

# The Canadian Horticulturist

MAY, 1908

Volume 31, No. 5

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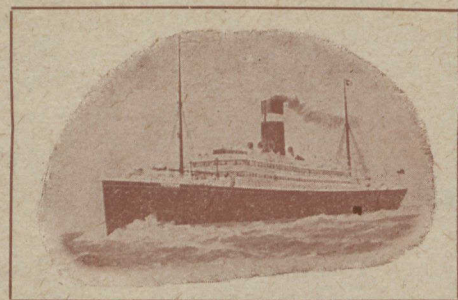
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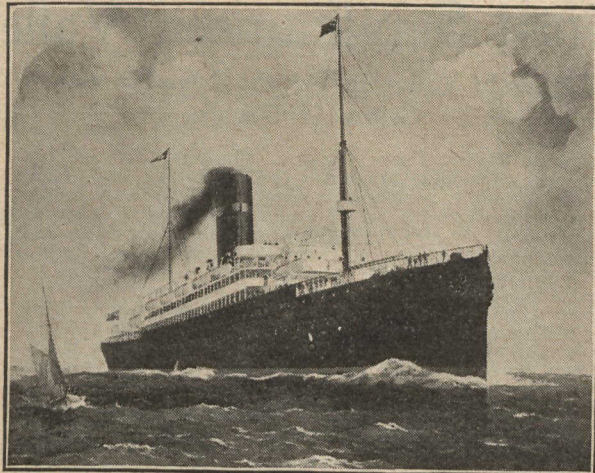
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## THE CANADIAN HORTICULTURIST, PETERBOROUGH, ONT.

# The Canadian Horticulturist

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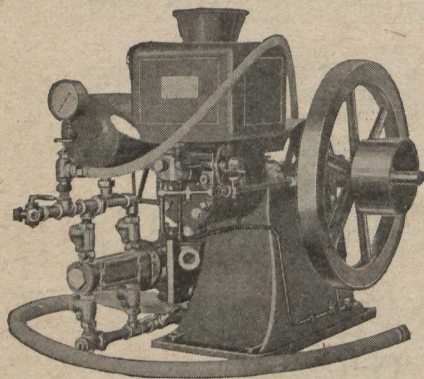
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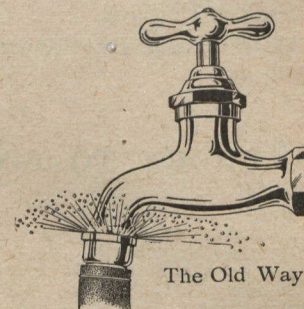
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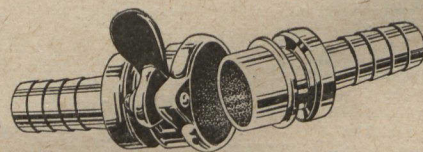
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# The Canadian Horticulturist

Vol. XXXI

MAY, 1908

No. 5

## Money in Growing Strawberries

W. H. Burke, Three Rivers, Michigan

THERE are few lines of legitimate enterprise that offer anything like so great an opportunity to the man or woman of moderate means seeking an independent livelihood as does the growing of strawberries for market. The demand for first-class strawberries never is supplied, and prices for high-grade fruit are almost universally high both in Canada and the United States, offering a fine inducement to enterprising folk to engage in the business.

It is difficult to believe, sometimes, the wonderful things that are being done by strawberry growers, not in isolated cases, but in hundreds of cases. Great results have been achieved by growers in Canada. As I am more familiar with those of the United States, however, I shall mention some of them in particular. Note, for instance, the experience of Mr. G. M. Hawley, of La Mesa, Cal., who, under date of September 10, 1907, relates his experience for the season. From two acres of plants had been taken up to the date named for the season, \$2,596, and the plants were still yielding at the rate of \$60 a week.

### GOOD CARE GIVES BIG MONEY.

Mr. Henry Clute, of Hunt, N.Y., engaged for the first time in strawberry growing in 1906, when he set out an acre of plants. He took excellent care of this acre, and in 1907 he received, in actual cash, \$888.17 from this first acre of plants that he had grown; and it is estimated that fully another hundred dollars' worth were grown on this acre which were given away, or consumed upon the place by Mr. Clute's family and the people engaged in gathering the fruit. This case indicates what a novice may do in strawberry culture. Mr. Clute's experience is not an unusual one. If a man has a little plain common sense, is willing to work and intelligently care for the plants, he need have no fear but that he will succeed in strawberry growing.

Mr. John Rucker, of Boston, N.Y., gathered more than 9,000 quarts of berries from a single acre in 1907, but as he sold them in Buffalo on commission, he received a little less than ten cents a quart, so that his total cash income from the acre was slightly under \$900. Mr.

H. B. Steward, of Myrtle Point, Ore., took \$1,500 in the season of 1907 from an acre; Mr. James Calder, of Clayton, N.Y., 1,000 plants, \$310; Mr. Columbus Knight, of Falmouth, Me., \$1,000 an acre; Mr. M. F. H. Smeltzer, of Van Buren, Ark., made \$1,079 from an acre in 1907; Mrs. Mary Malpass, of Ingersoll, Ont., sold \$560 worth of strawberries from an acre last season.

### A BUSINESS FOR WOMEN

Strawberry growing is distinctly a line of work fitted for womankind. Some of

herself with dignity and comparative ease by successfully conducting a small strawberry farm. Hundreds of other women are engaged successfully in the work.

### A SAFE AND SURE CROP

It may be said, in behalf of this line of horticulture, that it is one of the safest and surest known. In the fall of 1906, when the heavy early frosts destroyed vineyards and peach orchards, and even killed out many hardy apple trees, over a large section of the north central states, comparatively little damage was suffered by the strawberry. So hardy that it grows upon Alpine heights, pushing up its green leaves in the spring-time through the snows upon the lofty summits of the Swiss mountains, so accustomed to the tropic suns that it yields from early spring until late fall in Cuba and in other tropical lands—the universality of the strawberry plant is greater, perhaps, than any other known fruit. It will thrive and produce large crops of fine berries on any soil that will grow corn or potatoes. Set these plants in the spring of one year and they will yield an abundant harvest in the early summer of the following year—a crop that will bring a sum sufficient to put the grower upon his feet financially where, had he set out an orchard of any kind, he would be able to count upon no income worthy of mention under five years, even though all the circumstances were most favorable.

To the man who seeks an independent living and whose means are limited, no other line of enterprise offers so great advantages as strawberry production. One need not go to the Pacific Coast or to the Gulf regions, or to any other particular place in order to get a start. Whether a citizen of Canada or the United States, he may rent an acre or two near his own home, and begin at once to do business. There never has been on the markets of this country a half-supply of high-quality fruit that commands top prices.

There is a limitless field open to the man who will grow big red strawberries, well-flavored and firm, no matter where he may be located. Plant this spring.

### Kind Words

Orchardists in every part of Canada should subscribe to THE CANADIAN HORTICULTURIST. The fruit raiser who can take this practical and progressive monthly magazine without making more from the reading of its fruitful pages than the cost of a year's subscription (sixty cents) must be a very dull scholar. The book is full of timely, helpful, practical information, on fruit, flower and vegetable culture. Its growth of circulation is a criterion of its merits and popularity. February, 1907's, circulation was 5,520 copies. February, 1908, it was 7,824, or an increase of over 2,300 copies in a single year—a record of which any publisher should feel justifiably proud. If you have an acre of orchard, you want this excellent publication.—*Bowmanville Statesman.*

the most encouraging experiences it has been my pleasure to know about, have been those of women strawberry growers. They usually press the children into service, and thus succeed in handling comparatively large areas at a trifling outlay for manual assistance. One woman whose letter I have had the privilege of reading, wrote from Santa Cruz, Cal., that in 1907 she took from one-tenth of an acre of strawberries, \$210 in cash. At Woodside, Minn., is a young woman of culture who supports

# Forming and Pruning Young Apple Trees\*

T. W. Stirling, Kelowna, British Columbia

THE general characteristics of well-shaped apple trees are somewhat as follows: "The main branches spring from the trunk at a good broad angle. They do not spring opposite to each other, but are distributed up and down the trunk. They are evenly placed around the tree, and do not interfere with each other. There is a definite centre stem from which they spring, and which extends above the main side branches."

Such a tree is of the strongest possible frame. It will carry its proper load of fruit without propping. There is no fear of it being split down to the ground, and ruined by an over-weight of fruit, or by wet snow, or any other cause. The greatest damage, that will be likely to happen to it, will be the breaking of a bough, an injury which can easily be repaired, and the loss replaced within a short time. If any main branch is overladen and breaks off, the injury to the trunk will be comparatively slight, there will be no splitting. Always fresh shoots can be grown from the centre to replace broken branches. After all, the main stem is the tree, keep that intact, and the tree is still there from which to grow any branches that are required.

To illustrate the advantages of this form it is only necessary to think of another form which is very common; that is, the tree, where the centre has been cut out and never replaced, where the branches all spring from about the same point as the fingers grow from the palm of the hand. Such a tree, when the day of trial comes, either from an overload of fruit, or from a fall of wet snow, and, sometimes, by reason of its own weight, will get tired and lie down, splitting right to the ground, so that there is nothing left from which a new tree can be grown.

## TO FORM THE TREES

Shaping a tree is not the whole art of pruning. By shaping a tree is meant that treatment of a tree in its earlier years which definitely determines its general form. A tree may be well shaped in this sense, yet at the time woefully in need of cutting and clearing out, but this latter branch of the pruner's art will not be dealt with in this paper. The object of this paper then is to outline a method, and to state a few short rules, which, if followed, will ensure every tree growing up in a correct form. The rules are three in number, viz.: 1. Keep the leader; 2. have but one leader; and, 3, make the leader lead. The explanation of these, and the method of carrying them out in practice, is as follows:

\*Extracts from a paper read at last convention of the Northwest Fruit Growers' Association.

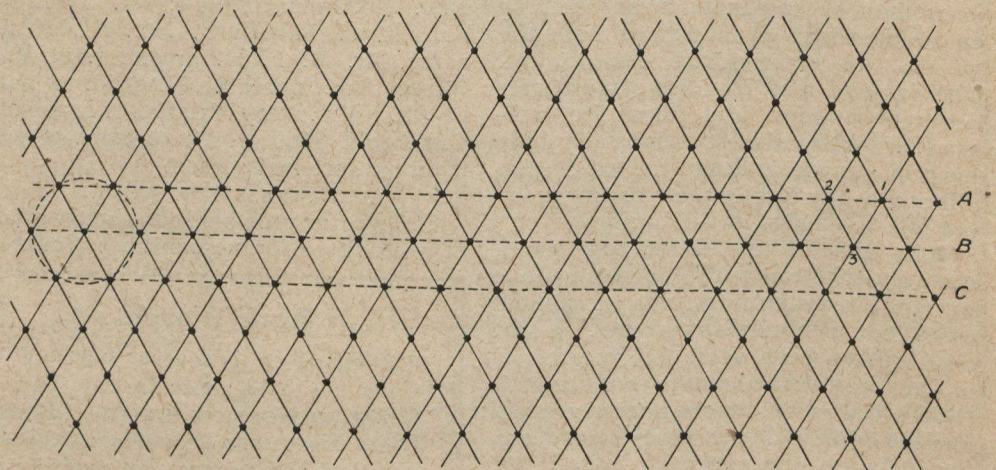
The tree is planted as a yearling, whip and cut back to about three feet, or a little less, from the ground, with the object of forcing buds into decided growth, so that there may be something to work on the next spring. The first real step towards shaping the tree is taken the spring after planting, preferably when the buds are just beginning to show green. It will be found then, if the tree has established itself, that some of the buds near the top, very generally three, have made a strong upstanding growth, coming out from the stem at a very acute angle; lower down, more shoots will have grown from the stem

right than three wrong—plenty more shoots will grow during the current year to fill any vacancies.

(Note.—Certain varieties of trees, for instance, the Northern Spy, have shoots which almost invariably spring from the stem at an acute angle. In such cases it cannot be expected that shoots will be found to satisfy the third condition mentioned above. It is as well then to use a spreader to cause the shoot to grow in the desired direction.)

## CUTTING BACK

Having selected the shoots which are to remain, and removed the others, cutting them off close up to the stem, it



Method of Setting out Fruit Trees in an Orchard

B is a base line laid down through the middle of the orchard, on which are marked positions of one line of trees, say, 24 feet apart. A and C are parallel lines so placed with respect to B that 1-3 and 2-3 are each equal to 1-2, the distance apart the trees are to be. Positions of trees on B may be laid down when point 3 is fixed. All other trees are sighted in place from the positions on lines A, B and C.

at a greater angle than the leaders, and usually have not made such a strong growth. It is from these latter that the first tier of branches may be chosen.

## LEADERS

Of the one, two or three strong upright shoots near the top, select the best and most upright as the leader, and sacrifice the remainder. If they are retained with the idea that they will become satisfactory side branches, amenable to discipline, it will be found to be a mistake. They will not do so, but will for years be a source of bother, competing continually with the leader for supremacy. Cut them out, leaving but the one leader.

## SIDE SHOOTS

From the other shoots, lower down, select, if possible, three side branches. These must be evenly distributed around the tree in a horizontal direction. In a perpendicular direction they must be well separated. The angle they make with the trunk should be large, nearly a right angle. If there are not three shoots that satisfy these conditions, then leave only two, or one, that does—better one

is necessary to cut them back. It will be observed that the buds on the upper end of a wood shoot are better developed than those near the base. The object in view is to give the leader the start, and to have it keep ahead of the rest; therefore, do not cut it back too much. Cut it amongst these buds towards the upper end, perhaps one-third of its length down from the tip.

Perhaps, amongst the side branches retained, one or two are weak, and one or two are strong—these latter nearly as strong as the leader. It is they which require to be watched, or they will start racing for the supremacy with the leader. Put them in their right place right away. Cut them back to within three buds or so of the stem. The buds here will be very much backward, and by the time they are forced into growth, the leader will have shoots several inches in length, and there is no fear that the side branches will catch up.

An excellent article on "Irrigation in British Columbia," will appear in the June issue of THE CANADIAN HORTICULTURIST.



# Fertilizing and Cultivating Orchards

Geo. A. Robertson, St. Catharines, Ontario.

I HAVE been using limited quantities of fertilizers, as also have some of my neighbors. I have seen peach orchards which had liberal annual applications of fertilizers, such as wood ashes, bone meal, and bone and animal meal, mixed with potash, and clean cultivation practised year after year, on sandy soil, until late in the season. From the results obtained, the expenditure was not justified by the increase of crop.

## SOME METHODS AND RESULTS

How best can we fertilize an orchard? The answer can be given best by actual experiment. There are cases on record of apple orchards on heavy ground, where part had annual applications of bone and potash, while the adjoining part had the same treatment as to cultivation and spraying, but no fertilizer. There was no apparent difference in the amount or quality of the fruit; this is an exceptional case.

On sandy soils, unless we add plant food in some form, the tendency is for the land to become impoverished. When land becomes poor, there is no quicker and better method to restore it than by the use of a liberal dressing of barnyard manure. But if we follow this method too closely, we go to the other extreme, and often obtain rather too vigorous a growth of tree, especially in young orchards, which is not conducive to fruitfulness or profit; even if the trees do bear, the fruit will often ripen a week or ten days later than the normal period of ripening.

The common practice is to use barnyard manure occasionally, especially if the trees are suffering from the strain of bearing an overload of fruit. This is applied after growth ceases, in the fall, or in early spring.

## CLEAN CULTIVATION

Clean cultivation is usually given and is best for peaches, cherries or plums. It is best, also, for pears, if one is not bothered with fire blight; if so, pears are left in sod, as the poorer or slower growth does not favor the development of the fire blight to the same extent. This clean cultivation should cease about the end of July, and it is better then to seed the orchard down with a cover crop.

## COVER CROPS SHOULD BE USED

There are various kinds of cover crops to use. I have used crimson clover, mammoth red clover, hairy vetch, Dwarf Essex rape, rye or even wheat; if the land is underdrained, the latter will winter all right. To get a good catch of the clovers or vetch, the land must be rich, and kept well cultivated up to the time of sowing, or the clover and vetch may not get a good enough stand to winter

well; in this case rye is surer, although rye does not add nitrogen to the soil, as the clovers and vetches do. These are plowed under as soon as the land is dry enough the following spring; if very

of steamed dry bone dust, and a sack of 200 to 225 pounds of muriate of potash, or, if wood ashes are used to supply the potash, from one to two tons an acre, when the amount of bone may be less-



A Burst of Bloom on a British Columbia Cherry Tree

The variety is Olivet. Note the very heavy clusters of blossoms. This tree has been well fed and cared for. Good attention brings results.

heavy, we use a rolling coulter, kept sharp, and a chain, to turn the cover crop under.

By the use of suitable cover crops, and an application of bone dust for phosphoric acid, and potash, in the form of potash salts, such as muriate of potash, or sulphate of potash, or wood ashes, the land may be kept in good shape. A liberal application consists of 600 pounds

ened on account of the phosphoric acid contained in the wood ashes.

I do not use mixed fertilizers, as the manufacturer charges for mixing, but sow them separately. The bone meal is untreated by acid and, therefore, insoluble; the potash also is not soluble to any great extent; therefore the danger of loss by leaching is small. If barnyard manure is used and cover crops, the humic

acid formed by the rotting of the vegetable matter in the soil will render the phosphoric acid in the bone partly soluble while the cover crops themselves will feed on the bone and potash; then, when these plants rot in the soil, the plant food is again liberated.

We may attribute the poor results of ten noticeable from using commercial fertilizers by themselves, without cover crops, or not in conjunction with barnyard manure, to the lack of the soil conditions so necessary for the best results. A soil rich in humus has also another advantage; it will hold more moisture during a dry season than one which lacks in humus. As plants take their food in solution, there is a decided advantage in having more moisture, and also the germ life contained in such soil has a beneficial effect.

#### APPLY FERTILIZERS PROPERLY

We are altogether too prone to condemn artificial fertilizers; whereas the fault is often in not knowing how to use

them. An orchard should be kept vigorous, but avoid either extreme, in the matter of fertilization, if the soil contains the necessary plant food. If we give the trees a proper chance, they usually do their part, if they are the proper varieties, and planted on soil adapted to their growth.

From co-operative experiments carried on in connection with fertilizers and certain crops, the summing up of the whole has proved nothing as to any certain conclusions, but individual experiments prove that certain soils may be deficient, and that nitrogen, or again phosphoric acid will give the best results, or another soil may justify the use of potash, or, perhaps, any combination of these. One thing has been proved, and that is that if the soil is lacking in either phosphoric acid or potash, we cannot hope for fruit of the highest quality, or in any great quantity and, as sandy land is usually deficient in these, it is safe to apply such plant food to bearing orchards.

winter of 1859, but young orchards were started the following year on a larger scale than ever. The winter of 1903-1904 also was very severe, almost fifty per cent. of the bearing trees in some districts being killed or irretrievably injured.

What is being done to maintain the Fameuse? Very few new orchards of that variety are being set out. I venture to say that where one Fameuse is planted, four of McIntosh Red are set out. The latter is a fine apple, and the tree is hardier, having a better constitution than Fameuse. Being a new variety we would expect that, just as a young man, and lusty, it can withstand greater hardships than an old one.

The Fameuse has the disadvantage of age. Scions have been taken for years from diseased trees, or trees that are black-hearted, caused by winter injury. Too little care has been taken in selecting the scions from perfectly healthy trees; hence, the weakness of constitution in most of our Fameuse.

Unless orchardists undertake to set out new orchards the variety must die out. I predict that twenty-five years from now La Fameuse will be a scarce apple in the province of Quebec, and the prices for good apples of that variety will enhance every year. It is a pity.

#### TOP-GRAFTING THE REMEDY

Perhaps the constitution of the Fameuse tree may be improved, or its longevity increased, if we were to top-graft on hardy stocks, like McMahan, or other robust varieties. By nurserymen adopting this method, instead of root-grafting, or low-budding, we would overcome at least a tendency towards sunscald and disease of the trunk, or winter root-killing. This would necessitate double working, that is, the McMahan root grafted on the seedling, and the Fameuse top-grafted at three years on the McMahan, which, of course, would add to the cost of the nursery tree at four years of age. Unless some such method is adopted, it will be difficult to preserve La Fameuse for future generations.

This variety will not be abandoned by orchardists for the same reason that numerous other varieties of our fine Quebec seedlings have gone out of existence (such as Bourassa and Pomme Grise, which were shy bearers) because La Fameuse is a wonderfully productive and profitable variety, although in late years it has proved short lived. Therefore, if the longevity can be improved by top-grafting on hardy stock, it is certainly worth trying.

If the person who sent a question on growing rape in orchards will send his name, a reply will be sent by mail. All questions must be accompanied by name and address.

## The Fameuse and its Future\*

R. W. Shepherd, Montreal

MUCH has been written about the famous Fameuse (or Snow) apple, but its origin is obscure. Downing says: "A celebrated Canadian fruit, (probably an old French variety,) which has its name (Pomme de Niege), from the snow-white color of its flesh, or, as some say, from the village from whence it was taken to England." This is erroneous and misleading. As a matter of fact, the variety is not known in France, and it is quite improbable that it is ever taken to England from France.

There is every probability that the Fameuse evolved from seed brought from France by the early missionaries, the St. Sulpicians, for instance, who were the first missionaries on the Island of Montreal. I believe the Fameuse to be fully 150 to 200 years old. Montreal was founded in 1641, and presuming that the Sulpician fathers brought over with them seeds of French apples for planting on the Island of Montreal, allowing several generations to evolve La Fameuse, we can safely suppose the variety was known and propagated since about 1730, and that this famous apple was under cultivation at the time of the capture of Canada by the British in 1760. The late Chas. Gibbs tells us that trees of Fameuse were sent to England and the fruit exhibited there as early as 1818.

#### NORTHERN APPLES BEST

This apple attains its greatest perfection in this northern climate. Our sunny days and cool nights in September are conducive to the attainment of the high

color. It is true that in the higher latitudes on this continent the apple attains the deepest red color. My first observation of this fact was at the Centennial Exhibition at Philadelphia in 1876. The fruit from all apple growing states and from the provinces of Canada, were exhibited on tables, over which the name of the state or province was placarded. Apples from the southern states showed very little color, and from the Pacific slope a pale color, and those from the states of Michigan, Ohio and New York, showed considerable color, but the highest colored apples of all were from the state of Maine and province of Quebec. On the Quebec table there was scarcely an apple that was not well colored.

What is more beautiful than the highly-colored Fameuse and McIntosh Red? But, to show the effect that climate has on apples, I was informed by the King's head gardener at Windsor, that the Fameuse trees at Sandringham, growing there since 1896, bear plenty of fruit, but without color, "not to be compared to yours, at all," he said. The Winter St. Lawrence, imported from England, under the name of "Manx Coolin," is not recognizable at all as grown in Canada, because so much improved in quality and color.

#### IS THE FAMEUSE TO GO?

For centuries the Fameuse has proved to be superior in quality to all of our other Quebec apples, and the most profitable. What are we going to do to preserve this wonderful variety? It has stood the test of years. It was almost wiped out of existence by the terrible

\*A portion of a paper read at the last meeting of the Quebec Pomological Society.

# Culture and Care of Annual Climbers

Wm. Hunt, Ontario Agricultural College, Guelph

FOR most annual climbers a light, rich, friable soil is necessary to ensure success. Plenty of well-rotted manure, leaf soil, or black soil from the bush should be dug into the soil



The Morning Glory Vine

where annual climbers are sown or planted. For many of them, except sweet peas and runner beans, a very deep soil is not so necessary; they require plenty of good soil and lots of room, however, to spread their roots in.

## SWEET PEAS

Sweet peas require a deep, fairly rich soil to produce the best flowering results. A trench about a foot in depth should be dug in an open place in the garden. The trench should be about the width of a spade. At the bottom of the trench, place four or five inches of well rotted manure packed down firmly. Fill the trench with good soil to within an inch or two of the surface. Then make a shallow trench the whole length about three inches in depth. In this, sow the seed an inch or two apart and cover about two inches deep with soil, leaving a slight depression when the ground is raked over the peas. The plants can be thinned to three or four inches apart when the plants are five or six inches in height.

The flowers should be picked every day to help prolong the flowering season. If the flowers are not kept picked, they develop seed pods and stop flowering early in the season.

Sweet peas require plenty of water

at the roots. Sufficient water to soak the soil to the bottom of the trench should be given once a week in hot, dry weather. Start watering the plants before the lower leaves begin to turn yellow to get best results. Light waterings are of no use to sweet peas, give plenty of water and less frequent waterings, rather than only to sprinkle the top soil. In rich, loamy soil it may not be necessary to trench as mentioned, but I find that the plants stand the drought and heat of summer much better in any soil when treated as I have described.

Wide meshed poultry netting or brush wood stakes of maple or similar wood makes a good support for sweet peas. I prefer boughs of the maple tree when they can be had. The support should be five or six feet in height at the least. Sow sweet peas as early in spring as the ground can be worked properly, they cannot be sown too early.

## CLIMBING BEANS

Scarlet Runner and Hyacinth beans like a deep rich soil, and plenty of water, and succeed best when a trench is made for them as recommended for sweet peas. The east or north side of a building will suit these beans very well, if not too shaded; but with plenty of water they will grow and flower very well in the open garden. Bean seed should not be sown until about the third week in May.

## CONVOLVULUS

The common morning glory (*Convolvulus major*), Japanese Morning Glory (*Ipomæa imperialis*), cypress vine (*Ipomæa Quamoclit*), and the moon-flower (*Ipomæa grandiflora*) are all good annual climbers. An eastern aspect or a position where they are not exposed to the hot noon-day sun, suits all of the Convolvulus family the best. Seeds of the moonflower are best sown early in-doors, or in a hot-bed, about the middle of April. About the end of May is early enough to sow convolvulus seed out of doors.

There is no more effective climber than the wild cucumber (*Echinocystis lobata*), for covering a trellis quickly. It requires a rich soil and plenty of moisture overhead and at the roots to give the best results. Its beautiful racemes of white flowers make it a very conspicuous object when grown properly. A position shaded from the noonday sun on the east or northeast side of a building suits it best, so as to hold its foliage in good color.

## JAPANESE HOP

Japanese Hop (*Humulus Japonicus*). Both the plain and variegated types of this plant are very pretty climbers. Sow the seed out of doors about the end of May. These do not object to a more sunny position than some climbers.

## ORNAMENTAL GOURDS

Ornamental gourds are suitable only for the back yard or for covering an unsightly rubbish pile, or, at best, some place not too prominent in the garden. The shape of the fruit of many varieties makes them a curiosity. From a decorative point of view the running vine varieties of the vegetable marrow squash



Backyards of Two Neighbors Who Work in Harmony

The one at left is that of Mr. C. G. Pringle, Toronto, who being a commercial traveller has only Saturdays to devote to it. The results show what enthusiasm can do.

are almost as pretty. The fruit of the last named is useful for culinary purposes.

*Cobea scandens* is not an annual really, but like many other perennial plants succeeds well grown from seed as an an-

## The Narcissus Indoors and Out

Frank Gilbert, Orillia, Ontario

nual. Seeds of this should be sown indoors or in a hotbed or frame as early as possible in April. Sow three or four seeds in a three-inch pot. Place the seeds on edge about a quarter of an inch under the surface of the soil. Grow indoors or in a hotbed until danger of frost is over. Do not plant out-of-doors until quite late, about the first or second week in June or later. A light rich soil suits this climber. Its blue and white cup-and-saucer shaped flowers are very showy.

### DWARF GROWING CLIMBERS

The climbers already mentioned grow to from ten to twenty feet in height. The following are two varieties not so rank in growth and more suitable for window boxes or rustic stands as trailers or climbers; seeds of these should be sown early, two or three in a pot: Canary Creeper (*Tropæolum Canariense*), and *Lophospermum scandens*. The latter is a very effective trailer for hanging baskets or window boxes. Its large purple gloxinia-like flowers are very showy.

### CLIMBING NASTURTIUMS

Climbing nasturtiums or *Tropæolums* succeed well grown from seed sown out of doors about the second or third week in May. If early results are wanted, the seed can be sown earlier indoors, or in a hot bed or greenhouse. Sow two or three seeds in small flower pots, and transplant in border when all danger of frost is over. The leaves of the common climbing, and also the dwarf nasturtium are very tasty and nice used as a salad. The seeds when picked green also make a splendid pickle by merely putting them in jars in vinegar as soon as picked.

### TRANSPLANTING CLIMBERS

Annual climbers do not transplant very readily, owing to their length of roots. When quite small they may perhaps be transplanted; even then it is risky. Sow the seed in the border where they are to grow. About the first or second week in May is a good time to sow most of them. By sowing seed early in pots the roots are confined in a small space and transplant easier. The roots of annual climbers should be disturbed as little as possible, at any time, to ensure success in their culture.

All of the climbers mentioned except the sweet peas, are quite tender, so care must be taken to protect them from late spring frosts. If sown near a fence or building, the growth should be kept at least several inches from the fence or building, especially if sown in a position having a north aspect, to prevent the foliage being burned by the hot sun.

Mow the lawn frequently. It will keep down most weeds.

UNTIL Mr. Baker of Kew Gardens, classified the narcissus some twenty-five years ago, no one had attempted to put into order, the different types of this flower. His nomenclature is generally accepted, comprising some twenty-four species and upwards of three hundred varieties. Natural and garden hybrids are still on the increase. Hybridists are giving great attention to this popular flower and giving us flowers of great beauty, size, form and color. Mr. Baker has chosen to divide the plant into three groups:

1. Magnicoronati,—those with the long trumpet, with Ajax and Emperor, singles, and Van Sion, double, as the type.

2. Mediocoronati,—those with shorter trumpet, with Sir Watkin, Leedsii and Stella, singles, and *N. incomparabilis*, for the doubles.

3. Parvicoronati,—with saucer-shaped cup, the poet's daffodil, of which *N. poeticus ornatus*, Burbidgei singles, *N. poeticus alba plena*, the lovely scented Gardenia flower, for the doubles. Under this group comes also the Polyanthus or bunched flowered, of which Paper White and Grand Monarque are types.

### PLANTING AND CARE

The narcissus will grow and flower well in almost any position, planted on the lawns, under the shade of trees, but prefers a moist sandy loam of good depth, sheltered from the cold winds in the spring. Plant it where it is to remain for several years undisturbed, until it shows signs of being crowded.

After the foliage has died down, usually by end of July or August, the bulbs should be lifted, sized-up and replanted, taking care not to let them shrivel. Plant to the depth of four inches above the bulb. A good mulch of rot manure should be given. Planting should be done towards the end of September.

In giving a list of the best sorts, one is confronted with a long list. The aim should be, to prolong the season, commencing with Princeps, Mascimus, Van Sion, Emperor, Empress, Sir Watkin, Mad. de Graffe, Leedsii, Horsfieldii, Cynosure, Stella, the varieties of poeticus, and finish the season with the lovely sweet-scented double Gardenia flower. *N. poeticus alba plena*, which should be included in every ones list.

### GROWING NARCISSI INDOORS

The hoop-petticoat daffodil (*N. Bulbocodium*) and many other varieties require a greenhouse treatment, as they

are not hardy. Although gems in every way, with their rush like leaves, they are hardly large enough for commercial purposes, or to be left to take their chance with the rest of the family; these come from North Africa. *N. Triandrus*, known as Angel's Tears, comes from Spain and several varieties of this small group of botanical interest.

Some varieties force well and make a delightful change in the early months of the year. Paper White can easily be had in bloom by Christmas, also Mascimus, Princeps, Horsfieldii, Emperor, Exquisite (white), Van Sion, Sir Watkin, Leedsii, Stella, Cynosure, and the Incomparabilis. The poeticus section do not force readily. *N. poeticus ornatus* is the earliest. This type has two flowers on one stalk.

As soon as the bulbs are received for forcing, no time should be lost in potting or boxing them. Boxes four inches deep are the best where cut bloom is wanted. Use light rich soil with a little well-rotted manure broken finely. Fill the box half full with a slight layer of sand. Then squeeze the bulbs in closely, fill in and make firm with your fingers. Give a good watering and set on a cold ash bed, in the open. Cover to the depth of four inches of coal ash or sand, to induce the bulbs to make roots, before they make top growth. This will add greatly to the size of the flower. A strict watch must be kept on this growth. As soon as one inch of top growth is made, usually in about six weeks, take out of the ash bed and place where they can readily be brought into the greenhouse.

### To Make Straight Rows

It is much more satisfactory to work with straight rows than with crooked ones. The work may be done with reel and line. If these are not available, a simple plan to provide straight marks for planting is to use a wheelbarrow as a marker.

Nail a cross-piece against the front board to project on both sides of the barrel, equal distances from centre of wheel. Bore holes every six inches on each side of cross piece, then get a chain with a hook on one end to hook in the hole that will give the desired distance, allowing the chain to drag on the ground a foot or more. Pass back and forth across the path to be marked, being guided by the last mark made. Always move the chain to outside of your work, at the end of the row, letting the wheel of the barrow follow in the mark last made by the chain.

# Hardy and Half-Hardy Annuals

Roderick Cameron, Niagara Falls, Ontario

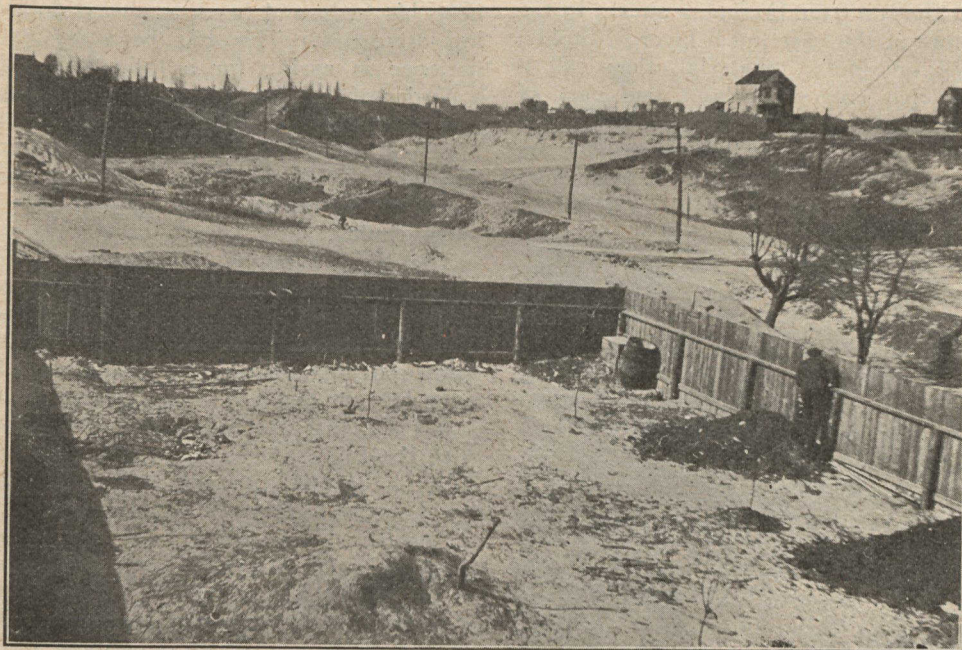
WITH hardy annuals it is surprising what interesting and beautiful displays can be made. Sown so as to form ribbons, they are

large enough to handle they should be thinned from time to time, but not all at once. By having plenty of air and sunshine they will be stouter and strong-

commencing with a crooked grass margin. All the other lines in the bed will be the same if measured or marked evenly. Until the line fence is reached, it is supposed to be straight.

We will now begin to sow or plant this border, and we will begin on the margin, as follows: *Alyssum Beuthomi compactum*, white, edge, four to six inches; *Asperula azurea*, blue, edge, six to nine inches; *Brachycome iberidifolia*, blue, edge, six to nine inches; *Calandrinia speciosa*, blue, edge, six to nine inches; *Gypsophila elegans*, lilac, edge, six to twelve inches; *Nemophila*, mixed colors from white to blue, edge, six to eight inches; *Oxalis Valdiviensis*, yellow edge, six to eight inches; *Sanvitalia procumbens*, double yellow, edge, six to eight inches, and *Tagetes pumila*, yellow, edge, six to eight inches. Any or as many as desired of these may be planted on the front line, and this front line should only be nine inches from the grass margin.

The following for the second line and one foot from the first: *Nigella*, Miss Jekyll, blue, twelve to fifteen inches, all summer; *Phlox Drummondii*, all colors, 12 inches, all summer; *Torenia Fourrieri*, blue, ten inches, all summer, (should be started in a hot bed or greenhouse, very beautiful); *Bartonia aurea*,



**A Backyard that Became a Garden in One Season**

This little plot furnished fresh, crisp vegetables in abundance, better than money usually can buy. A little work, a few seeds, some fertilizer and lots of enthusiasm will produce wonders. This photograph was taken last spring at the residence of Mr. W. G. Rook, advertising manager of THE CANADIAN HORTICULTURIST.

very effective; in clumps or patches, they are also very attractive; and the dwarf varieties make fine edgings. The climbers are adapted to be used in a variety of ways, and charming displays are often produced by them. In some positions, sweet peas are among the best, producing their deliciously fragrant blossoms in profusion. Often the serious mistake is made in sowing them too thickly. If they do come up thickly they should be thinned out so that each plant may have room to grow and flourish. If grown in this way, owing to the increased vigor of the plant, a greater quantity and better quality of bloom can be had.

## CULTURE OF HARDY ANNUALS

For general purposes, hardy annuals should be sown as soon as the soil will work nicely. To know this state of the soil, take up a handful, press it in the hand as hard as possible with the one hand by closing the fist, then open the hand; if the soil remains as pressed, it is not fit to work, particularly clay. I always prefer sowing seeds when the soil is on the dry side than wet. Sow them at a depth that will insure a requisite supply of moisture. The larger the seeds, the deeper they should be sown. Very small seeds should just have a mere covering. As soon as the plants are

er. Many of the hardy annuals may be sown in the autumn, and some of them do better in this way, but they are so few that we will pass on and recommend treating them in the spring.

To get the best results from sowing the hardy annuals, the ground should be thoroughly prepared. Use lots of well-rotted manure; in fact, it cannot be overdone in this respect. Put it on in the fall, dig it in deeply, and leave the soil on the surface as rough as possible during the winter. By so doing it will work up much better in the spring, and will be earlier.

The border or bed intended for these plants or seeds should be waving. Every line would look better if crooked. This can be accomplished very easily by



**A Corner of Same Backyard Later in the Season**

This photograph was taken from another view point. The garden contained tomatoes, beans, peas, radishes, lettuce, beets, parsnips, carrots, salsify onions and everything worth eating that can be grown in one season. In the background (actually the front of the premises) was an excellent lawn with a flower border at the left. There is plenty of profit in gardening and, better still, lots of fun. Just try.

eight to twelve inches, yellow, in bloom two months; *Cacalia coccinea*, twelve to fifteen inches, scarlet, all summer; *Campanula macrosiphon*, eight to twelve inches, blue, two to three months; Candytuft, Empress, best white, July to fall, ten inches; *Chrysanthemum inodorum*, Bridal Robe, twelve inches, double white, grand to cut; *Clarkia*, double rose, all summer; *Dianthus nobilis* and *Dianthus Hedderwigii*, all shades, twelve inches, all season; and *Erysimum Arkansanum*, orange, twelve to fifteen inches, July to fall.

The following may be chosen from for the third line: *Eschscholtzia*, rose cardinal, madarin, twelve inches; *Convolvulus minor*, several shades, twelve to eighteen inches, all summer; *mignonette*, in variety, several shades, twelve to eighteen inches, all summer; *nasturtium*, dwarf, in several shades, twelve to fifteen inches, all summer; *Papaver umbrosum*, eighteen inches, dazzling vermilion, black blotch on each petal; and ten-weeks stock, all shades, twelve to eighteen inches, for two months.

For the fourth row, I would recommend the following varieties: *Celosia plumosa*, all shades of purple and yellow, eighteen to 24 inches (start these in a hotbed or small pots in the greenhouse early in March), all summer and autumn; *Arctotus grandis*, fifteen to twenty-four inches, lavender, all summer, pretty; *Balsams* in variety of color, eighteen to twenty-four inches, all summer; *Cereopsis*, several shades, eighteen to twenty-four inches, all summer; *Gaillardia picta Lorenziana*, various colors, of yellow, double, all summer, several shades, eighteen to twenty-four inches, all summer; and asters, several varieties, all shades, fifteen to thirty-six inches, all summer.

We have now come to the line fence, Against it place here and there, a few large stones or stumps of trees to make it a broken line or surface. On the front of these stumps or stones, plant canary bird vine, maurandia, *Ipomoea sanguinea*, *Ipomoea coccinea hederacea*. All of these are very neat and dwarf vines, and pretty in colors. In the spaces between plant *Humulus Japonica variegata*, *Cobea scandens*, *convolvulus*, and the tall growing *nasturtiums*. All of these will climb the net (chicken netting should be fastened on to the line fence for support), and over the fence in a rambling way that will look charming.

It is often desired to plant around the base of the dwelling, and in the angles of the building. In such places, make the soil rich and deep. Form pockets by placing stones together. In these pockets sow the desired seeds from the above list. The stones will save the plants from being trodden on.

### Making Lawn Vases

As lawn vases usually are placed in a somewhat exposed situation, plants should be selected that will not suffer from being whipped about by the wind. Provide drainage by having a hole at the bottom of the receptacle. This will prevent the soil from becoming sour. In the bottom of the vase put a layer of broken crock or similar material, then fill it with rich compost, about one part of well-rotted manure to three parts of good garden soil. As the plants usually are put in quite thickly, they will need more feeding by August, when a top dressing, or an occasional watering of liquid manure, will be desirable.

A large plant, such as *Cordyline indivisa*, should be placed in the centre. Geraniums will do well for the next row, then dusty miller. A few of the deep, crimson-leaved *achyrantes* will give a fine color combination.

For the edge, use drooping plants. These may include *vincas*, green and variegated, single *petunias*, ivy-leaved *geraniums*, wandering Jew, climbing *nasturtium*, and many others. Be sure that you have plenty of trailers around the edge.

For good effect in lawn vases, the main thing is to put in plenty of plants, and then be good to them. They will need abundance of watering in warm weather.

### Puddling Roots of Trees

Before planting trees, it is a good plan to puddle the roots, as it will help the tree's growth greatly. The puddle is formed by taking some heavy soil, throwing it in a large, tight box set in the ground, and mixing it with enough water to make a thick paste, into which the roots of the trees are plunged. It must be thick enough, that when the roots are withdrawn from the puddle, there is a thick coating of mud adhering to them.

This method preserves the roots in good condition. The moist coating of soil close to the roots affords moisture, and keeps out the air, and this is half the battle for success in transplanting trees.

To be permanent, a lawn should be thoroughly and carefully made.

Weedy lawns usually are those in which the sod is poor and thin.

When weeds become established on walks, destroy them by one or two applications of hot brine (one pound of salt to one gallon of water.) Brine, unlike dry salt, leaves very little color upon the walk.

### Winter Annuals

T. C. Wheatley, Blackwell, Ont.

When the flower lover is a busy farmer or market gardener with, perhaps, only half an hour now and then that he can devote to his favorite pastime, he finds it a difficult problem sometimes to keep his beds and borders always looking attractive. This has been my experience in caring for a tulip bed and a border of late blooming perennials. A few years ago, I adopted the expedient of using what might be termed "winter annuals" to fill the space following the dying of the tulips, narcissi and other spring bulbs.

The Shirley poppy, if sown or self-sown in September, winters well and furnishes thrifty and gorgeous display during June. Although it will not stand much root disturbance in transplanting, I have had no difficulty in getting a good stand of plants which do not smother out with the tulip foliage. The plants come through best if they are about an inch across when they enter winter.

Another winter annual for the same purpose is the candytuft, particularly the White Empress variety. If sown early in September, it will make plants an inch or two high, in which condition they winter safely. They will transplant fairly easily and bloom much more satisfactory than if spring sown. My practice is to fill these beds with *petunias* and *Drummond's phlox* after the poppies and candytuft are past their best.

The rocket larkspur is very satisfactorily grown by fall sowing, but it is not so well adapted for filling a bulb bed. Another plant, the Golden Wave *coreopsis*, though a perennial, cannot, in this locality, be depended upon to live over winter, after it has once bloomed through a season. I always treat it, therefore, as a winter annual or biennial and find it a very satisfactory plant to fill in among the early blooming irises where it will bloom more or less throughout the season after the irises fade.

To the flower lover who can afford the time and money necessary for the use of florists' plants, all things are so to speak, possible, but the foregoing suggestions are made to afford persons of modest means and ambitions a happy way out of a difficulty. Winter annuals furnish a beautiful display pending the blooming of the later annuals.

Before closing this article let me urge everyone to plant at least a few tulips. The first cost is not heavy and the bulbs increase quite fast. After the end of three or four years, when every bulb bed should be lifted and re-set, an increase of five or six to one may be confidently expected. But whether you plant bulbs or not, it is worth while to try the winter annuals.

# What Amateurs Can Do in May

**B**EFORE good work can be done in the garden, the amateur gardener must have the proper tools. One can garden quite satisfactorily with a garden fork, spade, rake, hoe and trowel. Another great utility is a wheelbarrow. A few extra conveniences that will prove very useful, are a fifty-cent garden line, a seventy-five cent pair of pruning shears and a ten-cent hand weeder. Get a few feet of hose if you can afford it.

When digging a plot of ground, always begin at one end and work backwards. Thus you will not be bothered by the earth you have already broken. When digging, work in fertilizer or manure at the same time. Drive the spade or fork in as deeply as you can push it with the foot, lift it up and down, lift the clod of earth, give it a smart blow to break it and go on to the next spot.

## KITCHEN GARDEN

When digging soil for the vegetable garden, work in an application of well-rotted manure. A few wood ashes are useful.

Plant or sow hardy vegetables as soon as the ground is fit for them. These include onions, peas, spinach, radish, lettuce, carrots, beets and parsnips. Sow the seed in freshly-stirred soil.

A delicious plant for home-growing is salsify or vegetable oyster. Sow the seed as early as possible. Handle the crop the same as parsnips. Sandwich Island is a good variety.

## AMONG THE FRUITS

Spray the leaves of your currant bushes for currant worm when the leaves are half open. Use one ounce of Paris green to about ten quarts of water. Dusting with hellebore will also do the trick.

If there are no small fruit bushes in the garden, start a few this spring. They will grow almost anywhere, but good attention and care give best results.

Keep the old strawberry patch as clear of weeds as possible, but this is not so important as during the first year of its growth. If you are starting a new patch this spring, do not allow the plants to blossom. Cut the flower stalks and allow the plants to give all their attention to the production of runners and new plants rather than the production of fruit.

## IN THE FLOWER GARDEN

Plants that have been started in the house should not be planted outside before being hardened off. Expose them for a few hours a day at first to outside influences. A cold frame is useful for the purpose. If this is not available, place the plants outdoors and take them in at night until they become accustomed to out-door conditions.

Bulbs that have been left in the ground for two or three years should be lifted after flowering. Take them to an out-of-

the-way place in the garden and heel them in. Leave them there until July; then lift again and keep them in a dry place indoors until they are required for planting in the fall. When the time comes, only the best bulbs should be selected.

Read the excellent articles elsewhere in this issue on annuals and annual climbers. They contain much valuable information for the amateur gardener.

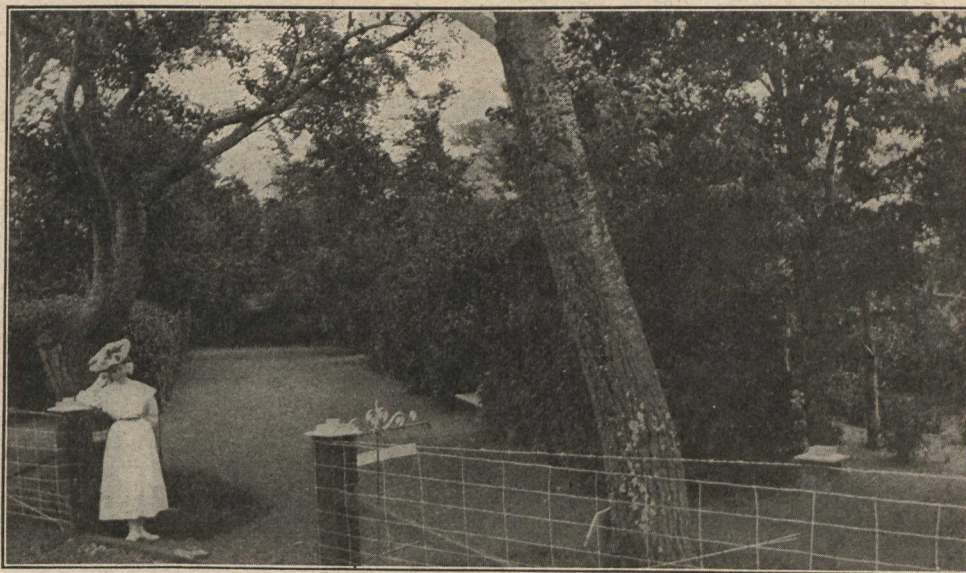
## ON THE LAWN

Bare spots on the lawn may be re-

well raked and sown with some good lawn mixture that can be purchased from any seedsman.

If you purpose making a new lawn, do the work thoroughly. The creation of a permanent sod depends largely upon the preparation of the soil. Dig it deeply and evenly. Before sowing the seed, have the surface fine and smooth. After sowing, rake and roll.

When pruning the rose bushes cut out all dead and weak branches. Head back the remaining ones to a few inches of the



A Fair Guide to the Village des Aulnaies, Quebec.

Fruit experiment station and nurseries of fruit, forest and ornamental trees and shrubs, founded in 1860 by Mr. Auguste Dupuis, and managed by Mr. A. D. Vernault, proprietor since 1899.

paired either by seeding or sodding. Lawns that are becoming thin should be old wood. The best time to prune most roses is just as the buds are starting.

## How to Grow Asparagus

Frank Williams, Ottawa South, Ontario

**A**SPARAGUS has not been given as much prominence by the majority of market gardeners, as it deserves, partly on account of the length of time required to establish the plant, and also the difficulty of keeping the bed free from weeds and grasses of different kinds. Time and labor given to the preparation of the ground is well repaid in the growing of this crop.

A well-drained, sandy loam soil, that will not bake or get hard, is the best for this crop. If the land is not perfectly free from weeds, it should be made so by summer fallowing thoroughly. As asparagus is a great feeder, the soil should be made very rich to as great a depth as can be reached by the plough, say, one foot, at least.

While this permanent location is being prepared, seed may be sown in early spring, in rows about eighteen inches

apart in good rich soil. As the seed is slow to germinate, and the plants so small when they first appear, we usually mix some lettuce seed with the asparagus seed when sowing. The lettuce soon makes its appearance, and the row is much easier to follow when weeding.

Thin the plants to two or three inches apart to get strong crowns. If all conditions are right, the plants should be large enough for setting out the following spring, when planting should be done before growth starts.

Plants may be dug with a spade, but we prefer turning them over with a plough, and then shaking out with the fork. Care should be taken that the roots are not allowed to get dry, or heated, while out of the ground.

## DISTANCE TO PLANT AND HOE

For a small patch on city lot, or the house garden, they may be set in beds

one foot to eighteen inches apart each way, but, when it is possible, single rows are to be preferred. For field culture, rows about four feet apart, and the plants set about eighteen inches apart in the row, is about right.

One of the most important things in the setting out of the plants is to have the trench so that the roots may be spread out flat, and the crown at least six inches below the level of the ground when firmed down as it was before it was plowed. This will permit of manure being plowed or dug under without injury to the plants. By plowing and harrowing every spring, is about the only

way clover, couch grass, and so forth, can be disposed of. It also leaves the surface in the best condition for after cultivation, the cutting of the crop, and is a great help in holding the moisture in the soil.

After the field is planted, as above, it should be given thorough cultivation and manuring, for two years before cutting is commenced. After that the grower must use his judgment, and must be careful not to weaken the bed. In this locality, the first year, cutting should cease about June 15th.

We have a patch of asparagus, planted in this way twenty years ago, which is

still in full bearing. With plenty of manure and thorough cultivation, anyone may have the same.

In cutting for market, use a short-bladed sharp knife, cutting just under ground. Never allow the heads of the stalks to open or become seedy-looking, as this spoils the appearance. In bunching, keep the heads nice and even—shorter ones in one bunch, longer ones in another, and slender stalks and culls by themselves. Trim the butt of the bunch with a sharp knife, and stand in shallow boxes or baskets. You will always find ready market for your goods, if these directions are followed.

## The Manuring of Market Garden Crops

Frank T. Shutt, M.A., Chemist, Dominion Experimental Farms.

**M**ARKET gardening is a special and intensive form of agriculture in which we seek to obtain a maximum of yield of first quality produce from a limited area of land. Quality ranks in importance with earliness and is to be considered before quantity. It is an essential. It is the factor that largely determines the commercial value of our product, though, I regret to say that in this country, our people, the purchasers and customers, are not as discriminating in this matter as they might be. Appearance and size are fairly good indications of quality, but they are not always infallible. One ought to be able to establish a reputation in vegetables, as one can in butter, and milk and eggs.

Quality in vegetables implies succulency, crispness, good flavor, absence of woody fibre or stringiness, pungency and bitterness. Take, for instance, early beets and turnips, to be palatable, there must be no development of woody fibres; radishes must be crisp, and free from pungency; lettuce must not be tough and bitter. How are we to obtain quality, apart from that inherent to and governed by the variety? By a quick and uninterrupted growth—the development must be rapid and continuous. Herein lies the success, as regards quality, and to a large extent, earliness, an important matter from the standpoint of profit. It is thus evident that the first question we have to answer is: What are the factors, the conditions, that lead to this rapid growth?

### THE SOIL

First of all, there is the soil. It must not be too heavy, that is, sand, rather than clay, must predominate, and it must be rich in vegetable matter as derived from liberal applications of farm manures. It must be well drained and, in this connection, it is desirable to have a sub-soil of sand. We must aim at hav-

ing a warm, moist, mellow, well aerated soil, for such is needed to make a good seed bed, and to allow, and promote rapid extension and development of the root system.

### NECESSITY FOR MANURE

You will notice that I am laying great stress upon having the soil an agreeable "habitat" for our plants. In the care of our animals, altogether apart from having them properly and liberally fed, we are careful that they should be warmly and comfortably housed, in quarters that are well aerated, and lighted. Our crops require equal and similar attention, if they are to thrive and do their best. Our soil, therefore, must be capable of retaining moisture, of holding air, of readily warming under the sun's rays, and of being responsive to the applications of manures and fertilizers. Such a loam, naturally light and mellow, can only be maintained by being constantly enriched by humus, or semi-decomposed vegetable matter—and our one great source of this material is stable manure.

Stable manures have been, and probably always will be, the main stand-by of the market gardener. It is impossible to dispense with manure, not for the reason that it is the only source of plant food, for it is not, but because it has all those qualities and properties which make the soil a suitable growing place for roots. It certainly supplies plant food in available forms, but equally important is its function in furnishing much humus-forming material, without which no soil can be at its best. All things considered, partially rotted "short" manure, is better than fresh "long" manure. If you have occasion to keep manure for any length of time, the heap should be kept compact and moist.

The store of manure may be supplemented in the market garden by the use of compost. The compost heap should

prove a valuable asset. From the manurial standpoint, good compost ranks very high, and the large amount of vegetable refuse, otherwise useless and wasted, that must annually be produced in the market-garden, makes it a fertilizer that practically costs nothing. It is well worth while, therefore, to look after the cabbage leaves, the lettuces gone to seed, and a hundred other forms of refuse, and see that they go into the compost heap.

### COMMERCIAL FERTILIZERS

Apart from favorable climatic conditions, and an agreeable soil, the quick growth which we seek, and which we know, means quality and quantity in vegetable growing, must be obtained by a super-abundance—a reasonable excess—of available plant food in the soil. This brings us to the subject of fertilizers, which will be treated in the next and subsequent issues of THE CANADIAN HORTICULTURIST.

## The Tariff and Other Things

J. W. Rush, Humber Bay, Ont.

There are a few things in respect to the tariff question that I would like to bring before the vegetable growers. I was in Sarnia last fall, where there are a lot of good growers. I said to one of them, "Do you sell your cabbages across the river in Port Huron?" "No," he replied, "as we have three cents a head duty to pay."

While our growers cannot ship profitably to the other side, there have been about 100 carloads of cabbages shipped from New York State to Toronto during the past season. They were fine, hard heads. I suppose that a proportionate amount has been shipped also to other Canadian towns and cities. These cabbages were bought by Canadian buyers at \$6.00 a ton on the cars at Buffalo. The buyers pay twenty-five per cent.



duty, which amounts to \$1.50, and also about \$1.00 a ton for freight. The total cost in Toronto is about \$9.00 or \$10.00. They are sold for \$15.00 a ton. The city salesmen go to the retail stores two or three times a week.

There is quite a large quantity of cabbage pitted around Toronto by local growers, but there is no sale for them. One grower recently took a load to Toronto, but could not sell them at any price. He had to take them home and feed them to the cows. This should not be, but there will be no change until our Government imposes a duty similar to that of the United States: namely, three cents a head. The United States cabbages are sent to Canada to make the market better in Buffalo, and other cities across the line.

When the Tariff Commission met in Toronto, in November, 1905, the Hon. Sydney Fisher told me that he could grow turnips on his farm at a cost of six cents a bushel. Perhaps he can, but the man who can make money growing cabbages at \$6.00 a ton, should be appointed cup-bearer to the King.

#### WHAT TO GROW THIS SPRING

As spring is here, many market gardeners are wondering what they should grow. Shall it be those Montreal melons that cost thirty to fifty cents each to grow, and that will sell in Toronto at three melons for twenty-five cents? I think we had better grow early vegetables, making a point to get them early and good. The city people are enquiring for Canadian grown asparagus and spinach.

There should be a lot of early green onions, after all the "stiff-necks" that were left in the ground last fall. There is plenty of money in green onions, if you know the way to get it out of them.

For spinach and early beets, be sure and have a nice piece of soil, well manured and work it well. Keep to the old varieties that you have tested, such as, in beets, Crosby's Egyptian, and Eclipse.

According to the old saying, "The good follows the bad," onions should do well this year. Sow onions early and be sure to have the soil well worked before sowing.

I would like to hear how our mushroom growers are getting along. One man not far from Toronto, made quite a success this winter. He said that mushrooms are selling fast at sixty cents a pound.

Among the many good things that will appear in the June number of THE CANADIAN HORTICULTURIST, will be articles on growing squashes, on garden salads and garnishes, and on the white fly of greenhouses.

## Pointers on Onion Culture

Herbert Hachborn, Echo Place, Ontario.

**T**O grow onions successfully, the first thing to do is to get the soil properly manured and thoroughly worked. The best method of treating the soil is to spread the manure in the winter or early spring, so that the spring rains can wash the fertilizing elements into the soil.

It is a mistake to change onion ground every year. Onion ground should receive about twenty-five loads of well-rotted barnyard manure to the acre every year; then, by the end of the second or third year the ground will be in first-

or fall, to prevent maggots from working. When sowing the seed, I mixed a little powdered sulphur and salt with it; this also acts as a preventive against maggots.

Care should be taken not to get the ground too rich with nitrogen, as this causes "thick-necks," or scallions. The best thing to do with thick-necks is to bunch and sell them for green onions.

### Celery for Profit

J. H. Copeland, Chilliwack, B.C.

The soil for celery should be a deep peat, with plenty of natural moisture. It should be drained to the depth of two and a half feet, so that there will be no stagnant water lying in the ground. Next break the sod with a good, deep furrow. Turn it over well in the fall, and disk, and as early as possible the following spring. Disk it again, and apply about five hundred pounds of some good fertilizer per acre, with about forty bushels of lime, fifty bushels of wood ashes, and half a ton of salt an acre. Disk it every week till time to plant.

Sow the seed in an open bed, as soon as the frost is out of the ground in the spring. In peat soil the frost is usually all out by the middle of April. Give extra care in well lifting the soil for the seed bed. Do not cover the seed too deeply. Tramp the soil very firmly with the feet before sowing, and roll after with a hand roller. Do not sow the seed too thick as the plants will be slim if this is done. About one hundred plants per square foot, is a good stand for first-class plants. Keep the plant beds well weeded, so that the plants will be strong and bushy.

When the plants are about two and a half inches high, start to plant in the field. Set the plants six inches apart in the rows, and have the rows four feet apart. Stretch a line straight across the field, then walk on the line, and you will have a good plain mark to plant by. Make the holes with a pegger. One man can make holes for two or three planters, who should plant 6,000 per man in ten hours. Great care should be taken to press the soil firmly about the roots, and see that the tap root of the plant is straight, or else your plant will be a failure. After planting keep free from weeds and cultivate the same as any other crop of roots till large enough to bank up for blanching.

There is nothing better for lice on cabbage than kerosene emulsion.

No single factor that enters into the production of crops, is more important than good pedigrees in seeds.



A Good Commercial Dozen of Celery

Grown by Mr. J. H. Copeland, Chilliwack, B. C.

class condition for onions. If the ground is changed every year it will not be in such good condition. I have grown onions on the same piece of ground for the last five years, and had a better crop last year than ever.

As soon as the ground is dry enough, plow down the dressing and work it well with a disc or acme harrow, and allow it to stand about a week, then work it again, as this working will kill any weed that may have started. Many growers believe in plowing the ground in the fall, as onions require a hard bottom, but I find that I get just as good a crop by plowing in the spring. Onions are cultivated mostly by hand, and the ground will naturally form a hard bottom.

It is well to sprinkle a little air-slacked lime and salt on the ground every spring

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February 1907	5,520
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EDITORIAL

CHILDREN AND GARDENING

The influences of improving the grounds around and about schools, churches and the homes of our people, both in rural and urban communities, are many. They are felt not only by the old folks who have planned or performed the work, but more particularly by the children, for it is they who are the most susceptible to the beauties of natural associations. If the children are constantly surrounded with those influences that ennoble them, they will become satisfied with nothing less. When in later life they have homes of their own, they will strive to make them as pleasant as the homes of their youth, for they have been educated to appreciate no other environment. They will make better citizens, for the habits formed in childhood have much to do with shaping the destinies of the children when they become men and women.

To assist children in forming good habits, we must cultivate their taste for the beautiful in nature. Teach them to find, "Tongues in trees, books in running brooks, sermons in stones and good in everything." Let them have a flower garden of their own, and, if necessary, assist them in its proper care. Allow them to select their favorite flowers to cultivate and nurse. If they have no favorites, teach them to gather the common wild flowers of the fields and to transport them to the waste and needy spots about their homes. Convince them that they can be really useful and they will work with the greatest enthusiasm.

Not only at home should the children be encouraged to assist in beautifying the grounds but also at the schools. Nothing will make the child like school more than beautiful school surroundings, particularly those with which he has had something to do in the making. Resolve this spring to have the school grounds in your district or town the best for miles around and have the grounds about the home even better.

PROTECT THE BIRDS

Birds are of great economic value to fruit growers and gardeners. When they are protected and encouraged, the orchardist or gardener gains more than is generally appreciated. They keep in check great numbers of insects and vermin. It is true, that a few species are partial in diet to fruit and other crops, but the brief season of crop pilfering is a comparatively insignificant part of the otherwise beneficial yearly life of these and other birds. For the services of our useful birds, the growers must be content to give something in return. The evil that birds do often may be prevented by ingenious contrivances that do not harm the bird; if not, these comparatively small evils should be patiently endured for the common good.

At a recent meeting of the Hamilton Society for Nature Study and Bird Protection, Mr. Herbert C. Merrilees delivered an excellent address on this subject and pleaded for the protection of birds on both sentimental and economic grounds. Some extracts from the address are as follows:

"Those who know little or nothing of the real economic value of birds are liable to be unjust. We are likely to lay the sins of a particular bird upon the whole tribe. We see a Cooper's Hawk sweep into the yard and strike a chicken and we are out with a gun for every other hawk we can

"see, regardless of the fact that many of the hawks live almost entirely on squirrels, moles, mice, grasshoppers, beetles and the like, and are among the most useful birds we have. It is a grave mistake to sacrifice a hundred birds for the sins of one guilty bird. A man who lives in the country ought to have a common knowledge of bird habits. For his own good and the welfare of the country, he ought to be able to discriminate between good and bad wild birds just as he learns to distinguish between good and bad domestic birds and animals.

"Because a Blackbird is in a grain field, it does not signify that he is doing harm. Woodpeckers are often shot for coming into orchards, when a careful examination will show that they are destroying injurious insects. There are many instances where birds have been killed because of their destruction to fruit, when an examination of their stomachs showed that they were eating more insects than fruit.

"There are few instances where birds become so abundant as to do more real harm than good. For although some of the birds eat fruit, this is not the main part of their diet. The majority of the birds are continually hunting and catching insects. During the breeding season, they live largely and rear their young almost exclusively on this food. Wherever insect food is plentiful, the birds resort to such a locality."

No person should be so blinded to his own best interests as to destroy by wholesale, creatures which are his best friends. Because birds occasionally make raids upon the orchard is no good reason for slaughtering them. Treat them as you would domestic animals when they commit devastations; in the case of animals, protect the crops from future raids by erecting or strengthening barriers; for birds, use decoy fruit trees, bird netting, scare-crows, and so forth. The birds are preserved, thereby, to turn their energies to better account in destroying insect pests. Birds are among the most valuable assets of the farm, the orchard and the garden. Protect them.

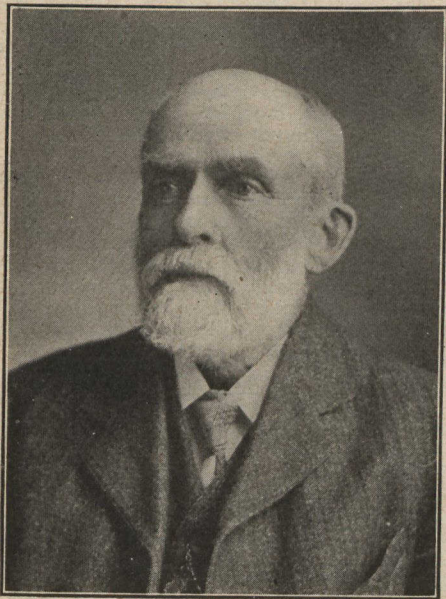
More fruit growers should keep bees. The transfer of pollen from blossom to blossom on fruit trees is done almost exclusively by insects, mostly bees. Even under most favorable circumstances, countless numbers of bees are required to do the work in localities that are devoted largely to fruit growing. During cloudy and rainy weather, larger numbers are required or else the work goes undone, and, naturally the work farthest from the hives goes undone most often. For this reason, the grower who keeps bees in his orchard is the one whose trees would profit most in unfavorable weather. In addition to the bees' value among the blossoms, the product of their labor—honey—is worth money. Six hives will furnish sufficient honey for home use and give a profit besides. It pays to keep bees.

The secretaries of horticultural societies are requested to send copies of their lists of premium offers and options to THE CANADIAN HORTICULTURIST. In many cases recipients of plants, shrubs and trees do not know how to plant and care for them. To aid these persons, and incidentally to assist the society, articles on these subjects, as suggested by the nature of the premiums offered, will be published. The secretaries are asked, also, to send copies of papers on practical subjects that may be read or discussed at their meetings.

# The Ontario Fruit Growers' Association.

A. M. Smith, St. Catharines, Ontario

FIFTY years ago fruit growing as a business was almost unknown in Ontario. The tables of our country were scantily supplied with fruit and a large proportion of that which was consumed came from the United States. It was generally believed that the climate in most parts of the province was unfavorable for fruit growing. Experience has demonstrated, however, that there is scarcely a place where some kind of fruit can not be produced in perfection and many sections that were once considered unadapted to fruit are producing varieties, especially of apples, that can not be equalled in the whole world. Our tables, at one time so scantily supplied with fruit, which was considered a luxury, are now loaded with luscious fruits, which have become a necessity, and we are exporting millions of dollars worth every year. Fruit growing has be-



Mr. A. M. Smith.

The only living member of those who first organized the Fruit Growers Association of Ontario, which will be 50 years old next January,

come one of our most important industries. What has been the most prominent factor in bringing about this great change? I answer without fear of contradiction: "The Fruit Growers' Association of Ontario."

As an account of its origin and some of its early struggles and progress may be of interest to the readers of THE CANADIAN HORTICULTURIST, who are enjoying the "fruits" of its labors, I will attempt to give you a brief outline of its history.

To the late Judge Campbell, of Niagara, and the late Dr. Craigie, of Hamilton, belongs the honor of being the originators of the association. A few people in the Niagara district, particularly near Niagara, Grimsby and Hamilton, were becoming interested in fruit growing. The idea occurred to these men that an organization among fruit growers, followed by meetings at stated periods would be productive of good and stimulate the progress of fruit culture throughout the province. They communicated their views to the late Dr. Beadle of St. Catharines, Geo. Leslie, Sr., of Toronto, and others, who heartily endorsed them. It was finally decided to call a meeting which was held on the January 10th, 1859, in Mechanics' Hall, in the City of Hamilton, the four gentlemen named and fourteen others being present. It was unanimously

resolved to form a fruit growers' association for Upper Canada. The following officers were appointed: Judge Campbell, president; Dr. Hulbert, 1st vice-pres.; Mr. Geo. Leslie, Sr., 2nd vice-pres.; Mr. Arthur Harvey, recording secretary; Mr. D. J. Humphrey, corresponding secretary; Mr. Edward Kelley, treasurer.

Judge Campbell died within a year and was greatly missed by the association, which languished for about two years for the want of their leader. Through the efforts of the late Dr. Craigie, of Hamilton, it was called together again on September 21st, 1860. Nine members were present. Dr. Hulbert, the vice-president, occupied the chair. After a brief session they adjourned to October 24th, each member being requested to bring samples of fruit. At this meeting seventeen members were present with quite a display of fruit, and some profitable discussions took place. It was again decided to adjourn to January 16, 1861, that being the time appointed for the annual meeting and election of officers.

At this meeting, Dr. Hulbert delivered an address on "The Culture of the Grape in Canada." The officers elected were Judge Logie, Hamilton, president; Dr. Hulbert, secretary; Dr. W. Beadle, treasurer. It was afterwards found inconvenient to have the office of secretary and treasurer separate, and they were both given to Dr. Beadle, which office he held for over twenty-three years. Judge Logie held the office of president six years, during which time meetings were held two or three times a year, where fruit was exhibited and discussions upon various points of fruit culture were held and much useful information gained. Committees were appointed to enquire into the condition of fruit culture, varieties grown, and so forth, in different parts of the province. These meetings were held at Grimsby, Hamilton, Paris, St. Catharines and Toronto, and resulted in much useful information being obtained, some of which was published in 1863 in which report, returns were made by secretaries and committees from

thirty different counties of Ontario, enumerating the different fruits successfully grown.

In 1867, the Society had attained a membership of 30. Judge Logie retired from office and was succeeded by Mr. W. H. Mills of Hamilton. In 1868, the society, largely through his efforts, was incorporated under the Agricultural and Arts Act, under the name of "The Fruit Growers' Association of Ontario," and became entitled to a grant from the government of \$350 a year, which enabled it to collect and publish the experience gained by their active workers. This was widely distributed and became a great incentive to the fruit business.

From that time the work made rapid progress. The membership increased to over 200 the first year. The society became a veritable missionary enterprise. It held its meetings in nearly all of the principal towns and cities in the province, preaching and teaching fruit growing and horticulture. Every year there was sent to the members, some tree or plant for them to test and report upon. In this way much valuable knowledge in regard to what was adapted to the different parts of the province was obtained. The membership increased in a few years to about 4,000, and the association became the largest horticultural society in America, if not in the world.

In 1876, the association did more to enlighten the United States and all the nations of the earth, in regard to the climate of Canada and fruit-producing possibilities than had ever been done before, by their exhibition of Canadian fruits at the Centennial World's Fair in Philadelphia. Where fruits will grow in profusion, there must be something more than a land of snow and ice as Canada was thought to be by most of our neighbours at that time. Our exhibit astonished the world. A continuous supply was kept up from early to late fruits, during the season. Visitors could scarcely believe they were grown in the open air in cold Canada.

(Continued on page 117)

## The Similkameen Valley

By the representative of the Canadian Horticulturist, who visited British Columbia in the interests of Western Fruit Growers and of this publication.

WITH the completion of the Great Northern Railway from Spokane to Vancouver, the fruit districts of the Similkameen Valley will become a centre of activity. While our representative was in British Columbia last fall he heard so much talk, lacking in definite information regarding the Similkameen, that he decided to visit the Valley and become personally acquainted with the possibilities of that section, for fruit growing.

Until recently the only way to reach Keremeos, which is the largest town in the Valley, was by stage. The Great Northern Railway now have their road completed for a considerable distance past Keremeos, which makes it possible to reach most parts of the Valley, from the east, by rail from Spokane, Wash., or Midway, B.C. Our representative being at Penticton, B.C., travelled by stage over the range of mountains separating the Okanagan and Similkameen Valleys. This route afforded a splendid opportunity for seeing the land at closer range than from a car window.

Unlike some of the other fruit sections in British Columbia, fruit has been grown in the Similkameen for over 30 years, and the results have been everything to be desired. The oldest settler in the Keremeos section is Mr. F. Richter, who has lived there for over 44 years. Although the chief occupation of Mr. Richter has been ranching, he has devoted considerable attention to fruit growing around his home. Perhaps the best way to describe Mr. Richter's success would be to quote his own words. He said: "I find that both hardy and tender varieties of fruit thrive here to perfection. This is accounted for by the low altitude and the dry, sunny atmosphere. This is an irrigation country like most of the best fruit districts in British Columbia. The valley is well watered, however, as the Similkameen River has many tributaries, including the Keremeos and Ashnola, which may be used for irrigation. The Similkameen and Ashnola Rivers will afford a sufficient water supply to irrigate the whole valley, if it is properly utilized.

"Everything that is grown in a sub-tropical country can be grown to perfection in this valley. Corn ripens in July and can be ripened at intervals as late as November. Four full crops of alfalfa are harvested in a season. I sometimes allow the cattle to run on the fourth crop. From the other three, I get an average yield of 5½ tons to the acre. All the hardier fruits, such as apples, pears, plums and cherries grow to perfection and in abundance. This district is particularly adapted for tomatoes. Watermelons, peaches, apricots, walnuts, and almonds and all the different varieties of grapes, including the Tokay, Muscat Alexandra, Zinfindell, German Resling, Concord and Niagara, do equally well. It is usually a matter of surprise to fruit experts, who believe that the delicate Black Hamburg grape can not be grown in British Columbia, except under glass, that I have grown them here in the open at Keremeos successfully, for the last 10 years and also the *Prunus Simoni*, a tender variety of fruit, supposed to be of Chinese origin. We grow the sweet potato and very good samples of tobacco.

"As to quality of our fruit, I might refer you to the result of the last Horticultural Fair at London, Eng., where British Columbia fruit captured the gold medal, while at the Provincial Fair at New Westminster, last September, which was open to the world, my own small exhibition of 100 pounds, net, took 24 prizes—18 first and 6 second—and it is a well known fact in the Valley, that my orchard was in the poorest condition it has been for the past 10 years.

"To the fruit grower looking for a location, this district, with its mild, sunny climate, clear spring water, railroad facilities, with a surrounding mining country, demanding an ever increasing supply of fruit, can not be too highly recommended. We have people here from various districts, including California, and they are unanimously agreed that for an all-year climate, this can not be excelled."

These statements by Mr. Richter regarding the Similkameen, have been vouched for by the leading fruit growers in British Columbia. The majority of them acknowledge that, as quickly as this valley becomes better known, it will be one of the best fruit growing sections in the province. The success attained by Mr. Richter has caused him to sell his ranch to a large land company, that is now placing it on the market in small blocks. The irrigation system is well under way and an ample supply of water has been provided for.

The town site of Keremeos is near the head of the valley, and where the creek of the same name joins the Similkameen River. This is one of the finest sites that could have been selected. Owing to the tropical climate, it should not be long before Keremeos will be known as "The Pasadena of the Canadian California."

The valley is the warmest and driest in British Columbia. It varies in width from one-half mile to four miles from mountain to mountain, and contains some of the richest land in the province. The bottom lands are sub-irrigated, and have for years been used as meadows. Rising above these meadows, in gentle slopes, are benches of large area. It is on these benches that the largest amount of work is being done. It only requires the water, which will be furnished by irrigation, to enable the land to produce the finest fruit.

The following are a few results obtained by some of the growers in the Similkameen

Valley: four and a half acres of onions produced 95 tons at \$22 a ton, or \$2,090; ten acres of potatoes produced 200 tons at \$14 a ton, or \$2,800; one acre of tomatoes, 5,000 plants, bore 85,000 pounds at two cents a pound, or \$1,700; two-thirds of an acre of strawberries produced \$900; tobacco produced \$100 an acre between fruit trees: a

twenty-acre peach orchard brought \$10,875 on the trees; one and a third acres of pears brought \$1,420; one apple orchard produced 12 tons an acre and brought \$750 an acre. Now that better transportation facilities have been provided, it is expected that there will be a great rush to take up land in this section.—W. G. R.

## The Fruit Bark Beetle

L. Cæsar, Ontario Agricultural College, Guelph.

**M**ANY cherry trees in the Niagara district last autumn were losing their leaves as if a blight had suddenly come upon them.

Having heard of this, the writer along with one or two of the fruit growers made an investigation in September, and found that, in many cases, the real cause of the withering of the leaves was that a tiny beetle was attacking the trees. This beetle is known as the fruit bark beetle, or shot-hole borer, *Scolytus rugulosus*.

The beetle is about one-eighth of an inch long and one-third of this amount in breadth, is almost cylindrical in shape, and black in color. In dead trees it makes little round holes like shot-holes, and from this sometimes gets the name of shot-hole borer. If the bark of badly-infested dead trees be removed, the whole surface of the wood is often found to be engraved with little tunnels or channels, running in different directions. In these channels, the white, legless grubs of the beetles are often found, it being the grubs that make the chambers.

The insects, it is generally believed, pass the winter in the grub (larval) stage, though there are many indications that eggs also remain over winter in the little pockets under the bark, along the small tunnels made by the females. In early spring, the larvæ or grubs, pass through their transformations and come forth as beetles, and almost at once seek weakened or dead trees or branches to lay their eggs in. Often, however, as was the case last year, they will, when numerous, spread from diseased or dead trees to perfectly healthy ones and there do much damage. When a healthy tree is attacked, the presence of the beetle can easily be seen by the gummy exudations that come forth from the wounds made. Attacks may be made on any part of the tree, trunk, branches or twigs.

Cherry trees are not the only ones to be attacked. A few plum trees at St. Catharines were found to be badly attacked, and in the United States, peach trees are, as a rule, worst assailed. Apple and pear trees also are sometimes attacked.

Though the insect did much harm last year and will probably do much this year also, unless precautions are taken, yet the farmers need not become unnecessarily alarmed. The insect has been known in Canada for some time, and in some parts of the United States has, on several occasions, been very destructive, but it has been possible to control it in each case.

In seeking a remedy, we must remember first, that the insects pass the winter in one form or another under the bark; secondly, that in almost every case they attack dead or weakened trees before going to healthy ones. Consequently, the remedy is to cut out and burn every dead fruit tree of whatever kind, and also any very weak or dying tree, and all dead or badly-attacked branches. These must not be thrown into heaps and left there, but must be burned at once. All old brush piles should be destroyed in the same way. In this manner most of the hibernating larvæ and eggs will be destroyed. If, in addition to this, trees that have been slightly attacked have manure scattered around them, the in-

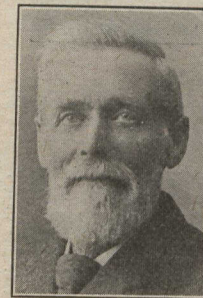
creased vigor thereby given will often enable them to recover from the injury.

Spraying is usually resorted to as a means of warding off attacks. A carbolic and soap wash is usually recommended, one quart soft soap or one pound hard, one gallon water, half pint crude carbolic; dilute to 40 gallons. Such a wash must be put on in the spring, in April, as the adult beetles begin to emerge very shortly after the warm weather begins. There seems to be no reason why lime-sulphur put on at this time should not also have the same result. To secure the best results from either of these washes, it will be necessary to spray, at least, the infested trees a second time, after an interval of a week or ten days.

It is perhaps necessary to call the attention of fruit-growers to the fact that in localities where the San Jose scale is prevalent, trees not treated for this scale are sure to become weakened or killed, and afford favorable breeding centres for the fruit bark beetle. Hence, by using lime-sulphur to check the San Jose scale, preventive measures will also have been taken against the beetles.

## Of Wide Influence.

Editor, THE CANADIAN HORTICULTURIST: The announcement in the December issue that THE CANADIAN HORTICULTURIST had completed its 30th year, caused me to look up back numbers. It is 27 years since I first became a subscriber.



Mr. J. C. Gilman

While THE CANADIAN HORTICULTURIST may have been intended primarily for Ontario, its scope of usefulness has not been provincial. Fruit growers in every province have found something within the pages of the publication to enthuse, encourage and instruct them in producing more and better fruit, to grade better, pack better and to place before the consumer, in the best possible condition, the products of their orchards. I wish the publication continued success.—J. C. Gilman, President, New Brunswick Fruit Growers' Association, Fredericton, N.B.

In future the Ontario Horticultural Exhibition will be under the control of an Association that will be called "The Ontario Horticultural Exhibition Association." At a meeting of the directors of the association held recently, it was decided to organize and become incorporated under The Associations' Act. A constitution and by-laws were adopted. The following officers were elected: Hon. Pres., R. J. Score, Toronto.; Pres., W. H. Bunting, St. Catharines; First Vice-Pres., H. R. Frankland, Toronto; Second Vice-Pres., Mr. Couse, Streetsville; Treas., J. H. Dunlop, Toronto; Sec., P. W. Hodgetts, Toronto.

## NOTES FROM THE PROVINCES

### British Columbia

J. J. Kirby, Port Kells

The fruit industry in this district is as yet in its infancy. We have quite a number of good, sturdy, young orchards started. The King, Wealthy, Winter Banana, and Gravenstein are the favorites in apples. The Winter Banana is a strong grower and a prolific bearer, giving a fairly good crop at four years. I would advise planters to go heavy on this kind, as it is a very showy, rich and a ready seller.

The Bartlett, Beurre Rose, and Keiffer are the favorites in pears. Royal Ann, Early Richmond and olivet are the choice in cherries. In plums, Bradshaw, Peach, Grand Duke and Italian prunes are being planted.

The largest growers have decided to plant the same varieties, to enable them to have a large bulk of each kind of fruit, and to ship or make it worth a buyer's time to come in and make a bid for the fruit.

It would be a great help to the growers in British Columbia if all the nurserymen in this province would advertise their trees and plants, and so forth, in THE CANADIAN HORTICULTURIST, as it would save us time and money in procuring the necessary stock for our planting.

### British Columbia Inspection

Editor, THE CANADIAN HORTICULTURIST: I am just starting an orchard and would like to get all my nursery stock from the east, but am handicapped to a large extent by the British Columbia law. All the nursery stock entering the province must be inspected at Vancouver, and this causes extra freight charges. Now, could not the eastern nurserymen try and have it arranged to have the stock inspected at Revelstoke or at Kamloops? I take a great interest in this for I would like to get my stock from the east. I bought some stock from Stone & Wellington, of Fonthill, Ont., last year. They were shipped about April 1, and I got them on June 8. By this time, half of the stock was in leaf and so I lost one-third of them. Last fall I got some more. They left the east on Oct. 18, and I received them Nov. 26.

These instances show the time it takes to ship trees from the east to this province. The delay in a large part is caused by the inspection at Vancouver and is the cause of a lot of Canadian money going into the United States. The trees coming from the east cost me about 84 cents a tree and I can get them from the United States for about 43 cents a tree, and it only takes two weeks for them to get here. The eastern stock, however, is much better for this north-western country.—John S. Twan, Cariboo B.C.

### Quebec

The County of L'Islet Horticultural Society's program for 1908 includes the following features of value to its members:

1. The purchase and distribution of 1000 apple and plum trees of hardy productive varieties, bearing fruit of good quality, size and appearance. The members will have to pay 10 cents for each tree and the society will pay the balance of cost and freight. Not more than 10 trees to be allowed to one member.

2. The distribution of 100 apple trees, "Transparente de Croncels" and 100 pear

trees "Beurre Baltet pere" already ordered in France, one tree of each to each subscriber paying half cost, 20 cents.

3. Orchard Contests—The jury who will examine the orchards of the competitors will award the prizes to the owners of the best kept orchards of vigorous trees bearing largest crops of good clean fruit. Orchards where scales and black knot exist will lose half their points on that account.

4. Prizes will be offered for the best managed wood lots where firewood and timber, needed by the past and present owners, have been cut judiciously for over a century and the richness of the forest maintained by new growth.



Mr. J. Horace McFarland

Arrangements were made with Mr. McFarland of Harrisburg, Pa., to speak at meetings of five Horticultural societies in Ontario. The following are the places and dates: St. Catharines, April 27; Hamilton, April 28; Cobourg, April 29; Toronto, April 30; Perth, May 1.

### Nova Scotia

Eunice Watts, Waterville

When it was reported that a large consignment of Australian apples was on its way to England, Nova Scotians rushed the last of their fruit to the Old Country markets, so that now the warehouses are nearly empty. During the first week in March Berwick exported 1,832 barrels of apples. The winter shipments from Aylesford have ranged from 1,000 to 1,500 barrels weekly, while Auburn, two miles distant, has been loading two cars every week, or about 400 to 500 barrels.

Growers are gradually learning that it does not pay to ship a poor grade of fruit. Good Baldwins have realized \$1 to \$1.50; Golden Russets, \$2.50 to \$3 nett; Fallwater, \$2; Stark, \$1.75 to \$2.

Cranberries have gone long ago. Like the apples they began to sell at big prices, but dropped from \$7.00 to \$5.00 a barrel as the season advanced.

The wages of men in warehouses range

from \$1.00 to \$1.25 per day. Women sorters earn 75 cents to \$1.00.

A quantity of potatoes has been shipped to Havana and neighboring markets; latterly the price has risen from 40 cents to 42 cents a bushel to growers.

There is a big demand for apple trees, especially those of the Stark and Duchess variety. Local nurserymen are selling good No. 1 stock for \$20 a hundred.

Root grafting and pruning have occupied the time during the last month, but there is still much of the latter to be done, especially on stone-fruit trees where black knot is very plentiful.

During the bright days of March, the bees were enticed from their hives, but April came in with snowstorms and sleighing, snow and rain alternating almost every day since; otherwise it would have been possible to plant such hardy seeds as broad beans, peas and sweet peas, the frost being out of the ground, except in sheltered places. Tomatoes and other seedlings are doing well in boxes.

After the rains in the middle of March the tulips made their appearance, and were soon followed by the daffodils, hyacinths, and day-lilies. Insects are beginning to fly, and robins have come back. A number of wild ducks and geese have flown over. Mayflowers and pussy-willows are expanding their buds, and the indications are that spring is here.

### Annapolis Valley

G. H. Vroom, Middleton

Fruit trees and bushes of all kinds have come through the winter in Nova Scotia in good condition, and look healthy and strong. No signs of winter killing are to be seen, and the trees are well set with blossom buds in orchards that are well cared for, and properly pruned. Strawberry plants have suffered from the many thaws, and only well covered plots are in good condition. Present indications are in favor of a good bloom on all trees and bushes.

Caterpillar eggs are not as plentiful as last season. The brown-tail moth is still to be found in some sections, but a vigorous campaign is now going on in all infested districts, and the nests are being gathered and destroyed. The bounty of 10 cents a nest which is being paid by the local government, will probably wipe out the pest. At any rate nothing will be left undone to stamp it out.

### Prince Edward Island

Rev. Dr. Burke, Alberton

It is to be hoped that the very mild and changeable winter now, "lingering in the lap of spring," has not in any wise affected adversely the orchard trees, by starting the circulation of sap out of season. So far we have learned of no such mishap, but the day of reckoning is hardly here yet. We have had no snow to break down trees and no opportunity for mice to girdle; that at least can be put down to profit account.

Since the winter meetings, there has been considerable activity in the purchase of orchard stock. A movement was inaugurated to buy cooperatively, the association here sending out a circular to all the farmers, with some show of success. A committee from the association recommended that they could guarantee the growing of such sorts here as Yellow Transparent, Duchess, Red Astrachan, Pewaukee, Baxter, Alexander, Wolf River, Wealthy, Inkerman, Stark, Ben Davis. They described the different varieties recommended, told how they had succeeded and unhesitatingly affirmed that

there was money in their production here. The names to the committee were ones well recognized as those of practical and trust-worthy fruitmen. They were, John Johnstone, John A. Annear, Franklyn Bovyer and A. E. Dewar. The circular stated that the P. E. I. Fruit Growers' Association, through its secretary, would undertake to secure prime stock in lots of not less than hundreds, at a price not to exceed 20 cents laid down on the farm. There should be quite a movement in trees this season as a result of this propaganda.

The Fruit Growers' Association has done more than this for the fruit industry this spring. It has been soliciting offers of small fruits—strawberries, raspberries, currants and gooseberries, with a view to the establishment at Charlottetown of a branch of the Winslow preserving works of Montreal. Quite an amount of small fruits are grown here; indeed, this is an ideal strawberry land, and, as well as the great profit in the sale of fresh fruit from our strawberry-beds when the season is bare elsewhere, it will be a good thing to be able to sell at paying prices the stock unfit for basketting and the table.

### Toronto

The members of the Toronto Horticultural Society have recently been visiting some of the largest greenhouses and private conservatories, in the vicinity of Toronto. This has proven a popular move, and the members turned out in large numbers.

The places visited recently were The Steele-Briggs Seed Co., J. H. Dunlop, Sir Henry M. Pellatt, and the florists in Brampton, which included the Dale estate, R. Jennings and W. Fendley.

At the reception given to the members by Sir Henry M. Pellatt and Lady Pellatt, on March 28th, at their conservatories, over 150 members accepted the invitation. It was an educational treat for the members to see the many specimens that have been so well grown by the gardener, Mr. McVittie. After the conservatories had been visited, luncheon was served, at which Lady Pellatt presided.

The excursion to Brampton on April 11th was a splendid success, two special cars being almost filled. The flowers were at their best, the date being just one week before Easter.

The membership of the Toronto Society is now greater than any time in its history. It will not be long in reaching the 300 mark.

### Montreal

E. H. Wartman, Dominion Fruit Inspector

Once more I am at work at Montreal after an absence of two and a half months in Colborne, Ont., district. This village can boast of many expert apple packers. The fruit houses, capable of holding 100,000 barrels for re-packing are well worth looking into by those who contemplate building frost proof apple houses. These houses have been well tried in weather ranging down to 25 degrees F. last winter, and the apples were never known to keep better. As many as 140 cars of apples were shipped from this village in one month which, for quantities, few other places can boast of in Canada. The 100,000 barrels re-packed here graded about 50 per cent. No. 1 quality; the other 50 per cent. were mostly exported and the No. 3 quality returned little or nothing in many cases.

Odds and ends of apples from all over

Canada have flooded the Montreal market. About 1,000 barrels of apples were offered by Montreal Fruit Auction Co., on April 13th, which is the largest quantity I have ever seen at this late date. The prices were very low, especially No. 2 and No. 3 grades. In a large city like Montreal, the most fastidious can find fruit to suit their taste. We have peaches and pears from South Africa, strawberries from South Carolina, tomatoes and oranges from California, hot-house grapes from England, all in good order, and inviting.

Apples, of course, are the cheapest fruit in the market, the auction price for No. 3 quality being 75 cents to \$1.00 a barrel. Still, if one wants a strictly No. 1 barrel of the old reliable Spy he will have to pay \$4.50 for them; and there is no grumbling.

### Manitoba

Wm. J. Cunningham, Dauphin

There is not much fruit grown in this section. One great drawback is the large quantities of inferior nursery stock that Canadian and American firms are shipping in here. A lot of inferior stuff also comes from Brandon. There is not an apple, plum or cherry tree to be seen in Dauphin.

There is land for a distance of fifty miles around here that would be fine for fruit growing. The land is well watered and sheltered, but the ordinary class of trees do not do very well. I have grown some Russian varieties with fairly good success, and the people promise that as soon as they see it will do well, they will buy the stock.

### Fruit Crop Forecast

The present appearance of most kinds of fruit trees and bushes, indicate that they have come through the winter in fine condition. While still early to make predictions regarding the coming season's crop, all reports from growers are optimistic. For each issue of THE CANADIAN HORTICULTURIST, growers in all fruit districts from the Atlantic to the Pacific are requested to contribute brief notes on fruit crop conditions and prospects.

L'ISLET COUNTY, QUE.

Village des Aulnaies.—Apple, plum, pear and cherry trees have not suffered. Fruit buds on apple and cherry trees are abundant and promising. The present indications of bloom on plum and pear trees are not so encouraging. Small fruits have come through the winter in good condition.—Auguste Dupuis.

KING'S COUNTY, N.S.

Kentville.—Fruit trees and bushes have come through in grand shape and present indications point to a large bloom and no winter killing. An early spring is looked for. It is too early to say anything about insect pests. We have no brown tail moth in this county, and spraying is universal. I think orchardists will be well rewarded this season.—M. G. DeWolfe.

Port Williams.—Fruit trees have come through the winter all right, and very few have been killed. A good supply of buds already, indicates a big crop of apples for 1908.—John Donaldson.

YORK COUNTY, N.B.

Fredericton.—The prospects for a good show of bloom on fruit trees are good. Bush fruits are coming through in good shape. There is very little evidence of damage by mice. Strawberry plants in exposed places

or poorly mulched will show much loss but were well mulched, they are looking very encouraging.—J. C. Gilman.

QUEEN'S COUNTY, P.E.I.

Long River.—Trees and bushes wintered well and now look fresh, but it is yet too early to say anything about the bloom. We look for a full crop this year.—John Johnston.

WENTWORTH COUNTY, ONT.

Winona.—Everything has come through in fine shape and only a few of the more tender varieties of peaches have been hurt. They are not damaged much and the amount of buds indicate a good crop. All kinds of plums and pears are in good shape, and a heavy crop is looked for.—J. W. Smith & Sons.

LINCOLN COUNTY, ONT.

Grimsby.—Fruit trees and vines are looking very promising.—A. H. Pettit.

OXFORD COUNTY, ONT.

Ingersol.—Fruit trees and bushes look very promising and should get no setback from now on. If sprayed carefully, big crops will be in order.—J. C. Harris.

ESSEX COUNTY, ONT.

Leamington.—All varieties of fruit promise a big crop. The only exception is in peaches. Those that are tender have many dead buds but enough are left to ensure a good crop. Most varieties promise a full crop.—J. L. Hilborn.

KENT COUNTY, ONT.

Chatham.—Peaches show plenty of bloom; also apples and pears. Strawberries and raspberries give full promise at present.—Milton Bachus.

BRUCE COUNTY, ONT.

Walkerton.—Strawberries wintered well. Raspberry canes are badly broken down by the snow, which will lessen the crop fully one-half. Plum, pear, apple and cherry trees have come through in splendid condition, but it is too early to say anything about the bloom or crop.—A. E. Sherrington.

### Giving Good Results

As evidence of the value of Cooper's Spray Fluids, advertised on another page of this issue, the following letters have been received recently by Mr. W. Staley Spark, who is introducing the fluids into Canada:

Mr. G. Bruner, Olinda, Ont., wrote:—"I am mailing you to-day, under separate cover, a specimen of apple wood, on which I sprayed the V1 Fluid, which you sent to me. I used it on April 9th, and have been looking at it a couple of times with other parties, and we are of the opinion that the San Jose scale is dying, or is dead."

E. P. Crowe, Windsor, N. S.—"I note that the fluid played havoc with the tent caterpillar nests on the trees I have gone over. This V1 is certainly a good thing in that particular, if nothing more."

S. Percival, Pender Island, B. C.—"I am pleased to say that I was able to use a little of the spray on a few backward trees and find it most effective in killing aphid eggs, and consequently it must have also easily killed spores of scab or black spot. I have cheerfully told my neighbors about the good results."

I have been much pleased with THE CANADIAN HORTICULTURIST, and received many valuable hints from it.—T. M. Gavanza.

**Mr. Vroom on Export Fruit**

**Eunice Watts, Waterville, N.S.**

At the Seed and Fruit Fair held in Berwick, N. S., Mr. G. H. Vroom, Dominion Fruit Inspector, told the audience how the apples were collected for the last Royal Horticultural Show in England, and explained in a satisfactory manner that the medals were not awarded because, as some people had said, the exhibitors were "government pets."

The gold medal from the Crystal Palace went to British Columbia. That was not surprising when we learn that the orchardists of that province begin to select the apples in the spring by thinning the fruit, and later by taking off any foliage which hinders the coloring of the apple. The fruit which was sent to the show in barrels was not so favorably received as that sent in boxes.

Nova Scotia sent to London the best collection of fruit that had ever left the province. The result was that it advertised the fruit and many letters were sent from England requesting boxes of apples for Christmas.

The speaker then discussed the subject of handling apples, and said that the majority of Nova Scotians had yet to learn how to handle fruit carefully. Scarce help, high wages and a short season is no excuse for handling apples roughly, for fresh apples bruise easily and later on every bruise will show. Apples should be handled like eggs; the practice of throwing them into baskets like stones across the sorting bench is too common and should be severely condemned. Apples should be cooled before being put in a cold cellar, and not allowed to stand in a sunny orchard.

Mr. Vroom said that it did not pay to

send No. 3 apples to England unless they are perfect Nonpariels or Golden Russets; all other No. 3's should be sent to the vinegar factory. He had heard on good authority that some dealers take off two shillings from the number ones and put the money on the number threes, so as to make a better looking bill of sale. All the world is looking to England for a market, and unless the Nova Scotians cease to send the culls to the Old Country their fruit industry will decline.

**Advice Regarding Spraying**

**A. McNeill, Chief, Fruit Division, Ottawa.**

The orchardist should not imagine that there is any great mystery or difficulty with reference to the making of the Bordeaux mixture, or the use of it after it is made. Almost any of the ordinary directions found in any of the spray calendars will give good results. The material should be freshly made, and should be kept agitated. My advice is to keep the growing tissue of leaf and fruit covered as nearly as may be with the thinnest possible coating of Bordeaux mixture during the growing season. Commence when the leaves have just fairly shown themselves, and spray the first time. The blossoms will soon be out, and then, of course, no spraying should be done until they are fairly well fallen. One should not wait, however, until the blossoms have all fallen before spraying again with the poisoned Bordeaux mixture, as this is the time when the codling moth will be caught. The third spraying should be made 10 or 15 days later, and, to get the best results, spray once more about two weeks later.

It is not necessary that the person doing

the spraying should know all the enemies which he has to combat in order to get 200 per cent. on his money, but the satisfaction of working intelligently, and the extra gain that will come will well repay anyone in making a thorough study of the insect and fungous pests that trouble the orchard. The life history of these pests will suggest the proper time at which any extra spraying may be necessary; but if every farmer should spray, even if he does not know the name of a single insect in the orchard, the operation will pay him well.

**Soluble Oil Spraying**

Editor, THE CANADIAN HORTICULTURIST: I was glad to see the editorial in the February issue in regard to soluble oil for spraying. The Connecticut growers have taken hold of this remedy and so far feel well satisfied.

I am not prepared to say whether it can be made as cheaply in Canada as in this state, but I am informed that many of the oil wells in Ontario are running to waste, and that crude petroleum may be secured at very low prices. Carbolic acid and rosin oil may be somewhat more expensive in Canada, but the other material should be lower in price. It would be well for the Ontario people to give this formula a trial. I shall be glad to furnish to your readers any information by correspondence that lies within my power.—C. D. Jarvis, Storrs, Conn.

I am greatly pleased with THE CANADIAN HORTICULTURIST, and have gained a great deal of useful information about flower growing from its pages.—Wm. Needham, Chatham, Ont.

**Hardy Herbaceous Plants for the Flower Borders**

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## Co-operation in California

D. Johnson, Forest, Ontario

ARRIVING in Southern California about the middle of January, I was delighted to find myself in a climate much like our September, with a temperature from 75 to 80, the air full of the perfume of flowers and songs of birds, and the groves loaded with fruit. One could not but wonder at the energy of the people in transforming the sage brush districts into the great plantations, in the course of 12 or 15 years. In California water is king. By the application of water to the desert wastes, and by co-operative methods of marketing, the planters have been able to make themselves rich.

Irrigating is a study in itself, so that I will not enter into it now, but in passing, would say that I believe it can and will be used with great success in Ontario, especially in the production of small fruit. Almost every year we find the berry growers longing and looking for rain during the ripening period that so often does not come with the result that the crop does not turn out half what it would have produced had there

\* The author of this article spent the past winter with fruit growers in California, Oregon and British Columbia, studying their systems of production and marketing. In subsequent issues of THE CANADIAN HORTICULTURIST we hope to publish other pointers gleaned from the lessons learned.

the coming season we expect to test it here with every hope of success.

The co-operative system of Southern California has had its ups and downs. During the first few years of its existence it had many staggering blows, but it has triumphed over them all and has resulted in making orange and lemon growing a most profitable industry, whereas, only a few years ago, it was one of the most unprofitable. The years 1892 and '93 were perhaps the most disastrous years on record when the small growers struggled individually, each competing one against the other. All shipping at random to the same markets, resulted in account sales in red ink being received in great numbers. In many cases growers not only furnished their entire crop for nothing but were often forced to pay freight charges which the gross sales of the fruit did not cover.

### METHODS OF FRUIT EXCHANGE

Various systems of marketing were tried with more or less success until finally the California Fruit Growers' Exchange (head office, Los Angeles), was organized for the purpose of marketing the fruit through one agency. In plain words, this Exchange is a huge commission firm appointed and controlled by the fruit growers themselves

and handles no fruit but that grown or bought by its members.

The first steps of organization is the forming of local associations which own their own packing houses and grade and pack their own fruit under their own brand. The manager of the local association is in constant touch by telephone with the head office, which gives orders when and where to ship the fruit.

The exchange system cuts out all middle men, employ their own salesmen on salary and allot certain districts to each man. Over these salesmen are two general agents with headquarters at Chicago and Omaha where they keep a full bureau of information, through which each local agent receives each day detailed information as to sales of exchange fruit in other markets the previous day. If any local agent finds that he cannot maintain the prices that are being made in other cities he wires the head office in Los Angeles, which immediately diverts shipments from that market until the trade is restored to normal again.

All this seems to be a great expense, but, when we take into consideration the enormous amount of business done, we find that the cost is about half of that charged by an ordinary commission firm. With an even distribution of the fruit, the markets are maintained and each place receives its proper proportion of fruit. The local associations pool their returns every two weeks and pay according to grade.

### CO-OPERATION MEANS MONEY

The results of the cooperative system in California is that fruit growing has been made a most profitable business. An orange orchard of 10 acres near Riverside was sold while I was there for \$30,000, or \$3,000 an acre. The crop this year would pay \$8,000 of that. A small grove of 1 1/4 acres netted \$2,920 last year, and another grove of 40 acres netted \$26,000. The secretary of an association near Los Angeles told me that last year the proprietor of a 12-acre strawberry patch received \$24,000 for his crop. This seems hard to believe, but, when we take into consideration their irrigating, fertilizing and marketing systems it is not surprising.

California, like Ontario, has found in its cooperative work much discouragement by growers shipping in and out of the associations, and playing between the exchanges and dealers in the hopes of making better returns for themselves, with the result that some of the local associations have given up, and dealers, taking advantage of this, pay the growers what they like.

If the California Fruit Growers' Exchange were to withdraw from the trade, the conditions which existed before its organization would prevail, and result in growers becoming discouraged, neglecting their groves, just as the majority of Ontario apple growers do now and declare that there is no money in fruit growing, which would be true if there was no marketing system.

At a meeting of the Toronto branch of the Ontario Vegetable Growers' Association held early in April. Dr. Jas. Fletcher, of Ottawa, gave a valuable talk on "Insect Pests on Vegetable Crops, and How to Combat Them."

An exceptionally well prepared booklet entitled, "The Potato Crop in Canada," has just been published by the Dominion Agricultural Offices of the Potash Syndicate, Temple Buildings, Toronto. To review all its good features would necessitate the publication of the entire article, it is so filled with valuable information. A copy may be had free by writing to the firm.

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**Bordeaux Injury**

R. J. Messenger, Bridgetown, N. S.

I have recently read a bulletin by Prof. U. P. Hedrick, of Geneva Experimental Station, on injury to foliage and apples by the Bordeaux mixture. While it would take even a greater authority than Prof. Hedrick to make me believe that Bordeaux is wholly responsible for russetting of apples, and rusting of foliage, still I shall contend that it does little harm to the foliage and, am certain that russetting of the apples, rather than being an injury, is rather a benefit, since a smooth-skinned apple, not too badly russetted, has generally a firmer and more crisp quality and keeps better. This is also the opposite of the professor's findings, since he makes the statement that apples russetted do not keep so well as those not affected. I shall not assume, however, the province of criticizing the results of his investigations, but shall confine myself to dealing with his recommendations regarding the strength of the Bordeaux to be used. His investigations provided to his satisfaction that for fungicidal purposes three pounds of bluestone, and three pounds of lime were as effective as four and four in the old formula, for forty gallons of water, and besides being more economical, was not as likely to cause Bordeaux injury.

I was never imbued with the idea that four pounds of bluestone was more than necessary for forty gallons of water, and I have taken considerable interest in watching results. Apples are not totally clear of spot even with thorough spraying with four pounds. However, we give the above, 3-3-40 strength for the careful consideration of orchardists.

**Manure Spreaders**

The large crops that are annually taken from the land used by vegetable growers, make it necessary to fertilize the soil in a thorough manner. Many of the growers living in the vicinity of large cities haul manure from the city and spread it over their land. Until recently this work was done with a fork. The great success that general farmers have had with manure spreaders, has led vegetable growers to experiment with them. They have proven a success, doing the work in a thorough and economic manner.

One of the best spreaders now in use by the vegetable growers is the "Success," which is manufactured by The Paris Plough Co., of Paris, Ont. This spreader is equipped with an adjustable spring pulverizing rack, which makes the manure fine or coarse, as desired. All the manure is thrown against the rack, and is thoroughly torn to shreds and pulverized. The tension spring allows sticks, stones and other hard substance to pass through, without injuring the machine in the slightest. The harpoon teeth effectually protect the ends of the beater. These teeth cut the long pieces of straw and grass and do not allow them to wind around the beater or choke it up which would cause it to run hard, as is the case with many of the other makes of spreaders.

Vegetable or fruit growers who are interested in the proper fertilizing of their lands should write to this company for their free illustrated catalogue, which will describe this spreader in detail.

Contributions on any horticultural subject are requested for publication.

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VAPORITE is the new marvelous English product—a non-poisonous powder. Just sprinkle it onto the soil and plow or dig in as directed before planting or sowing. It acts quickly—the insects are destroyed in a few days so that your ground is free and fertile.

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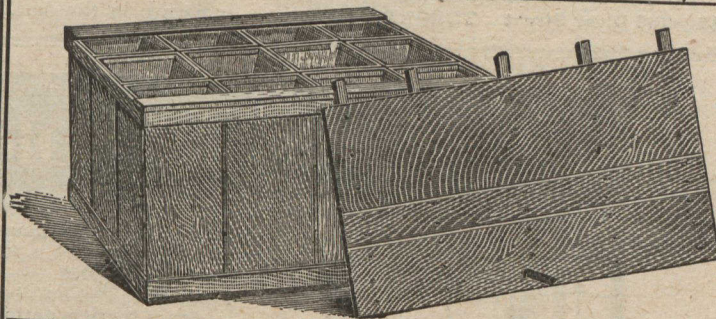
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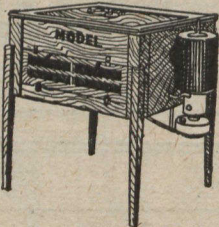
## POULTRY DEPT.

Conducted by S. Short, Ottawa

By now the hatching season has sufficiently advanced, that all hatching operations should be under way, or definitely arranged. While the suburbanite may hatch and rear late chickens successfully, it is a different proposition in the city, where grass runs are scarce, and the chicks have to be more or less confined, and artificially fed. At this season, too, there are many who have had under consideration serious ideas of embarking in poultry keeping. If a start is to be made, now is the most favorable time to begin. The first purchases to be made are the incubators. Then decide on the variety or breed of fowl, and order the eggs, or, better still, before buying, inspect the local stocks and see what terms may be got, and how the birds look,

### CHAS. A. CYPHERS' Model Incubators and Brooders

On my Model Poultry Farm I now have poultry numbering **80,000** hatched and brooded in my famous Model Incubators and Brooders. Buying your incubators and brooders of a man who knows nothing (or next to nothing) about hatching and raising poultry is running a useless risk. Don't do it.



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being careful to note that not more than ten to twelve females are mated to one male in the heavier breeds, such as the Rocks, Wyandottes, Orpingtons and Brahmas, and not more than fifteen to eighteen of the light breeds, such as Leghorns, Minorcas, and others of that kind. Note also the sprightliness of the fowl, and general healthiness, for healthy parents beget healthy progeny, and likewise sickly dumpy fowl transmit their weakness to their offspring, should any of the eggs from such fowl hatch.

A small room, free from draughts, will do for the incubating chamber, and the brooders may be put out doors, in most localities, at this season. While the chicks are growing the winter buildings may be erected, if that has not already been done.

A fault with many beginners, is that if they are not successful the first season, the breed of fowls kept is blamed, when usually the fault is the breeder's own. Sometimes the start is made so late in the season that the laying stock has not had time to mature to give laying results the following winter. Of course it is discouraging not to get eggs, but not a good reason for discouraging the breed of fowl, and adopting another, simply because a neighbor had good results from another breed. At least two seasons is needed to determine if a breed or strain of fowls kept are poor layers. Hatch early the second season, and give the birds the same treatment as to food and care as some other breeder who is making a success of poultry. It takes several years' experience for the best to make good. If at all convenient, join a poultry association or club, where discussions on seasonable topics are carried on during the winter, and where many valuable ideas may be picked up, and also subscribe to a good poultry magazine. In any event, if the beginner has had no previous experience in poultry keeping, start with a small number of birds and expand and increase as experience may warrant.

### Management of Soils

At a meeting of the Niagara Peninsula Fruit Growers' Association, held in Grimsby, Mr. Farnsworth dealt with the management of soils. "Quantity and quality of fruits depends largely on an abundance of moisture in the soil," said Mr. Farnsworth.

The various forms of moisture in the soil and the conditions that control its conservation were mentioned. To receive large quantities of moisture in the form of rains and snow, the soil should be made open and porous. It must be drained well to get rid of surface and surplus moisture. This should be done because plants require warmth and air as well as moisture; an excess of moisture excludes warmth and air. Moisture has two main purposes in the soil as it effects plant growth; namely, it acts as a carrier of plant food and aids in breaking down unavailable plant materials.

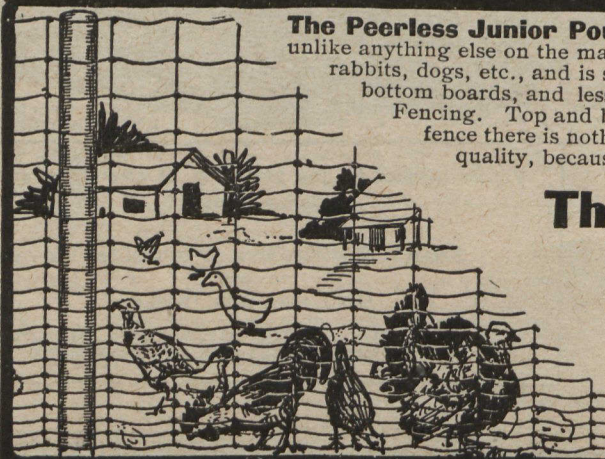
Plowing is a more important operation in soil management than most farmers think. Moisture exists in one form as a film around soil particles. Plowing breaks up the large particles and increases the surfaces that are exposed for attracting moisture. The soil should be deeply plowed if cold subsoil is not too near the surface.

A potent factor in holding moisture in the soil is vegetable matter or humus. For this reason, plenty of vegetable matter should be plowed in in the form of green crops. Cover crops should be grown in orchards. They should be plowed under as early in spring as possible, to prevent loss of moisture through transpiration and assimilation by the crop should it start to grow. On gravelly and sandy soils, vegetable matter will fill the open spaces that occur between the particles in such soils; on heavy soils, it improves the texture by making them more open.

Mr. Farnsworth said also that good tillage plays an important part in controlling moisture. Rolling should be practiced to compact the soil so that water will rise easily by capillary attraction. A light harrow attached behind the roller will produce a shallow surface mulch to prevent the escape of moisture to the air. Tillage also prevents loss of moisture through appropriation and transpiration by weeds. Tillage should be thorough and incessant.

In a discussion on this article, Mr. Farnsworth said that hairy vetch is the best cover crop. It costs about eight cents a pound and about 20 pounds should be sown to the acre. Mr. W. T. Macoun suggested the use of summer vetch instead as it kills down in winter and the grower thereby is not tempted to leave it too late in spring before plowing under. It costs about \$1.50 a bushel and about three-quarters of a bushel should be sown to the acre.

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**Ontario Fruit Growers**

Continued from page 109

In 1878, the society started the publishing of THE CANADIAN HORTICULTURIST which was edited by the late D. W. Beadle until 1886 when it, with the office of secretary and treasurer, was passed into the hands of Mr. Woolverton, Grimsby. In this year we assisted in making the great exhibit of Canadian fruits at the Colonial Exhibition in London, in which we did so much to establish our markets in England and to attract the attention of the Old World to Canadian fruits and the Canadian climate. In 1893, at the Columbian World's Fair in Chicago, we showed the world that Ontario was not behind any part of America in the production of fruit. She had the largest exhibit (the season through), scored largest number of points, and rated highest in quality of any exhibit on the grounds. Again at the Pan American in Buffalo in 1900, we maintained our position as second to none in producing all kinds of fruit grown in the temperate zone.

The advancement of fruit growing has not been the sole aim of the association, but the advance of horticulture in all its branches, particularly the improvement of home surroundings, both in towns and country. To this end ornamental trees, shrubs, and plants were sent out to members. As agent of the association, Mr. Thomas Beal, of Lindsay, one of its old and energetic workers, organized numerous horticultural societies throughout the province which became affiliated with the association. These have been the means of changing the aspect of many of our towns and villages and of creating a taste for the beautiful which was unknown before. Great changes have taken place in the sur-

rounding of Farmers' homes, especially those of fruit growers.

Another great work the association has been instrumental in accomplishing is the establishing of experimental stations for testing fruits. Thousands of dollars have been wasted yearly in the past by farmers and others in planting fruits that were unfit for market or not adapted to the locality where they were planted. Early settlers and planters had no knowledge of varieties and depended largely on the advice of nurserymen and tree agents and took any variety that the latter recommended. The consequence was that the country was flooded with varieties that were useless.

Canada at one time was the dumping ground of nurseries in the United States, and besides this, unprincipled dealers would buy the surplus stock of our Canadian nurseries, often relabelling it, and selling to farmers under wrong varietal names. Furthermore, settlers were moving farther north, locating in colder sections, and wanted to plant fruit. They thought that the varieties they had grown at the old home, would do equally well there. Many trees were planted that proved too tender for the climate. Scores of new varieties were introduced by nurserymen and dealers as something more valuable than those then grown and sold at extravagant prices to growers in all parts of the province who wanted to get the best. When the trees came into bearing the majority of them proved not as good as the old tried sorts.

Knowing these things, the association began early to advocate the establishing of a station where varieties could be tested before being recommended or sent out. There was scarcely a meeting but that this subject was discussed. Its importance was frequently urged upon the government, but

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- Irene**—A fine shade of pink freely flaked bright crimson. 20c each
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- Melrose**—White flaked pink, bright crimson centre. 30c each
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- Sulphur King**—Beautiful clean sulphur yellow. 40c each
- Variabilis**—The largest spike of any Gladiolus, flowers range in color from dull deep pink flaked blue black, to a solid blue black flaked pink; throat mottled white. 15c each

**Wm. Falconer**—Spike of great length and flowers of enormous size; beautiful clear light pink. 10c each  
 1 each of above fine collection, 14 for \$2.35  
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**MIXED GLADIOLUS**

- Bruce's Superb Mixed**—This splendid mixture is made up by ourselves and includes Groff's magnificent hybrids, Childsi, Lemoinei and Grandavensis, 10c each, 10 for 85c, 25 for \$1.75
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  - Childsi Mixed**—A very superior mixture. 10 for 60c, 25 for \$1.25, \$4.00 per 100
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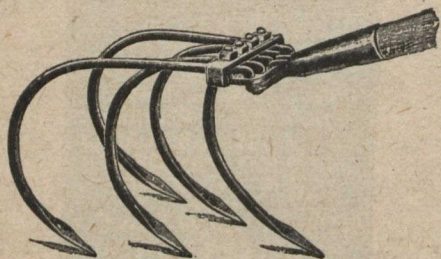
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One man with a "Bugo" is worth two with a hoe. Tines can be adjusted to width as required. Handle  $4\frac{1}{2}$  feet long. It gets DOWN DEEP, loosens the soil thoroughly and cleans all the weeds out BY ROOT. Makes a clean healthy garden and saves a lot of work. Great around shrubs and trees.

Sold by hardware and seedsmen. If your dealer cannot supply you, we will send on receipt of price, \$1.50 each. Return after trial at our expense and money refunded if not satisfactory.

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FROM BEST SEEDS

QUEEN OF THE MARKET—White, Early  
" " " " —Pink "

LAVENDER GEM—Early  
ROYAL PURPLE—Medium Late  
VIOLET KING — " "

VICK'S BRANCHING—White, Medium Early  
" " " " —White and Pink, Late

15 Cents per dozen—40 Cents per hundred, postpaid

For prices on larger quantities please write.

Packed to go anywhere by mail.

May be planted with good results until 15th June

Orders received now and will be

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Please send Postal Note with order.

**JOHN CAVERS - Oakville, Ont.**

those who have spent their time and money in this work, but their works will be a more enduring tribute to their memory. Many of them have passed away and I rejoice to see that the association has appointed a historical committee who, in the annual report of 1906, began to give biographies of some of these men. Many of the old members have retired from active work. They would be entitled to a pension had they done as much for the country in any other capacity. Others are still active and a new generation of workers are coming on to enjoy the fruits of our labor. May they be faithful in continuing the advancement of the fruit interests of Canada and in maintaining the reputation that we have established.

### The Apple Industry

In the report of Mr. J. A. Ruddick, Commissioner of Dairying and Cold Storage, under whose jurisdiction is the fruit division appears an excellent treatise on "The Apple Industry of Canada," by Mr. A. McNeill, chief of the Fruit Division. It is an exceedingly well prepared article, and should be in the hands of all persons interested in growing and handling apples.

The article gives advice respecting the planting of large vs. small orchards. It discusses orchard management, including drainage, fertilizing, pruning, spraying, cover crops, and so forth. The profits in growing apples are dealt with at some length, under the following headings: Prices, gross receipts, methods of selling, lump buying, picking and packing, cost of harvesting and storing, co-operation and so forth. The varieties grown in our apple districts and those recommended for planting are well described, and commented upon.

TRY THE **SUPERIOR** STENCIL FOR BRANDS AND **MFG. CO.** RUBBER STAMPS  
WE MAKE ALL KINDS FOR ALL PURPOSES  
124 YONGE ST. TORONTO.

### Fruit in England

Editor, THE CANADIAN HORTICULTURIST: We have handled about 16,000 barrels of apples from Ontario and Nova Scotia, so far this season, which is a fair quantity considering we have been only two years in this particular branch of the business. The bulk of the apples now arriving with the exception of Nonpareils and Russets are showing a sign of waste, although the Ontario apples in the majority of cases have been reaching us in good condition. This especially applies to the Georgian Bay district.

The Ontario apples have been considerably in advance of the Nova Scotians this season both in quality and grading, a large proportion of the latter being very poor. The Nova Scotian shipments again have sent a big quantity of No. 3 apples, which can hardly ever pay to ship and in a year of poor prices, such as this has been, can have hardly realized freight. We understand, however, that these apples will in future be consigned to the evaporators, which will be better for everyone concerned.

March 28th saw the first arrival of the season of Australian apples. This consignment consisted of 7,000 cases all in fair condition and will be followed at frequent intervals by large arrivals of both Australian and Tasmanian fruit. It is estimated that Tasmania will export 500,000 cases to the United Kingdom and the continent and that South Australia and Victoria will send 160,000 cases.

The Victorian crop this season has been more or less a failure, or these quantities would have been considerably augmented. As it is, South Australia will probably contribute about five-sixths of the total crop. The last consignment is due in London on June 10, by which time we shall probably be in the full working of our English fruit.

South Africa has played an important part this season in the fruit trade of Great Britain. Cape Colony has exported, roughly speaking, about 200,000 cases of various fruits, black and white grapes, peaches, pears and plums have been arriving in rich profusion. The condition on arrival has been uniformly good and, with the exception of the grapes, which are small and not particularly good eating, the fruit has made itself extremely popular in England. This colony is now sending large quantities of pineapples. These are small and rather insignificant in appearance, but they are of exceptionally fine flavor and should have a future once the general public has ceased to judge the fruit from its outside appearance.

Early in the month, the Cape Government held an exhibition in London with the idea of popularizing their produce in England. It may interest you to know that we were awarded the gold medal for the best show of fruit in the exhibition.

In conclusion we must inform you that our advertisement in THE CANADIAN HORTICULTURIST has been of value to us, proving that your journal is circulated in the right quarters. We consider it a highly interesting, chatty and newsy paper. We will take space again next season, commencing with the August issue.—W. Ravenhill, of T. J. Poupart, Covent Garden Market, London, W.C., England.

The Ottawa Horticultural Society this year is making a great spurt to secure new members. It has already over 700 members. The Hamilton Society also is making rapid progress, having added 100 new members so far this year.

# BATTS, LIMITED

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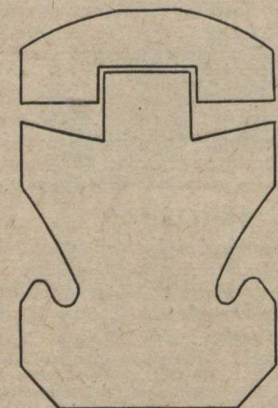
## Cypress Building Material

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LONG DISTANCE CONNECTION

Mention the Canadian Horticulturist when writing.

**Cooper's Spray Fluids**

The V<sub>1</sub> and V<sub>2</sub> Fluids, produced by Messrs. William Cooper & Nephews, 506-7 Manning Chambers, Toronto, are being well tested throughout the Dominion. The following are a few of the many gentlemen that are giving it a trial: J. W. Smith, Winona, Ont.; W. H. Bunting, St. Catharines, Ont.; Robert Thompson, St. Catharines, Ont.; H. S. Peart, Jordan Harbor, Ont.; Jos. Tweddle, Fruitland, Ont.; M. G. Bruner, Olinda, Ont.; J. L. Hillborn, Leamington, Ont.; Isaac Usher, Queenston, Ont.; W. L. Smith, Whitby, Ont.; A. McKenny, Essex, Ont.; R. J. Messenger, Bridgetown, N. S.; A. Lawrie, Forest, Ont.; Wm Rickard, Newcastle, Ont.; D. C. McMorris, Nelson, B. C.; W. H. Hayward, Duncans, B. C.; T. A. Brydon, Victoria, B. C.

These are names of men well qualified to make fair trials and let the true results be known. Mr. W. Staley Spark, Messrs. Cooper & Nephews' manager, has left nothing to be desired in the fair way in which he has placed these goods on the market, by giving prominent fruit growers and the fruit growers' associations free samples, and he has not, and does not intend to push the sale of these fluids till the fruit growers themselves are perfectly satisfied that it is an improvement on any spray mixture yet known. This is a fair and honest way of doing business, and we hope that Messrs. Wm. Cooper & Nephews will reap a rich reward. Anyone desiring a booklet describing these fluids and the spraying of fruit trees, can have one free for the asking by writing to William Cooper & Nephews, 506-7 Manning Chambers, Toronto, and mentioning THE CANADIAN HORTICULTURIST.

**Apple Shippers**

A meeting of the Ontario Apple Shippers' Association was held in Colborne in March. The following resolutions were carried unanimously:

- 1.—That the standard weight of a barrel of apples be reduced to 155 pounds.
- 2.—That the classification of apples be changed from Class No. 5 to Class No. 6.
- 3.—That the Government be asked to amend the Fruit Marks Act by making no definition of a No. 2 apple, leaving it as it was before the amendment of 1906, and that inspection be made at point of shipment.

One question of considerable importance was dealt with very fully, the right of the shipper to order cars, and afterwards route them in any way he thought was in his own interest. One gentleman present made the statement that under the rules of the Railway Commission, every shipper had a right to do so, and if the railways refused to ship according to his instructions, they were liable to a penalty of \$1,000 a car.

Send photographs for publication in THE CANADIAN HORTICULTURIST.

It is well known that seeds should be sown evenly, that the distribution should be uniform. A device that will do this effectively and economically, is the Cahoon Hand Broadcast Seed Sower. Write for information, prices and description, to the Goodell Company, Antrim, N. H., mentioning this paper.

"I must congratulate you on the marked improvement in THE CANADIAN HORTICULTURIST. It is certainly worth reading, and up to date.—R. L. Canning, Earls court.

**The Never-Bark Whiffle-Tree**

The most successful Whiffle-Tree ever devised, overcoming the danger of barking or damaging trees, shrubs, vines, etc.

Light and handy; simple of construction; the most careless driver may now be trusted in your orchard with impunity

Indispensable in all up-to-date orchards, vineyards, hop-yards, cornfields, nurseries, etc.

Agents wanted everywhere Made in 24-inch size and will suit any size tree

For further particulars, prices, etc., apply

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or

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☞ We have a large stock of all sizes and varieties for spring trade.

☞ Try our pots for growing early tomato plants, etc.

☞ Write for Price List and Catalogue.

**The FOSTER POTTERY CO., Limited**  
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**OUR SPRING '08 SHIPMENT**

OF TREES, SHRUBS, ROSES AND SMALL  
FRUITS IS THE LARGEST

in the history of our business. Our steadily increasing trade proves the growing popularity and demand for STOCK OF THE HIGHEST GRADE. We aim to grow but one class, THE BEST. Our products are the results of long experience and careful supervision.

**DO YOU INTEND PLANTING NEXT FALL?**

If so, you had better place your order at once, in view of the anticipated heavy demand for all kinds of Trees, Shrubs and Berry Plants.

CATALOGUE ON REQUEST

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Mention the Canadian Horticulturist when writing.

## FOR SALE AND WANT ADVERTISEMENTS

Advertisements under this heading inserted at rate of two cents a word for each insertion, each figure, sign or single letter to count as one word, minimum cost, 25 cents, strictly cash in advance.

**GARDENER, GOOD REFERENCES.**—Life experience in all branches, English, age 40, seeks situation with gentleman. Apply Box W, Canadian Horticulturist, Peterboro.

**MR. CHARLES ERNEST WOOLVERTON,** Grimsby, Ontario, landscape architect, parks, cemeteries, pleasure, school and home grounds laid out, surveys made. Working drawings to a scale so that any gardener can work them out. Terms very reasonable.

**A MILLION STRAWBERRY PLANTS** for sale, not bought from dealers, but grown on my own farm last year. Fifty-five varieties. New Highland, Three W's, Victor, Wonder, Thompson's No. 2, President, Morningstar, Abington, Almo, Governor Rollins, and others, and all the leading old varieties. If you want plants this year that will please you when they arrive, and please you better still when they fruit, order Downham's. They have pleased others and will please you. It will pay you to get my free catalogue before you buy, ready to mail now. Raspberry and Blackberry plants, and Seed Potatoes. John Downham, Strathroy, Ont.

**FRUIT GROWERS!** Drain your land and double your income. This may seem exaggerated but it's a fact. Use Doyle's tile. Estimates given. R. J. Doyle, Owen Sound.

**SEND YOUR ADDRESS** for list of strawberry plants, also red and black raspberry plants and seed potatoes. R. C. Chrysler, St. George, Ont.

**FOR SALE**—Six No. 8 Gurney Hot Water Boilers in good condition, suitable for private house or greenhouse work. Apply Stevenson & Malcolm Co., Guelph, Ont.

**GREENHOUSE FOR SALE**—Length, 42 ft.; width, 18 ft.; hinged double glass windows on each side, 5 top ventilators with floor stand and gear, equipped with a No. 3 Daisy boiler, and 6 run of 4-inch pipe on each side. Apply Box G, Canadian Horticulturist.

## Root Maggots

Editor, THE CANADIAN HORTICULTURIST—In the April number of THE CANADIAN HORTICULTURIST, Dr. Fletcher, in an article on root maggots, stated that there is no practical remedy known for this pest. I have been fighting it for the last 10 years or more, and have found two remedies, which I will give for the benefit of your many readers.

About seven years ago I read an article by Miss Ormerod of England, in which it was said that deep planting of onions was a cure for maggots. As I planted quite a lot of multipliers, I tried different depths, and found that deep-planted ones were worse than those on the surface. This gave me the idea of planting on ridges.

The following two years I ridged all my ground, and put the sets on top. At the first hoeing, I pulled the soil away from the bulb, and never saw the sign of a maggot. The next year I planted in the level again, and fully two-thirds were attacked by maggots. I pulled the soil away from them, clean to the roots and, as soon as the bulb got good and dry, the maggots disappeared from the onion patch, only to attack my cabbages and cauliflowers. They attacked these even more vigorously, sometimes making a clean sweep of the rows, and I thought that I would have to quit early growing.

I tried everything that I could hear of, until one of my neighbors told me that he knew of an old man who always put a match in with the plants when he put them in the ground. As I could not procure any

of the old time sulphur matches, I made up my mind to try the sulphur alone, and was rewarded for my trouble by not a single cabbage or cauliflower, around which sulphur was placed, being attacked. Put the sulphur close to the stem. One teaspoonful is enough for one hundred plants.—Edward Lane, Galt, Ont.

## King Edward Strawberry

Editor, THE CANADIAN HORTICULTURIST—In an article in THE CANADIAN HORTICULTURIST, Mr. Stevenson of Guelph, said that he got King Edward strawberry from a Mr. Miller of Ohio, who claims to be the originator. If Mr. Stevenson had taken second thought, he would have seen that an American citizen would not give the name of King Edward to anything that is good.

This variety was originated in Galt, and I gave it the name of King Edward, shortly after the King was crowned. It deserves all that Mr. Stevenson says about it, and a little more. I consider it an ideal one to use for pollinating imperfect-flowered varieties. It is ahead of the Williams, which originated near Brantford.—Edward Lane, Galt, Ont.

Send photographs for publication in THE CANADIAN HORTICULTURIST.

The following letter is an indication of the general interest that is being taken in the new spray fluids: "W. S. Spark, Manager, Messrs. Wm. Cooper & Nephews, Manning Chambers, Toronto.—We find that we shall want more V<sub>2</sub> Fluid than you have ordered for us, so that, in addition to the 300 gallons, which we presume is now en route, we would ask you to cable your people to ship us immediately, via C.P.R., 400 one-gallon drums, and 20 five-gallon drums, and have it rushed through by wire tracer as quickly as possible.—(Signed), E. G. Prior & Co., Ltd., Victoria, B.C."

## Northern Grown Trees

Apple, Pear, Plum, Cherry, Peach, Grapes, Small Fruits, Deciduous and Evergreen Ornamentals, Roses, Flowering Shrubs, Climbers, etc. Specialties: Mammoth Dewberry and Wismer's Dessert Apple. Catalogue Free; it tells the whole story.

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## "I'm Going To Town, What Can I Do For You?"

How often have you watched the road for some of the neighbors going by, that they might save you a trip to town!

How often you have lost half a day or a day doing an errand in town, when you could ill-afford to spare the time!

How often have you planned planting, harvesting, marketing, etc., only to find, when you drive round to your friends, that they can't come at just that time!

## CANADIAN INDEPENDENT TELEPHONES

save these delays and disappointments. With an Independent Telephone System connecting your home with the neighbors—you can save yourself no end of unnecessary walking and driving—and keep in close touch with friends in case of accidents and emergencies.

You need a telephone. You need its assistance, its convenience, its time and money saving possibilities.

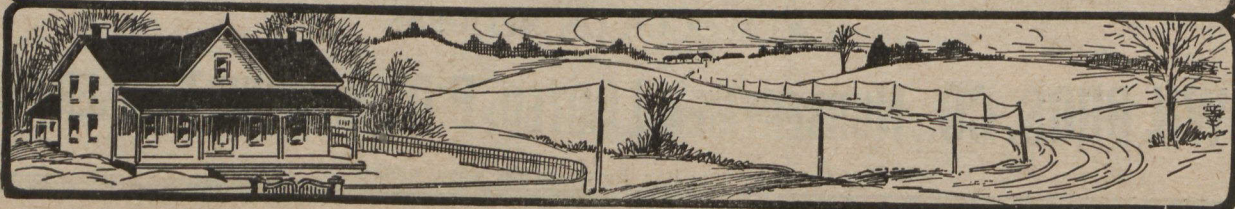
Write for booklets. Talk them over with the neighbors. Work up their enthusiasm for a neighborhood telephone system, which you will all own and operate independently of the trust. Write for information, and if interested, ask for our Rural Bulletin.

## Canadian Independent Telephone Co.

LIMITED

26 Duncan Street, Toronto, Ont.

15



## Horticultural Development in Ontario\*

Prof. H. L. Hutt, Ontario Agricultural College, Guelph

THE wonderful progress that has been made in the various branches of horticulture in Ontario during the past decade, is something that very few fully realize. I wish to call attention to a few points in this connection, for it is by considering the progress in the past that we come to an understanding of our present position, and are able to form some idea of the outlook for the future.

Horticultural development in Ontario has been characterized of late years by specialization,

years ago, we have a number of local organizations in the large fruit centres. Then we have another provincial organization, the Cooperative Fruit Growers of Ontario, and about 40 local cooperative associations, actively engaged in the handling and marketing of the fruit crop, or in all, about 50 organizations under the head of fruit growing. Then we have the Ontario Vegetable Growers' Association, another provincial organization, and about 25 local vegetable growers' associations, organized within the past two or three years.

In floriculture, we have what is called the Canadian Horticultural Association, an association made up largely of the commercial florists of Ontario, who also have local organizations in some of the largest centres of the trade, as they have in Toronto. These associations are made up of those more or less commercially engaged in one or more of the branches of horticulture. Then there are the amateur horticulturists with their provincial organization, the Ontario Horticultural Association and 66 local horticultural societies in various parts of the province. In all about 150 purely horticultural organizations.

There is not another province in the Dominion nor a state in the Union that can compare with us for completeness of organization. Does not all of this indicate that our people are becoming alive to their best interests and are uniting so that by mutual cooperation they may make still more progress in the future? I firmly believe that because of such organization and cooperation the progress of the next 10 years will be many times that of the past 10.

I regret that as yet we have not full or reliable statistics as to the status of these varied industries. Both the Provincial and Federal Governments are considering the problem of getting such statistics, and I trust that before long these

### Received Many Orders

Our advertisement of hose coupling in THE CANADIAN HORTICULTURIST has netted us enough returns to keep us busy for the next two months. For that reason, we cannot see our way clear to enlarge our advertising at present, or to go gunning for other orders.--(Signed) The Time-Saving Coupler, Limited, 166 Bay street, Toronto.

organization, and cooperation. No doubt the rapid progress of late has been brought about largely by specialization and cooperation, and the results already attained certainly argue well for the future. As an indication of the recent progress let me call your attention to the numerous and varied horticultural organizations we now have in Ontario, most of which have been organized within the past 10 or 12 years.

In fruit growing, besides our Provincial Fruit Growers' Association, which was about the only horticultural organization heard of 10 or 12

\* A paper read at the last Convention of the Ontario Fruit Growers' Association.



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The UNDERWOOD has a larger sale in America than any other typewriter. In Canada it is more generally used than all other makes combined.

It is the original visible-writer, after which a score of imitations have been patterned. The attainment of this visibility of the work, necessitated a radical change in typewriter design and construction. All the earlier types of writing machines were built upside-down with the writing out of sight.

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figures will be available. The fruit statistics presented by Mr. A. W. Peart at the last Dominion Fruit Conference, gave us a little idea of the value of the fruit industry of the province. The capital value of the fruit industry is estimated at over \$55,000,000, and the annual value of the fruit trade is put at about \$3,000,000. This is merely the fruit growing end of it, to say nothing of the many allied industries.

#### THE CANNING INDUSTRY

The canning industry affords a good illustration of the development and progress of some of the allied industries. Fifteen years ago there were only six canning factories in Ontario, now there are 66, and the number is increasing every year. These factories employ about 7,000 hands and pay out for produce about \$800,000 a year. The establishment of so many canning factories within the last few years is a most hopeful sign of the progress of the times. They afford ready means of disposing of a large part of the crop, whereby it can be distributed to all parts of the country and made use of at all seasons of the year. Regarding the vegetable growing industry, we can get as yet no very reliable

statistics; but I think I am safe in saying that one phase of the industry, that of forcing crops under glass, has doubled many times over during the last five years.

#### COMMERCIAL FLORICULTURE

Commercial floriculture is another branch of horticulture that has made wonderful strides within the last few years. It has been estimated

decorative plants. The ever-increasing number of enthusiastic amateurs in both town and country, interested in all branches of horticulture, are giving more attention to town and country gardens, or civic and rural improvement. For all, in each line of work, the outlook never was more promising.

There are, no doubt, a few dark clouds in the sky. The San Jose scale has come in and appears to be going to stay. But this only means that the men who do not spray will have to go out of the business, and the wideawake, aggressive and progressive growers who wage war on this and all other such pests, are going to grow more and better fruit.

The failure of the railroads in providing adequate facilities for handling the fruit crop is a matter that was well shown up by a few of our leading fruit growers before the Railway Commission in Toronto recently. Such things will be remedied, and the sooner the better for all concerned. There will always be battles to fight, but such fighting keeps us keen and on the alert.

#### HORTICULTURAL EDUCATION

When, 15 years ago, I was appointed horticulturist at the Ontario Agricultural College, I was the first in the Dominion to outline and teach a regular course in horticulture. For years, or until the School of Horticulture was opened in Nova Scotia, ours was the only institution in Canada giving instruction in horticulture.

At that time fruit-growing, because of the commercial importance it had attained, naturally overshadowed the other branches of the subject, and vegetable gardening, floriculture, and landscape gardening were looked upon more as side issues, and were treated on our college curriculum more from the standpoint of the amateur. But such is not the case to-day. These one-time minor features in the horticulture of the province have made such wonderful advancement during the past few years that none of them care to take second place even to fruit growing.

The development and specialization in horticulture and the commercial interests concerned, are opening up extensive spheres for our young men, and the demand on our educational facilities increases in proportion. The introduction of agriculture and horticulture in our high schools; the development of our fruit experiment stations; the extension of our cooperative work, in which there are already over 6,000 experimenters engaged; the establishment of our new Horticultural Experiment Station in the Niagara district; with the improvement of the facilities in our own college which we are looking for, as well as the kindly cooperation of the experimental farm at Ottawa and the new colleges in the other provinces, should afford to the rising generation inspiration and equipment for the work in which they are to engage. The horticulturist of the next 10 years, whether fruit grower, vegetable grower or florist, is going to have an immense advantage over his predecessors of the past decade.

Enclosed find my subscription to THE CANADIAN HORTICULTURIST. This is just the magazine I have been looking for. It seems rather odd that it had not come to my notice before. I thought surely Canada must have at least one horticultural publication. Charles H. Heidt, Kootenay Co., B.C.

The Ontario Department of Agriculture has received the following names and addresses of firms in Great Britain making enquiries as to Canadian cider:—Scorza & Oliveiri 80-81 New Street, Birmingham, Eng.; H. Weston, Much Marcle, Dymock, Glos., Eng.; Jno. Kimberly Tipton, Birmingham, Eng.; Henry Kenway Limited, 97-100 Moore St., Birmingham, Eng.; Hardman Sons & Thompson, Ltd., Tenbury, Worcestershire, Eng.; and The Armagh Cider Co., Portadown, Ireland.

### NOTE CHANGE OF ADDRESS

Exchanges, Agricultural Experiment Stations, Agricultural Colleges, Boards of Agriculture and Horticulture, and so forth, are requested to change the address of The Canadian Horticulturist on their mailing lists, from Toronto to Peterboro Ontario.

that this trade has increased 400 per cent. during the past 10 years, and now amounts to about \$2,000,000 per year.

I need not say more along this line. I refer to it merely to show how horticultural work is specializing and developing. Fruit growers are specializing in the culture of certain classes of fruits. Vegetable gardeners are specializing in field and forcing-house crops. Florists are specializing in the production of cut flowers and

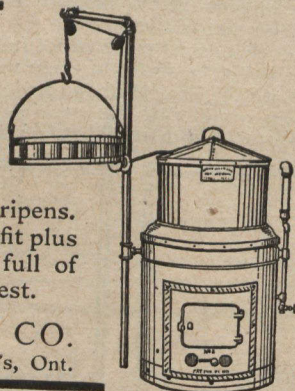


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Save all you lose by windfalls, early ripenings and overloaded markets. Get a Modern Canner. Can the fruit as it ripens. Secure two profits—your former market profit plus the canner's. Free BOOKLET crammed full of money-making suggestions mailed on request.

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PAY AFTER IT HAS PAID FOR ITSELF

Spray first, then if you buy—pay us out of the extra profit. Sprays Everything, Potatoes and Truck 4 and 6 rows at a time.—Also first-class Orchard Sprayers. Man-power and horse-power. High pressure and perfect agitation. Vapor spray stops Blight, Scab, Rot and Bugs. Doubles your crop. Built strong and durable—Brass Ball Valves, plunger, cylinder, strainer, etc. Guaranteed for 5 Years. Wholesale price (where no agent). We pay freight. Cut out the picture of the sprayer you prefer and send it to us at once with your address and get our Valuable Spraying Guide, catalogue of all kinds of sprayers, and our special FREE SPRAYER offer to first in each locality.—Be First to Write Us.

H. L. HURST MFG. CO.  
113 North St. Canton, O.



Canadian Branch: WATERLOO, ONT. Address all enquiries to Main Office; CANTON, OHIO  
Mention the Canadian Horticulturist when writing.



**A Change Needed**

Editor, THE CANADIAN HORTICULTURIST: I see a number of opinions about the establishment of a fumigation station at Revelstoke, B.C., in your Publication. Most of these I heartily agree with. It certainly is a handicap on eastern stock that consignments for the Okanagan and Kootenay Lakes have to pass right by, go to Vancouver for fumigation, and then come back over a congested railway line to their destination, plus a lot of extra freight for the buyer to pay. These districts will be large buyers of nursery stock for many years, and at present many serious losses are occurring because of the very long time goods are in transit.

A fumigation station at Revelstoke would serve Kootenay Lake for goods coming either from the east or from the United States, via the Pacific coast. It would also serve the Okanagan

**Has Brought Returns**

It was with peculiar regret and pleasure that we received the following letter recently: "I will not need to advertise any further in THE CANADIAN HORTICULTURIST this year, unless it be to stop the flow of orders. I am entirely over-run with business.—W. G. Vanderburg, Poplar Hill, Ont."

Lake for stock coming westward; that coming eastward from the U.S. could, of course, be fumigated more conveniently at Vancouver. It is to be hoped that the Government will take steps to make the importation of fruit trees a somewhat less risky matter for the fruit farmers of these two great valleys.

Mr. Henry, in an article entitled "Inspection at the Coast," seems to want no difficulties of importation removed. Broadmindedness is needed. No one locality, much less no one nurseryman, can supply stock for the vast and varied requirements of British Columbia. Make it easy for the planter to secure stock that suits his particular climatic conditions. A fumigation station at Revelstoke would help.—Okanagan.

**High-Grade Spray Pumps.** — One of the 40 sizes and styles of spraying outfits manufactured by the E. C. Brown Co., the Auto-Spray No. 1, hand power, with a capacity of four gallons, is so efficient and convenient that there are about 250,000 of this one style in use. A further evidence of the superiority of Brown's sprayers is the

**Windsor  
Table  
Salt**

—sparkling in its  
whiteness—looks  
as pure as it  
tastes.  
Fine and  
pure.

The  
Windsor  
savour is  
peculiarly  
delicate and  
lasting.

Ask your grocer  
for it.

fact that practically all the government and state experiment stations endorse them. This manufacturer deals direct from factory to consumer, too, guaranteeing complete satisfaction, and the guaranty of this company means what it says. Therefore any of our readers who are in need of a sprayer, no matter how small or how large, or for what kind of work, will find a double value in the catalogue issued by the firm; they will not only find a sprayer to suit, but a splendid spraying calendar by which to direct their work. A postal card addressed to the E. C. Brown Co., Jay street, Rochester, N. Y., requesting this book, is all that is necessary.

**Facts about Canada.**—The 1908 edition is out of that most useful and valuable booklet, "5,000 Facts about Canada," compiled by Frank Yeigh, of Toronto, who is widely known throughout the Dominion, as an authority on things Canadian. Nearly 25,000 copies were sold of the 1907 edition. The wealth of material contained in small space is a revelation to even a well-informed Canadian of the standing and resources of the country. The book is published at 25 cents a copy by The Canadian Facts Publishing Company, 667 Spadina avenue, Toronto, Canada, or may be had from newsdealers.

Fruit growers who have been annoyed at the great damage done by whiffle-trees in their orchards will be pleased to know that there is a whiffletree now on the market that makes injury to the trees impossible from that source. This device is being introduced by M. S. Middleton, O. A. C., Guelph, Ont., from whom full particulars can be obtained.

**Pear  
Blight**

*We Can Cure It*

*Our work has extended  
over a period of three  
years. Process and  
formula patented. Ad-  
dress correspondence to*

**Pear-Blight  
Remedy Co.**

*Vacaville California*

Mention Canadian Horticulturist when writing

**SAVE TREES THIS FALL**

Thousands of trees will be dead by spring unless protected by **Scalecide**, best for trees and machines, will kill San Jose Scale at 1 to 16 of water, **"SCALECIDE"** instantly mixable with water, and stays mixed. Non-corrosive to man or beast. In 1-5-10 gallon cans, 25 and 50 gallon barrels. Efficient, guaranteed. Free particulars. **B. G. PRATT, CO., Mfrs., New York** **SPRAMOTOR CO. Sole Canadian Agents, 1080 King St., London, Canada.**

**ORDER A BARREL NOW**



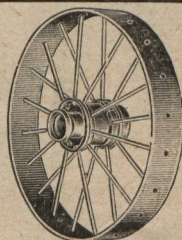
**SLUG-SHOT**

Used from Ocean to Ocean for 20 Years.

SOLD BY SEED DEALERS OF AMERICA.

Saves Currants, Potatoes, Cabbage, Melons, Flowers, Trees, and Shrubs from Insects. Put up in popular packages at popular prices. Write for free pamphlet on Bugs and Blight, etc. to

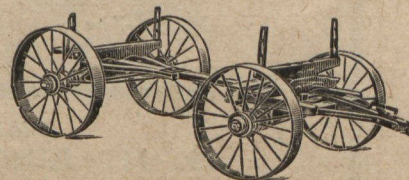
B. HAMMOND, Fishkill-on-Hudson, New York



**Farm Labor Lessened 1/2**

You can load and unload a low-wheel wagon in one-half the time it takes with a high-wheel affair. Any wagon can be made a low one. Simply fit it with our wide-tire Steel Wheels. We make them any size, any width of tire, to fit any axle. Stronger, lighter cheaper, than wooden wheels. Every wheel guaranteed. You should have our free catalogue. **Write to-day.**

**DOMINION WROUGHT IRON  
WHEEL CO., LIMITED  
ORILLIA, ONTARIO**



### Steadily Growing

Readers of THE CANADIAN HORTICULTURIST who have watched the growth and development of this paper, know that within the last 16 months its circulation has nearly doubled. It is of equal interest to the fruit, flower and vegetable grower. Fifty-two horticultural societies, four fruit growers' associations, and the Ontario Vegetable Growers' Association, give it to all their members, and find it a valuable means of increasing their membership.

Not only is THE CANADIAN HORTICULTURIST the only fruit, flower and vegetable paper printed in the Dominion, but it gives as much, if not more value for the subscription price than any other horticultural paper published. Great pains are taken to obtain the most timely articles and by the best authorities. The illustrations are secured at great expense. Each department, whether fruit, flower or vegetable

should be worth, to Canadian horticulturists, the price of subscription. We treat all subjects from a Canadian standpoint.

We want to emphasize that the more subscribers we add to our mailing list, the larger paper we will be able to give. Possibly you have a horticultural friend who is not taking THE CANADIAN HORTICULTURIST. Why not show him a copy? Send us his name on a post card, and we will send him one or two. We will not use your name unless you wish us to. Cooperation is the key-note of success and growth in the publishing field. In assisting to increase our mailing list, you benefit yourself by helping to increase the size of THE CANADIAN HORTICULTURIST.

Show this copy of THE CANADIAN HORTICULTURIST, to a friend and secure his subscription. See our premium offer on another page of this issue.

### Items of Interest

Three named dahlias given for one new subscription to THE CANADIAN HORTICULTURIST, at 60 cents a year. See our special announcement on another page.

The staff of the Forestry Branch of the Interior Department, Ottawa, has been strengthened by the appointment to the position of Inspector of Forest Reserves of Mr. A. Knechtel, lately the forester employed by the New York State Forest, Fish and Game Commission.

The April number of THE CANADIAN HORTICULTURIST was very interesting and instructive. It contained some good pointers for those interested in market gardening in a small way. The article on the pruning of small fruits was just what I have been looking for.—Chas. L. Poole, Hamilton, Ont.

We have just received through the Wm. Dawson & Sons, news agents, of London, England, two subscriptions for THE CANADIAN HORTICULTURIST, one for Alexander Lang, Moscow, Russia, and one for Herm A. Droeder, Charkow, Russia. This shows the field covered by THE CANADIAN HORTICULTURIST. It is sent to almost every country of the globe, and our circulation is steadily increasing.

A sample of the Gulline Folding Fruit Box, received from the Folding Fruit Box Co., of Owen Sound, by the president of L'Islet County Horticultural Society is considered the best, most handy and economical package by the members of the society. It has all the merit mentioned in the advertisement in THE CANADIAN HORTICULTURIST.—Auguste Dupuis, Village des Aulnaies, Que.

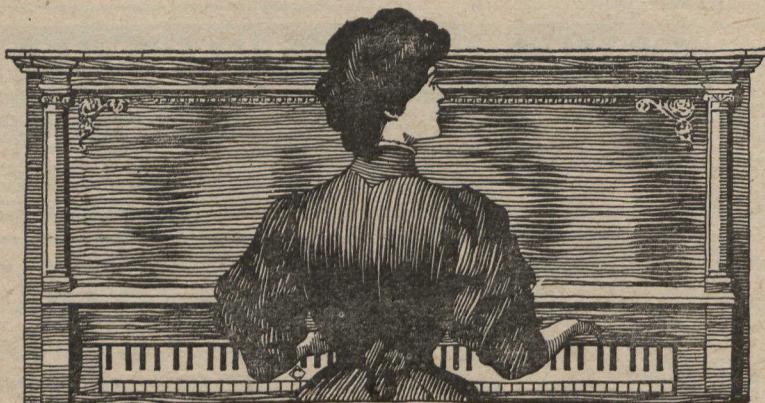
An excellent little booklet has been received at this office from The Dominion Agricultural Offices of the Potash Syndicate, Temple Building, Toronto. It deals with strawberry culture in a comprehensive, practical manner. The various processes in the culture of this fruit from the selection of plants for planting to harvesting and winter protection are described. The booklet may be had free of charge by writing to the firm mentioned.

We are very pleased with the range of country covered by THE CANADIAN HORTICULTURIST. Replies have been received from all parts of Ontario and a few from Quebec, also one each from Nova Scotia, Manitoba, British Columbia, and Dallas, Texas.—The Standard Fertilizer & Chemical Co., Limited, Smith's Falls, Ont.

The horticulturists of Canada will regret to hear of the illness of Prof. John Craig, of the College of Agriculture, Cornell University. For some time past, he has been suffering from acute stomach trouble. Early in February he sailed for Egypt and points in Europe in the hope of obtaining relief through the change in scene and climate. Relief did not come, however, and an operation had to be performed. It is the sincere hope of Canadian horticulturists and of THE CANADIAN HORTICULTURIST that the operation will bring relief and a permanent cure to the patient sufferer. Professor Craig is well known to Canadians through his work at Cornell, and, previously, as horticulturist at the Central Experimental Farm, Ottawa.



**PAGE WHITE FENCES**  
Get the Best. Styles for Lawns, Farms and Ranches. Made of high carbon wire, galvanized and then painted white. Tougher and stronger wire than goes into any other fence. Get 1908 prices and illustrated booklet.  
**THE PAGE WIRE FENCE CO., LIMITED**  
Largest fence and gate manufacturers in Canada.  
WALKERVILLE TORONTO MONTREAL ST. JOHN WINNIPEG 220



Unsurpassed musical qualities, and the artistic elegance and finish of the

## HEINTZMAN & CO. PIANO

(Made by ye olde firme of Heintzman & Co., Limited)

has, for more than fifty years, made this the "premier" piano in Canadian homes.

—The most famous musicians praise  
—its full, rich, melodious tone.

PIANO SALON:  
115-117 KING STREET WEST  
TORONTO - - CANADA

# Which Do You Want?

A Deming Spray Pump Produced the Pile on the Right  
Further Words Are Unnecessary

1908  
Catalogue  
and  
"Expert  
Testimony"  
Mailed  
to  
Any  
Address  
Write  
us  
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Our  
62 Page  
Booklet  
"Spraying  
For  
Profit"  
tel  
All  
About  
Spraying  
Send  
For It

Unsprayed

Sprayed

**The Deming Company, Salem, Ohio**

CANADIAN AGENCIES:

**J. A. Simmers, Toronto, Ont. Blackie Bros., Halifax, N.S.**

An ornate, Art Nouveau-style advertisement for Gerhard Heintzman Art Pianos. The central illustration shows a woman in a long dress and hat on the left, and a man in a suit on the right, standing next to a large, dark piano. The piano is labeled "Louis XV Case". The text "Gerhard Heintzman Art Pianos" is written in a decorative, gothic font above the piano. Below the illustration, a banner contains the text: "The Artistic Piano of Canada is the 'GERHARD HEINTZMAN' New Catalogue mailed free on application GERHARD HEINTZMAN, Limited 97 Yonge Street, Toronto 127 King St. East, Hamilton". At the bottom of the banner, it says "ART BEST CANADIAN MAGAZINE".

Gerhard Heintzman  
Art Pianos  
Louis XV Case

The Artistic Piano of Canada is the  
"GERHARD HEINTZMAN"  
New Catalogue mailed free on application  
GERHARD HEINTZMAN, Limited  
97 Yonge Street, Toronto 127 King St. East, Hamilton

ART BEST CANADIAN MAGAZINE

Mention The Canadian Horticulturist when writing.

# DONALDSON LINE

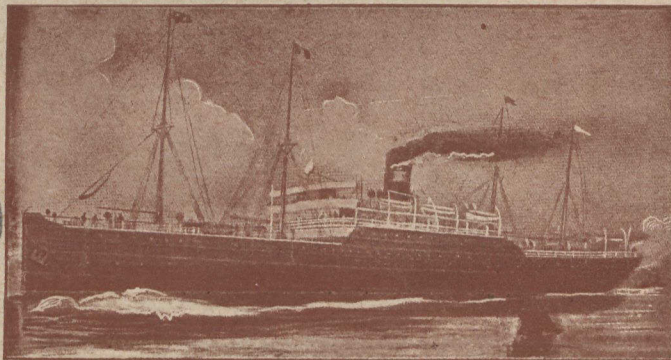
WEEKLY SAILINGS

## TO GLASGOW

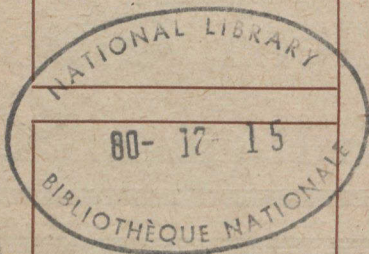
From Montreal in Summer and St. John, N.B., in Winter

THE FAVORITE LINE FOR FRUIT AND PERISHABLES—MODERN STEAMERS, PERFECT VENTILATION—USING SIROCCO FANS, COLD STORAGE REFRIGERATORS

Excellent Passenger Accommodation on the High-Class Twin-Screw Steamers "ATHENIA" and "CASSANDRA."  
Cabin Fares \$42.50 to \$60.00; Steerage \$26.50 to \$30.00. Other Steamers, Cabin only, \$42.50.



SS. "ATHENIA," 10,500 Tons. Twin Screw



# THOMPSON LINE

ATLANTIC REFRIGERATOR SERVICE

WEEKLY SAILINGS

## TO LONDON

ALSO SAILINGS TO NEWCASTLE, LEITH AND ABERDEEN

From Montreal in Summer and Portland, Maine, in Winter

COOL AIR, COLD STORAGE, SIROCCO FANS—FOR BUTTER, CHEESE, BACON, APPLES  
AND ALL PERISHABLES, USE ONLY THIS LINE

FULLEST INFORMATION GIVEN ON APPLICATION. ASK YOUR RAILWAY AGENT, OR

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HEAD OFFICE—MONTREAL, QUE.

BRANCHES—QUEBEC, ST. JOHN, N.B., and PORTLAND, MAINE