Spy apples, No. 1, five specimens would cover the loss by rot; others will necessitate repacking at a loss of half a bushel. The packer who thinks that he can mix in half a bushel of windfalls in a barrel of No. 1 apples, and expect them to keep late in spring, is making a mistake. Last week I saw a fruit dealer open a No. 1 barrel of Spy apples from pressed end, and finding them so beautifully colored and preserved, he marked \$7 on the barrel as a sale guide. It always pays to keep carefully hand-picked apples by themselves and to mark windfalls, "windfalls," no matter how free they appear to be from bruises when gathered from the ground. This mark is a danger warning that will put money in the fruit man's pocket.

Prince Edward Island

Rev. Father Burke, Alberton

The spring outlook is, as elsewhere, anything but early. We are usually a month behind Ontario with the seeding. We had a snowstorm on May 12, something of a rarity for us even. But I see that the cold wave has extended to the greater part of the continent, and we cannot complain, even if complaining did any good.

As the great drifts of the past winter melt away from our plantations, I notice that there has been considerable damage done, by breakings-down. Snow seems to have piled up in the most unaccountable way, in places never before menaced, and, as a consequence, there is lamentation among the orchardists, in many parts.

Our own modest orchard experienced a very general curtailment, two years ago, from this source. We bolted and braced and doctored the bruised and broken trees, with a care and tenderness which should have merited future exemption; but, the sins of improper location have to be expiated, and storms and the like are no respecter of persons. This year again, the snow piled in mountains on the older portion of our planting, and the old fractures were quickly discovered, and our painstaking, as a general thing, turned to naught. Shovelling with trees, too closely placed and well grown, does little good, in our experience.

With young stock it may be possible to shovel it away; often, however, this service does more harm than good.

There has been considerable disappointment here in fruit raising, owing to these untoward circumstances, and the fact that of late we have had a continuance of poor or small crop returns; but this is the fortune of almost any prosecution in life; it has its ups and downs. Besides, being fresh in the enterprise, we have doubtless made many mistakes, and must pay for them. It seems sure that we can grow good fruit here, though, if we get at it properly, and that should be incentive enough for most of men to make the business go. The plantings this spring, then, have not been on the same large scale as within late years, but they will be more judicious and may mean much more for the industry in general.

A number of early summer orchard meetings which Chief McNeill will address are projected. He announces that he will take up cooperation as a necessity to the placing of our apple orchards on a paying basis, and in this we thoroughly agree with him. The Dominion Government seems to be desirous of assisting horticultural cooperation after a plan. The most urgent need now is not of an elaborate all-round establishment of cooperative institutions, after the cheese-factory fashion; it is a practical assistance of this nascent industry to its feet with us, by the expenditure of small grants to local packers, so as to secure them the packages and enable such sufficient solicitation among the growers as may bring the product of their trees to one or more points for handling effectively. Often in these assisted enterprises much good money is thrown away in exaggerated experimentation; not only the public money but the hard-earned dollars of the cooperators. The gifts of the department come into the category then of "Greek gifts" to the people. We hope that Chief McNeill will have some practical plan worked out when he reaches us.

Nova Scotia

G. N. Gordon McKeen, Gay's River

The outlook for a fruit crop is encouraging, although it is too early to predict definitely. The past winter was quite severe, the thermometer registering in February below zero about one-half of the month. The trees came through unusually well, however, as there was a good covering of snow on the roots. The weather is still cold and wet.

Small fruits are showing fairly well. The hardy varieties of blackberries came through in good condition, but the tender kinds were killed back considerably. Gooseberries, especially Downing, give promise of an abundant crop. Strawberries look well and suffered little loss from winter killing. Cranberries did not suffer much from the usual heaving by frost and probably will yield a good crop.

Saskatchewan

W. S. Woodruff, Lashburn

In this country there has not been much fruit tried except a few currants and gooseberries. Last year some farmers put out a few raspberries and blackberries, but they killed back considerably. It is probable that the roots are all right and that new canes will spring up this summer. The past winter was the most severe one ever known in the province.

Wild berries grow and thrive in abundance. I believe that good, hardy varieties of fruit, properly cared for, can be grown successfully. The climate is no more severe than that of Minnesota, and in that state much fruit is grown. A number of Hibernial, Russian Transparent and other varieties of that type have been tried here and are expected to do well. We hope to see a creditable development of horticulture in all its branches.

Cooking Rhubarb and Strawberries

Miss L. Shuttleworth, Toronto

IN cooking rhubarb, we should aim to keep the pieces whole and attractive in appearance. To accomplish this, it is much better to bake it in the oven than to cook it on top of the stove, which is the usual custom. After washing the rhubarb, cut the stalks in pieces about two inches long. Place in a granite or earthen dish. Add one cup of sugar to about one pound of rhubarb. Cook slowly in a covered dish until sugar is all dissolved and the fruit is tender but not broken. More water may be added before serving if desired.

A sprinkle of salt will help to overcome the acid of rhubarb when cooking it, but do not add too much.

When making rhubarb pie, did you ever use a tablespoonful of sago sprinkled into it to jelly the juice and to keep the pie from boiling over? It is very much better than the sprinkle of flour. Just try it.

It is always well to have a few jars of rhubarb stored away for use between seasons, and here is a very easy but sure method of canning it.

CANNING RHUBARB

Cut the rhubarb when it is young and tender. Wash it thoroughly; cut into pieces about two inches long. Pack in sterilized jars. Fill the jars to overflowing with cold water and let them stand five minutes. Drain off the water and

fill again to overflowing with fresh cold water. Seal with sterilized covers. When required for use treat the same as fresh rhubarb. Green gooseberries may be preserved the same way.

TO PRESERVE STRAWBERRIES

Cover four pounds of fine ripe strawberries with three pounds of granulated sugar, and allow them to stand in a cool place overnight. Strain off the juice, pour it into a preserving kettle, and let boil gently 15 minutes, removing all scum. Add the berries, boil two or three minutes, then pour into hot jars and seal immediately.

STRAWBERRY WHIP

One cupful of ripe strawberries, one cupful of sugar and the white of one egg. This beaten together in a bowl with a fork, for 10 or 12 minutes, will give nearly a quart of delicious strawberry whip, suitable as filling for strawberry short cake and an excellent substitute for whipped cream.

SOME POINTERS

In cooking fruit, never boil it hard; by so doing, you lose much of the delicious fruit flavor. It is better to simmer it gently.

Fruit that is cooked in the skin, such as plums, cherries, etc., should never be plunged into boiling hot syrup, as this will toughen and crinkle the skin. Better cool the syrup before adding the fruit.

Experiment Station Bulletins

FROM every state east of the Mississippi River, and from Missouri, Arkansas, Louisiana, Texas, Minnesota, and the Province of Ontario, Canada, the terrapin scale, *Eulecanium nigro fasciatum*, has been reported, says circular 88, United States Department of Agriculture. It is noteworthy that this species of scale, more conspicuously marked than any other of the genus, is the most generally injurious one. In consequence of its wide range of food plants, including both wild and cultivated trees, it must be considered a dangerous pest, which may be controlled but never eradicated.

This scale insect can be recognized and identified especially well in the hibernating winter stage, when it appears as a reddish hemispherical scale 2mm. in length, mottled with radiating streaks of black which are especially conspicuous about the margin. Sometimes these radiating streaks coalesce, forming a subdorsal dark band surrounding the central reddish boss. Occasionally individuals are found which are entirely red or black.

For many years the terrapin scale has been considered a specific enemy of the peach, and has been confounded by many entomologists and others with *Eulecanium persicae*, the pre-eminent peach soft scale of Europe. At present we know it as infesting a large number of host plants, including many varieties of peach and cultivated plum; various species of wild plums and cherries; *Prunus simonii*; apple; pear; quince; several species of Crataegus; three species of maple, particularly *Acer saccharinum*; oriental and western sycamores; Carolina poplar; olive; blueberry (*Vaccinium* sp.); Bumelia, and spice bush (*Benzoin benzoin*).

Unfortunately the lime-sulphur wash, which is such an excellent remedy for the San Jose scale, and which at the same time controls the peach leaf-curl, is worthless for treating the terrapin scale. Numerous experiments in the use of the lime-sulphur wash against this scale on various host plants have produced only negative results.

Kerosene emulsion has proved to be the most effective remedy for the control of this pest. This emulsion when properly made according to the formula below can be sprayed with safety

on any tree during the dormant period in winter or early spring before the buds open—at a strength of 20 to 25 per cent. A nozzle throwing a fine spray should be used. Care should always be exercised to prevent the liquid from running down the trunk of the tree and collecting about the roots, as the oil, which will be retained by the soil around the roots for an indefinite period, might seriously injure or kill the tree. Make kerosene emulsion as follows:

Stock solution (66 per cent. oil)	
Kerosene (coal-oil).....	2 gallons
Whale-oil or laundry soap (or 1 quart soft soap).....	½ pound
Water.....	1 gallon

Dissolve the soap in boiling water, then remove from the fire, add the kerosene immediately and thoroughly agitate the mixture until a creamy solution is obtained. This can be done by pouring the mixture into the tank of a spray-pump and pumping the liquid through the nozzle back into the tank. This is a stock solution which must be diluted before using. In order to make a 20 per cent. emulsion, add to each gallon of the stock solution about 2½ gallons of water and agitate thoroughly before using. For a 25 per cent. solution add to each gallon of the stock solution 1½ gallons of water and agitate thoroughly. This strength will kill a large percentage of the hibernating females, without injury to the trees.

If a good naphtha soap can be obtained the preparation of the emulsion will be simplified. It will be unnecessary to heat the solution, since the kerosene will combine readily with the naphtha and soap and form a perfect, cold, milky-white emulsion when the mixture is thoroughly agitated. If naphtha soap is used, double the amount called for by the formula, and emulsify in soft (rain) water.

PEACH MILDEW

The Agric. Exp. Sta., Fort Collins, Col., Bull. No. 107, deals with peach mildew. This disease, as yet not prevalent in Ontario, is due to a fungus that attacks leaves, twigs and fruit. On leaves, the attack is confined largely to the under surface, as sunlight is its worst enemy.

It is very conspicuous as white blotches along the twigs, the underlying bark becoming dry and brown. It appears on the fruit while it is yet small and immature, causing them to fall prematurely. In some cases, it ruins the crop for market. While the disease is not troublesome in Canada, it deserves watching. Troubles of this nature sometimes come unexpectedly. Among the preventative measures suggested are pruning the trees to an open head. Plant and prune to favor a free circulation of air about and plenty of sun about and on the inside of the tree. Sulphur dusted on the trees and Bordeaux mixture are recommended as remedies.

FRUIT STORAGE EXPERIMENTS

The fruit growers of Canada will be interested in watching the results of fruit storage experiments that are being taken up in Iowa. The character of the work that is proposed has an important bearing on the fruit industry not only of that state, but also of others and of Canada. Iowa orchards are producing a superabundance of fall apples and a proportionate scarcity of late winter fruit. This is particularly the case in the northern half of the state, where there is a great scarcity of hardy varieties of good winter apples. This condition presents two problems of economic importance.

The cold storage of fall varieties, thereby lengthening their season, and making it possible to distribute the crop to more distant markets and also at better prices to the grower. The storage of fall sorts for local market and home consumption in winter as a substitute for late varieties. The aggregate amount of fall apples which annually goes to waste in Iowa is enormous. With ample storage facilities and proper methods of handling the fruit, both before and after it is stored, there can be no doubt that much of this loss might be prevented and thousands of dollars which are sent out of the state would remain in the hands of the Iowa fruit grower.

It has been clearly demonstrated by carefully conducted cold storage experiments, that many of the fall varieties of apples can be kept 2 and 3 months beyond their normal period in first-class condition. A variety varies much in its storage quality under different soil and climatic conditions, and while the leading commercial varieties grown in Iowa have already been tried in storage in older fruit growing sections, yet these tests do not apply to Iowa conditions, and the value of Iowa fruit for storage has not yet been determined.

The Hort'l section of the Iowa Exp. Sta. in cooperation with the Division of Pomology of the U.S. Dept. of Agri. is taking up the investigation of a number of important problems connected with the cold storage of apples grown in that state. Observations are to be made on the keeping quality of different varieties of apples as related to the age of the tree, the type of soil upon which it is grown, whether it is grown under sod or under clean tillage, the degree of maturity of the fruit, the question of immediate vs. delayed storage, of wrapped vs. unwrapped fruit, and of a small package vs. barrels. The work will be conducted by Mr. H. J. Eustace, expert in fruit storage investigations of the Division of Pomology, in cooperation with Prof. S. A. Beach, of the Iowa Exp. Sta. THE HORTICULTURIST and the fruit growers of Canada will watch the work with interest.

CURCULIO ON APPLE TREES

Experiments to contribute to the knowledge of the value of insecticide sprays as a preventive of injury to the apple by the plum-curculio, have been conducted by the Illinois Exp. Sta. In a word, Bull. No. 108 says that it was found that four times spraying with arsenate of lead at a cost of 17 cents a tree increased the yield of the tested orchard, about one-half, the average size of the fruit by about one-fifth, and so improved the quality of the apples that they were worth from two and a half to three times

as much as if the orchard had not been sprayed.

Analysis of apple peelings made the day after the trees had been sprayed once with arsenate of lead at 4 times the usual strength, equivalent, consequently, to 4 successive sprayings, yielded 36.6 parts per million of arsenious acid, equal to .256 of a grain of arsenic to an avoirdupois lb. of the peelings. This would mean that one would have to eat approximately 4 lbs. of apple peelings to get a grain of arsenic if the fruit were taken the day after spraying with arsenate of lead at 4 times the usual strength.

By a comparison of apples taken from different parts of the check and experimental plots it was shown that curculios passed from tree to tree to such an extent that rows of sprayed apples adjoining the check plot, and rows of unsprayed apples adjoining the experimental plot, may not be used for comparison if exact results are expected, but that check and experimental trees must be taken from rows some distance within their respective plots.

NOXIOUS WEEDS

The Ont. Dept. of Agri. has published a synopsis of the act to prevent the spread of noxious weeds. In brief, it is as follows: It is compulsory for the owner or occupier of land to cut down and destroy on that land Canada thistle, ox-eye daisy, wild oats, burdock, as often as is necessary to prevent their seeding, provided that this does injure growing grain crops. By-laws may extend the operation of the act to any other weeds and to any disease of grain or fruit trees, excepting only yellows and black knot in fruit trees. The owner or occupier of land is furthermore required to destroy, before the ripening of their seed, all noxious weeds growing on any highway (not being a toll road) adjoining his land from the boundary of such land to the centre of the road. In this event of neglect, upon written notice, to carry out these instructions, it is incumbent upon the authorities to enter upon the land and cut down all such noxious weeds, charging the cost against the land with the other taxes. As offences against the act are punishable by fine or imprisonment.

5,000 Facts About Canada.—A remarkable little booklet has been compiled under the above self-explanatory title by Frank Yeigh of Toronto, the well-known writer and lecturer on themes Canadian. Perhaps no one in the Dominion is better qualified to make such a compilation. Its value is, as claimed, "worth its weight in Yukon gold or Cobalt silver." The idea is a clever one, viz.: a fact in a sentence, giving a wonderful mass of information in the smallest compass on every phase of our commercial and industrial life, and our natural resources. The booklet is sold for 25c., and may be had from newsdealers or from the Canadian Facts Publishing Co., 667 Spadina Avenue, Toronto.

A patent weed exterminator has been invented by Mr. Herman Thøeni, of Spokane, Wash. Its essential feature is a tube provided with a suitable penetrator, which is tapered to a point, and adapted to being filled with liquid. The point of the penetrator is pressed into the heart of the plant or weed, and, by means of valves and other apparatus, a desired quantity of the liquid is allowed to pass out. A few drops of a suitable liquid is sufficient to kill an ordinary weed. The implement is claimed to be particularly useful for killing weeds on lawns and other places where hoeing cannot be done.

"I have used a Wallace Power Sprayer (Standard) on 1,100 apple trees, about 35 years planted 30 ft apart, tops touching in places, and could always spray a tree with plenty of pressure left. Sometimes I have sprayed as many as three trees without putting the pump in gear. I have not lost either time or cash through any failure of machine. I have had it up to 200 lbs. pressure, but generally run at 80 to 125. I use 8 nozzles."—J. B. Tweedle, Kilbride, Ont.

Items of Interest

The Missouri State Horticultural Society will hold its semi-annual meeting on June 4, 5, and 6.

The prize list for the Canada National Exhibition has been issued. Copies may be had by applying to J. O. Orr, manager, Toronto.

I congratulate THE CANADIAN HORTICULTURIST in regard to the fine quality of its paper, clean type and general make-up, and on the excellent and timely articles that it publishes.—E. Preston, Port Dover, Ont.

That market gardening is a healthy and useful occupation is evidenced by the recent decision of the prison commission of Georgia, to teach the work to the youthful inmates. Some ten acres have been set aside for the purpose. The objects are to maintain the health of the youths and to place them in a position to earn good wages when their terms expire.

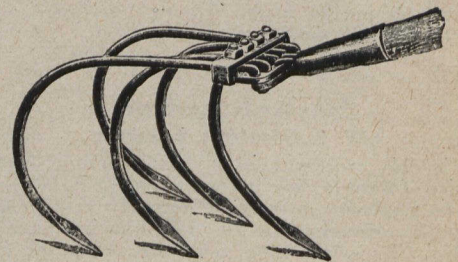
Notwithstanding the loss of the Government grant of \$500, the Niagara District Horticultural Exhibition, to be held in St. Catharines in September, will be better and larger than the one of last year. The city council has granted \$350 to the horticultural society, \$300 of which will be devoted to the exhibition. The Lincoln county council has granted \$175 for the same purpose. The prize list will be revised at an early date.

The death is announced of Mr. Robert Hamilton of Grenville, Que. Mr. Hamilton was well known among the fruit men of Canada, having been identified for many years with the Quebec Fruit Grocers' Association. Of late years, Mr. Hamilton has been connected with the exhibition branch of the Dominion Department of Agriculture and took a prominent part in the arrangements of the fruit exhibits from Canada, at the leading international exhibitions in recent years.

Owing to his physicians having ordered him to undergo a very critical operation, Mr. J. Horace McFarland, the president of the American Civic Association, was prevented from addressing the meetings of the Hamilton, Toronto, Guelph, Cobourg and Perth horticultural societies during the latter part of April and first of May. It is probable that Mr. McFarland will be able to address these societies and any others who may wish to secure his services the coming fall. Several of the societies have expressed a desire to have Mr. McFarland at that time.

Simcoe.—On the whole, the apple crop promises to be medium, with Spys and Kings a full crop.—Jas. E. Johnson.

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Vegetable Crop Conditions

THE cold, wet weather this spring has not been favorable to the growth of early vegetables. Everything is late. The situation in the various districts is outlined in reports from crop correspondents of the Ontario Vegetable Growers' Association, as follows:

OTTAWA DISTRICT

Billings Bridge.—Hot-bed stuff is in good condition. Lettuce is very cheap and plentiful; there is a large local supply and a quantity of imported. There is plenty of rhubarb for the demand. Radishes are scarce; green onions very plentiful. Fall roots are getting scarce. Imported cabbage is plentiful. About the average acreage of crops will be grown as last year.—T. Mockett.

TORONTO DISTRICT

Humber Bay.—Although the weather has been cold, the land has worked nicely, and many crops are in. Spring crops are about two weeks later than usual. Dutch set onions are doing well. Carrots, beets, turnips and onions promise to be a fair crop. There is a slight increase in the acreage of early cabbage. Not many peas are sown yet. Large patches of celery have been planted, and large quantities of early potatoes. It is to be hoped that gardeners will keep up the price of rhubarb to 20 cents, and onions 3 doz. for 25 cts.—J. W. Rush.

PEEL COUNTY

Clarkson.—With a favorable season, a heavy crop of potatoes should be harvested, as nearly all the land planted has been heavily manured. Sweet corn is being planted rather extensively, but will be late on account of the continued cold weather. A number of gardeners have lost their tomato plants. Growers who depend on transplanting to cold frames have had a trying time growing their plants. Those with plenty of

hot manure will be all right. All vegetables will be late this year.—W. G. Horne.

HAMILTON DISTRICT

Early out-door vegetables will be about two weeks late. Until the last few days there has been but little growth. Asparagus has been scarce and is worth from about \$1 to \$1.25 a doz. bunches; spinach, \$1 a bu.; green onions, 2 doz. for 25 cts.; rhubarb, 30 cts. a doz. bunches; lettuce, 40 to 50 cts. a doz. heads; radish, 30 to 40 cts. a doz. bunches. Potatoes are still high and selling at \$1.25 a bag. New potatoes will be about three weeks later than usual. Tomatoes promise a light crop owing to difficulty in raising the plants. The acreage of tomatoes has decreased greatly the last year or two and this year the decrease is more noticeable than usual.—Jas. A. Stevens.

WELLAND COUNTY

Niagara Falls South.—Everything is about two weeks late. Seeding is only partly done. Spring sown lettuce and spinach is making slow growth. Hot-house lettuce is scarce and in good demand. Early plantings of sweet corn are reported to have rotted. Early seed potatoes are selling at \$1 a bu.; late, 80 cts. Several growers have lost tomato plants by frost.—Thos. R. Stokes.

ESSEX COUNTY

Leamington.—Vegetable growers are busy planting melon seed; there promises to be the largest acreage that has ever been grown here. The change in the duty has had a great influence in this line. Tomatoes are now being planted in the field. A much larger quantity will be on the market this year. The tobacco business is apparently overdone with the promise of low prices, and many new men are trying their hand at early tomatoes. Sweet corn is being

planted largely; also, wax beans. Cabbage is all in the field, and is looking well. Onions have been planted quite extensively; also, potatoes. As a usual thing, potatoes are up and growing well at this season of the year, but are only now coming through the ground even though sprouted under glass. Asparagus is on the market, as also hot-house cucumbers at \$1.60 a 11 qt. basket. A few hot-house tomatoes are in.—E. E. Adams.

KENT COUNTY

Chatham.—Vegetation has made very little growth. Onions, beets and carrots are not much above ground. Transplanted beets have damped off considerably and will not be as plentiful as usual. Lettuce continues to be scarce, and the price keeps at 15 cts. wholesale. A small quantity of asparagus is being offered at about 30 cts. a lb. Tomato plants are looking fairly well but have required careful nursing.—Fred. Collins.

WELLINGTON COUNTY

Guelph.—Owing to the cold, backward weather during the first 10 days of May, the crops are somewhat later than usual. Early seeds planted the latter part of April are not much above ground. Heavy frosts have occurred on the nights of May 10 and 11, and, as a result, several growers have lost some of their tomato plants, which means a serious loss to them, and will also largely decrease the supply of plants for the general trade. Green onions and lettuce are the only vegetables being marketed to any extent at present. The warm weather ushered in on May 13 will greatly increase the amount of work, as more and more land is becoming dry enough to work.—H. S. Peart.

The Picton Horticultural Society held an interesting meeting recently at which Prof. H. L. Hutt of the O.A.C., Guelph, delivered a lecture.

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POULTRY DEPT.
Conducted by
S. Short, Ottawa

Hatching for the season should be completed by June 20. Chicks hatched after that date may be classed as late. Many failures in the poultry fraternity may be traced to the late chickens. They do not make sufficient growth, either of frame or feathers, to stand the cold nights of early September, especially chicks of the large breeds. The consequence is, if they escape disease, that they mature prematurely, and one has a flock of birds half to three-quarters the size they should be, and in most cases fowl that are never profitable and certainly not fit for breeding.

It is the late chick that is first to take disease which, if not noticed at once, is speedily communicated to the rest of the fowls, and disaster and fatalities take the place of eggs and profit for that season. Again, July chicks

do very well as long as they are in the brooders or with the hen; after that, the tendency is for them to huddle together at night for warmth in the corners of the room or wherever they may be quartered. This results in serious and permanent injury to the weaker birds. The outside chicks of the bunch are continually scrambling over the backs of the inner and under ones, much in the manner of the scrimmage men in a game of Rugby, and with the same effect. The half-grown feathers are rubbed or scratched off, and the skin on their backs is torn and bleeding; I have frequently seen 50% of a late hatch in this condition, the chicks without a feather on them when two months old and over, and their owner wondering why the feathers did not grow.

The only excusable reasons for hatching later than the time given in the beginning of this article is, when there are no other fowl on the premises, a small number may be hatched and be successfully reared, having the benefit of the whole accommodation and receiving special attention, or by the professional poultry men who hatch every month of the year, having special plants for this purpose.

If at all feasible, chickens of all ages should be separated from the laying hens. Chickens require feeding oftener than the old birds. There are several grain mixtures sold by dealers made up especially for growing chickens that are excellent. They consist of cracked corn, rice, millet seed, peas and a little fine mica grit, making a splendid food for the chickens, but too expensive to feed to old birds. The chicks eat so little for the first six weeks that the cost is trifling; after that time, they may safely be put on the cheap ordinary grains.

A meeting of the directors of the Ontario Horticultural Exhibition was held on May 9. The following are the officers for the ensuing year: R. J. Score, president; W. H. Bunting, 1st vice-president; H. R. Frankland, 2nd vice-

president; H. B. Cowan, secretary; J. H. Dunlop, treasurer; and an executive committee composed of the foregoing and J. Chambers and P. W. Hodgetts.

Arsenate of Lead

Ed. THE CANADIAN HORTICULTURIST: We note in your May issue, in an article on spraying by T. B. Revett, that one application of arsenate of lead would be sufficient. Being manufacturers of Swift's arsenate of lead, we are interested in what he states. We think, however, that one application, except in special cases, is not enough, as new surfaces due to the growth of the tree are being exposed as the season advances. We do claim, however, that two or three sprayings may be omitted if Swift's arsenate of lead is used.—Merrimac Chemical Co., Boston, Mass.

[Note.—An error occurred in the publication of the article referred to. It was intended to state that the manufacturers of arsenate of lead claim that an application of the material will remain on the trees throughout the season, but that two or more applications will give better results.—Editor.]

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Cranberry Supply

A few cranberries are gathered in the Maritime Provinces, but they never get west of Montreal. The principal sources of supply for America are Cape Cod, in the east, and Mich., Wis., Minn. and Iowa in the west. Ontario draws its supplies exclusively from Cape Cod.

The garnishing of the Thanksgiving turkey is said to have created a demand which aided the upward tendency of prices. The American crop averages about 1,000,000 bus., and of those, 400,000 bus. are said to be required for Thanksgiving.

It was at Cape Cod that the cranberry was first cultivated, and soon came the discovery that in flavor the cultivated cranberry was far superior to its wild brother. Sand and peaty ground form the best soil for the cranberry, and instead of fertilizing, the grower is obliged to give the vines or bushes liberal coatings of sand.

The place where the cranberry grows is variously known as the marsh or the bog, from the fact that it must be low land arranged with a system of sluices similar to those used for the irrigation of arid land in the west. It costs not less than \$300, and as high as \$500 an acre, to get the bog ready. Then 5 years must elapse before there is any crop sufficient to give a return. But after this, it is all profit, for the shrubs live and bear endlessly, getting better all the time.

Nothing could be simpler than planting cranberry bushes. A small handful of twigs is twisted together, and thrust deeply into the sand. They need no tending, but take root at once, and within a year send out runners. The planting is done in rows 8 or 10 inches apart. Gradually the space between the rows fills up, and soon the whole bog is one field of growing cranberries. Flooding the bog answers the dual purpose of giving the cranberries the moisture which is an essential part of its life and protecting it from the frosts of early autumn.

The old method of packing by hand is being superseded by the rocker scoops, with which 1 man can do the work of 25. The berries are cleaned and graded by machinery. At the end of their course there is a drop, and the sound, hard berries rebound into their bins, while the soft and wormy ones, lacking the necessary resilience, go to the waste box.

With careful weeding and watering, an acre will yield more than 100 bbls. of cranberries, and it has been calculated that in 8 years an acre ought to pay back in full the entire cost, leaving all that follows as clear profit.—*Canadian Grocer.*

Loyal Supporters

The success of THE CANADIAN HORTICULTURIST to date and the fact that we have been able to improve it so much lately has been due to the fact that each year, for a number of years, the officers of some 30 of the horticultural societies in Ontario have subscribed for THE CANADIAN HORTICULTURIST for all their members. To these men largely the credit for the fact that Canadians have been able to publish a horticultural magazine of their own has been due. Had they done like the officers of some of the other Ontario societies, and sent their money away for United States publications, we could not have continued to publish THE CANADIAN HORTICULTURIST.

Now that the tide has turned and that our circulation is increasing by leaps and bounds, it now being about 7,000 we feel that we should draw attention and give due recognition to those societies whose support has been so valuable to us, and who through THE CANADIAN HORTICULTURIST have been a benefit to the horticultural interests of Canada. All the following horticultural societies have co-operated with us in our efforts to improve THE CANADIAN HORTICULTURIST, and we heartily thank them for their

support: Belleville, Brampton, Brantford, Cardinal, Cayuga, Clarksburg, Clinton, Cobourg, Cornwall, Elmira, Grimsby, Guelph, Hamilton, Hespeler, Kincardine, Lindsay, Midland, Mitchell, Napanee, Oakville, Orangeville, Owen Sound, Niagara Falls, Perth, Picton, Port Dover, Port Hope, Toronto, Seaforth, Simcoe, Stirling, St. Thomas, Smith's Falls, Tillsonburg, Vankleek Hill, Walkerton, Windsor, Waterloo, and Woodstock. The British Columbia, Quebec, Prince Edward Island, and Ontario Fruit Grower's Associations, and the Ontario Vegetable Growers' Association, also have helped greatly.

This year a number of societies who had never before taken THE CANADIAN HORTICULTURIST decided to distribute it to their members, and consequently, through their efforts, we are adding many new subscriptions to our rapidly growing mailing list. These societies, who are new

with us this year, include the societies at Ottawa, St. Catharines, Bowmanville, Elora, Durham, Goderich, Peterboro, Galt, and Collingwood.

We try to make each issue of THE CANADIAN HORTICULTURIST better than the previous number. How far we have succeeded in this attempt will be easily recognized, if the last five issues are carefully compared. We want to continue bettering THE CANADIAN HORTICULTURIST, and already, with the hearty support tendered us by our subscriber friends, we feel that THE CANADIAN HORTICULTURIST is rapidly attaining a position well up in the world's horticultural journals. Our steady growth depends on the support of our friends, and we feel confident that every subscriber will help us to make Canada's only horticultural publication, THE CANADIAN HORTICULTURIST, the best and largest horticultural publication in the world.



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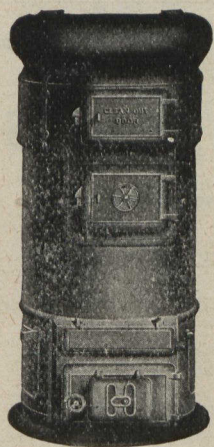
It is estimated that insects destroy ¼ to ½ the entire yield of farm and orchard produce. Swift's Arsenate of Lead is the best insecticide for the use of the farmer and orchardist, because it destroys all leaf-eating insects, sticks to the foliage in spite of rain and wind, and because it cannot burn or scorch the foliage no matter how strong a solution is used. Swift's Arsenate of Lead is used and recommended by leading fruit growers, truck farmers, horticulturists and shade tree owners.

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If you have a friend who is interested in amateur gardening, or fruit or vegetable growing, show them this copy of THE CANADIAN HORTICULTURIST, and ask them to subscribe. We allow our subscribers a generous commission on all new subscriptions they send us. If you desire we will send you any premium described in this issue. We want to have 10,000 subscriptions before January, 1908. With your help we can succeed. If every subscriber will do his and her part, we will soon be able to give you an even better paper than THE CANADIAN HORTICULTURIST is now. Will you not do your part by sending in at least one new subscription, and the names of such friends as you think would be interested in THE CANADIAN HORTICULTURIST?

THE CANADIAN HORTICULTURIST now represents the horticultural interests of the Dominion. It devotes its space to fruit and vegetable growing, and to amateur flower growing, and is the official organ of several provincial fruit growers' associations, and of the Ontario Vegetable Growers' Association. It is read by the members of over 40 horticultural societies, who take it for its valuable amateur flower and gardening features. With the steady growth of our circulation, and advertising, we are trying to give our readers a better paper each issue.

Flower Exhibit at Grimsby

On the evening of May 3, a novel exhibition was held by the Grimsby Horticultural Society. It was the time of the annual distribution to its members of shrubs and perennial plants. In order to increase the interest in the evening, the secretary, Mr. Linus Woolverton, visited the high and public schools the day previous, and stated that four prizes would be given each form, for the best and most tastefully arranged dish of wild flowers shown by the scholars.

The idea was taken up with great enthusiasm, and between four and six o'clock of the day of the exhibition, the children came pouring in with their collections, which were placed in proper sections on the tables. The flowers were chiefly hepaticas, dicentras, adder's tongues, trilliums and ferns. Some were arranged in baskets, and one was beautifully arranged as a cross.

In all, over 20 prizes were given the children, consisting of pot plants of various values in bloom. After a half-hour program by the children, they were dismissed and allowed to take home their flowers.

Then came the annual distribution to the members of the society. Each member received the following collection complete, no choice of articles being allowed, as this is found to be too troublesome and too expensive: 1 Exochorda grandiflora, 1 rose, Margaret Dickson, 1 helianthus, 1 Japanese iris, 1 shasta daisy, 1 delphinium, and 2 varieties anemone.

Two years ago, Hiram Walker & Sons of, Walkerville, went into the culture of mint. There was no duty at that time to protect the firm against importations from the U.S. The new tariff, however, places it on the dutiable list, and practically gives this firm control of the Canadian market.



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The Canadian Horticulturist, Toronto, Ont.

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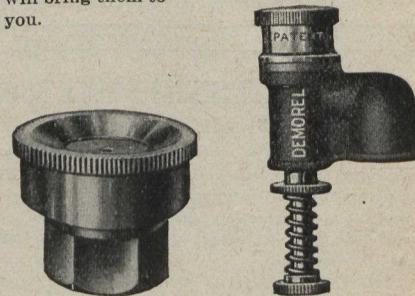
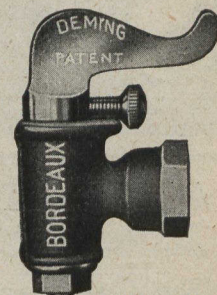
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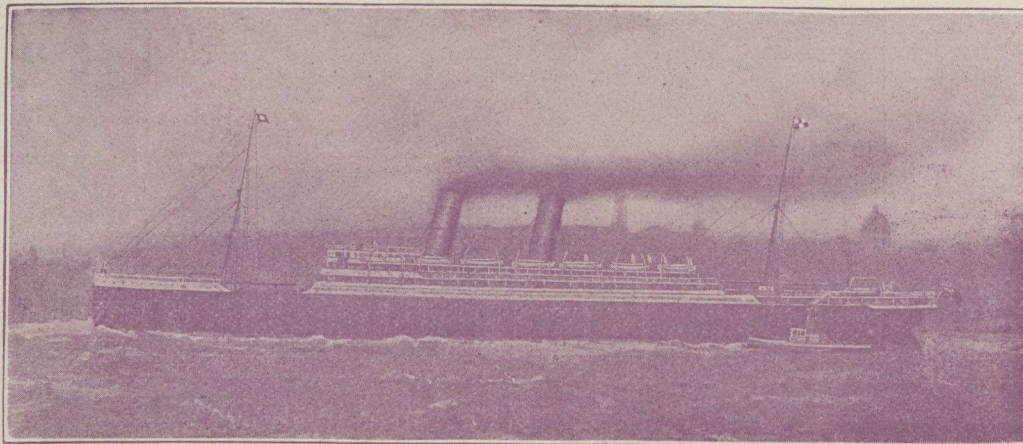
Fri. " 28..... Empress of Britain..... Fri. " 14

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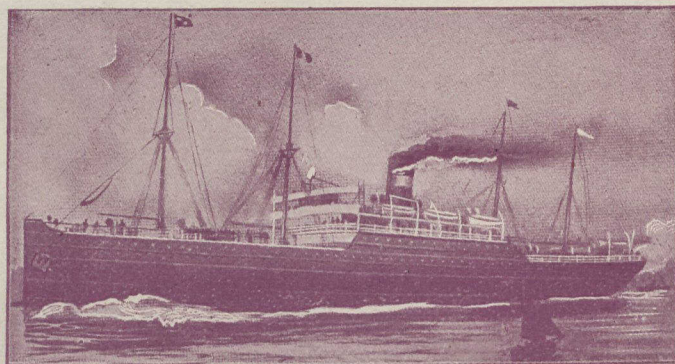
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