

Pages Missing

The Canadian Horticulturist

Vol. XXXVII

DECEMBER, 1914

No. 12

Cherry Fruit Flies*

Prof. L. Caesar, Provincial Entomologist, O.A.C., Guelph

CHERRY Fruit Flies, at least in the Niagara district, which is our chief cherry district, are by far the worst cherry insects we have. They do much more injury than the Plum Curculio and Cherry Aphis together. The injury is caused by the flies with their sharp sting-like ovipositors laying their eggs just under the skin. The maggots that hatch from these work their way to the pit, where they destroy the pulp, causing the interior to become unsightly and the cherry to be unfit to eat. In many cases there is little or no sign of the presence of the maggot until the cherry is opened. Often, however, the skin above the place where the maggot is working turns brown and sinks in and frequently there is a little round hole or two in it made by the maggots to ensure an abundant supply of fresh air. There is usually only one maggot in a cherry, but occasionally two, three, or even four may be found.

The maggots are ordinarily glossy white in color, though some are cream or even yellow. They are about one-quarter of an inch long when full grown, scarcely so thick as a knitting needle, tapering sharply towards one end and

blunt at the other. They have no legs and no head, but at the small end are two little black hooks that they can protrude and retract at will, and with which they tear the pulp to free the juice. The maggots devour only the juice.

Another source of injury due to these insects comes from the fact that infested cherries as they ripen are commonly attacked by Brown Rot, and then spread the disease to neighboring cherries. Moreover, the sale of wormy cherries injures the market for good cherries.

SUSCEPTIBLE VARIETIES

The cherries worst attacked are Montmorency and all sour cherries that ripen as late or later than these, also all late sweet varieties. Early varieties, like Early Richmond, are almost immune, probably because they are nearly ripe before the flies are ready to lay eggs, and because the flies prefer to lay eggs in green cherries or those just beginning to color.

Not all the orchards in the Niagara districts are attacked, but many are, and a considerable percentage of these are among the very best orchards in the country. The amount of injury varies from year to year greatly. Some infested orchards will have only about five per cent. of the fruit wormy; others equally as well cared for will have ninety-five per

cent. It is not an uncommon occurrence to find beautiful Montmorency cherry orchards so badly infested that the fruit is not picked. Some growers, especially in towns, have become so discouraged that they have cut down part of their orchards. It was clear, therefore, to me that if I wanted to help cherry growers I could not do so in any better way than by trying to find a remedy for this pest.

WHEN DISCOVERED

The first discovery of Cherry Fruit Flies in Ontario as the cause of wormy cherries was made by me near St. Catharines in 1910. Only one species, which because of the white cross bands on its abdomen I shall call the White-banded Cherry Fruit Fly, was discovered on that occasion. In 1912 I discovered in the same locality, but in a different orchard, another species resembling closely the former, but easily distinguished by having the abdomen entirely black, without any of the above-mentioned white cross bands. This species I, therefore, purpose to call the Black-bodied Cherry Fruit Fly. Both species of flies have undoubtedly been in the province for many years, but no one ever knew what they were hitherto.

As both flies can be easily seen on the leaves or fruit of the cherry in any in-

*An address delivered at the recent convention in Toronto of the Ontario Fruit Growers' Association.



Members of the Wentworth Fruit Growers' Association Loading a Car of Apples for the United Relief Association of Hamilton, an Organization That Looks After the Poor of the City.

This association has had a successful season. Over 13,000 barrels of apples were handled, of which 2,000 were exported and the balance sold in the west at a good average price. The members will receive from 75 cts. to \$1.50 a barrel picked on ground according to the commercial value of their apples from No. 2 Greenings to No. 1 Spys.

festated orchard in June and early July, and as they are comparatively tame, permitting a person to approach close to them, they can easily be examined on the tree or caught and looked at more closely. They are about two-thirds the size of a house fly. The black-bodied one is a little larger than the other. Females are larger than males, as a rule, and often their sharp, sting-like ovipositor may be seen, especially at the time of egg-laying. Males have the end of the abdomen more rounded than the females. The general color of both species is black. The white-banded species has the following markings: Four white bands across the abdomen of females and three across the males, a whitish or yellowish dot about the centre of the back, a yellowish line along each side from the head to the base of the wings, beautiful golden-green eyes, yellow head and yellowish legs. The black-bodied species has almost the same markings except that, as said previously, there are no white cross bands on the abdomen. The wings of both species are conspicuous and characterized by dark markings, which are differently arranged in the one species compared with the other.

DISTRIBUTION OF THE FLIES

We have not had time to examine every district, but have found that both species of fly occurred in almost every locality in the Niagara district and at Burlington. We know that one or possibly both species also occur at Oakville and Cobourg. It is very likely that further observations will show they are present to some extent in other localities also. There are, however, many orchards quite free from them. The white-banded species is the more common one on the whole, though not in every orchard.

DIFFERENCE BETWEEN THE LARVÆ

The larvae or maggots of the Cherry Fruit Flies are, as previously stated, legless, headless, tapering towards one end, blunt at the other, nearly straight, and not more than a quarter of an inch in length. The larvae of the Plum Curculio are, when full grown, much larger, being about two-fifths of an inch in length, stout, somewhat curved, a dirty white or yellowish color, and have a distinct brown head. Moreover, the crescent-shaped scar shows where the eggs has been laid by the adult, and infested cherries regularly show a sunken darkened area on the side on which the larva is working, so that it is easy to suspect the presence of the grub within.

Both species pass the winter as pupae in the ground, the pupae being enclosed in little brown straw-colored, oval cases, looking like grains of wheat. The adults emerge from these in June and early July; those of the black-bodied species

begin to appear the first week in June, the other species about the end of the second week, so that this one is a week or more later. The majority of the adults of the first species are out by June 14th, and of the white-banded species by about June 22nd. The earliest flies of the black-banded species, therefore, begin to appear nearly a week before Early Richmonds have begun to color, and of the other species just about the time they have got the first tint of red.

The flies feed for about ten to fourteen days before they begin to lay eggs. It is very important to know this and also how they feed. The mouth parts are very like those of the house fly and may be said to consist of a long sucking tube with broad lips at the tip. The flies can be seen moving about from place to place chiefly on the leaves with their mouth parts extended and the lips feeling for any little particles of food. If a fly finds any solid, for instance a little piece of granulated sugar placed on the leaf, it holds this with the lips until it is dissolved by saliva and then sucks it in. When the cherries get ripe and are injured in any way they feed on the juice of them.

When the fly is old enough to lay eggs she selects for the purpose unripe cherries or those just beginning to color, and running restlessly around over the fruit

for a while, then at last curves her abdomen and forces the sharp, sting-like ovipositor into the fruit. In about twenty seconds the egg is laid. The exact number of eggs that a single fly can lay is very difficult to determine, but is probably two hundred or more.

The eggs hatch in about five days, and the tiny larvae or maggots at once work their way direct to the pit, where they live upon the juice, rasping the pulp with their hooks to free the juice. In two weeks or a little less on an average, the maggots are full grown. When a maggot has reached its full size it works its way out of the fruit, soon drops to the ground, and at once begins to work its way into the ground. If the surface is soft, it quickly enters; if not, it has to search for cracks to get down. Often ants capture and destroy them before they can do so. Sometimes, too, they are killed by the hot sunshine.

Soon after the ground has been entered the maggots change into pupae. The depth of the pupae is usually about one or one and a half inches below the surface. The insects remain in the pupal stage until the next June, when they change, as already stated, into flies. There is only one brood a year. It is very probable that a few of the insects pass two winters in the pupal stage before emerging as flies.

(To be continued)

Yields of Apple Trees at Different Ages

W. T. Macoun, Dominion Horticulturist, Ottawa, Ont.

EACH year there is a large number of new fruit growers in the province of Ontario, men who believe that they can make a success of the industry and who are determined to try. These men, before making their decision, estimate present and future expenses; they also endeavour to estimate probable crops and profits, but when they come to look for figures showing the yields of different varieties of apples they are disappointed. It is a remarkable fact that there has been very little reliable information published in America on the actual crops obtained from trees of different ages of the varieties of apples which are usually planted for commercial purposes. There is the general statement that Wealthy and Wagener are early bearers, that Northern Spy does not bear anything to speak of until it is twelve years of age, and that King is a very shy bearer, and that McIntosh is a rather light cropper in some places, and so on, but few actual figures are available. In fact, until a table of such yields was published in the Annual Report of the Experimental Farms for 1902 we do not think that any records of

yields had been published when trees came into bearing and afterwards. Other records have been published in the reports for 1903, 1905, 1905-6, 1909, and 1911.

Since the year 1898, or for sixteen consecutive years, records have been kept of over three thousand apple trees in the orchards at the Central Experimental Farm. Unfortunately, among these trees the winter varieties of most commercial value in western Ontario are not to be found, such varieties, for instance, as King, Greening, Baldwin and Spy, as they have not proved hardy at Ottawa, but other known sorts, such as Yellow Transparent, Duchess, Wealthy, Fameuse, and McIntosh, have been recorded with many others. The number of trees of each variety grown at Ottawa, however, is very limited, as so many sorts are under test. In the table which has been prepared only the heaviest yields are given, as it is believed that where only a few trees of each variety are grown the highest yielding tree would be fairly near the average of an orchard of several acres. These figures are not given for the main purpose of basing future profits in orcharding, but rather to give some idea of about the

*Extract from an address delivered at the last annual convention of the Ontario Fruit Growers' Association.



A Promising Young Orchard in the Trenton, Ont. District

This orchard, owned by W. A. Fraser, Trenton, Ont., contains 3,200 trees, the oldest of which were planted four years ago. This section promises to develop into a great fruit district.

crop one might expect from trees of different ages. For estimating probable profits the yields from whole orchards should be taken for a series of years, but while, no doubt, many such figures will be available in a few years, few have been published yet, except those in connection with demonstration orchards where mature trees are under test.

McINTOSH YIELDS

The McIntosh apple comes into bearing the sixth year after planting at Ottawa. In that year a tree has borne about two eleven-quart baskets of fruit, and by the eighth year nearly a barrel of fruit is borne on a tree. By the tenth year a barrel and a half, by the twelfth year three barrels; the fifteenth year, four and a half barrels; the nineteenth year, seven and one-half barrels; the twenty-first year, seven barrels; the twenty-third year, six barrels; and the twenty-fourth year and the year following, four and three-quarter barrels. or an average during the past two years of nearly five and a half barrels a year. Taking the average per year for nineteen years during which it has been in bearing, we find the average yield per year from one tree has been about two and three-quarter barrels. It would look as if one might safely count on two barrels a tree.

The Duchess apple is one of the most reliable and productive varieties. It begins bearing the third year after planting, and by the sixth year the trees will bear nearly a barrel apiece. By the eighth year two barrels, and by the eleventh year more than four barrels, and the maximum crop so far has been reached in the twenty-fourth year, when a yield of over eight barrels was obtained from one tree. One tree bore the following crops in thirteen consecutive years, beginning with the eleventh year: Two and one-half barrels, two, three and

three-quarters, three, four and one-half, three, four, two, four and one-half, four, six, two, and five and one-half barrels. Other trees bear a heavy crop every other year. The average yield per tree from the third year to the twenty-sixth is about two barrels per tree, and from the tenth year to the twenty-sixth, three barrels.

The Wealthy is one of the earliest and most productive bearers, but it does not become a large tree, and the maximum crops have not been as large as some other varieties. It begins bearing the second or third year after planting. One tree gave us as much as nine gallons of fruit the third year, but as a rule there are only a few apples the second and third years, and most trees do not give more than from three to five gallons the fourth year. The fifth year there is about half a barrel to a tree, although we have had over a barrel on one tree. By the seventh year the trees will be bearing a

barrel or over, and by the eighth year there has been as high as two barrels on a tree. By the eleventh year, some trees will bear two and a half barrels, and by the thirteenth and fourteenth year from three to four barrels. The highest yield obtained from a Wealthy in one year was five and three-quarter barrels in the twenty-fourth year. The average yield per year from the third to the twenty-sixth year is about a barrel and a half. This is a low average compared with some other varieties, but the Wealthy is a small tree, and as a rule bears heavily one year and has a light crop the next, which brings down the average. But from the twentieth to the twenty-sixth year the average is two and three quarter barrels a tree.

Other varieties could be discussed in the same way. One of the highest yields obtained from any one tree in any one year was from a McMahan which, in the twenty-sixth, which is the greatest age of trees in our orchards, yielded nine barrels.

In Bulletin No. 376 of the New York Agricultural Experiment Station the yields are given of an acre of Baldwin orchard of trees twenty-seven years old at the beginning of the experiment, and thirty-seven years at the end. For ten years the average yield per tree was 4.29 barrels, consisting of 2.91 barrels stock and 1.38 culls and drops. These are the only figures outside of our own for a long period of years that I have been able to find.

The figures which I have given in this short paper are merely suggestive. What are needed are figures for a considerable number of years from large orchards of a few varieties. It is to be hoped that the provincial demonstration orchards throughout Ontario will later on publish this information.

Peach Canker

W. A. McCubbin, St. Catharines, Ont.

ALL peach growers are more or less familiar with the exudation of masses of gum from the peach tree, a phenomenon which is as natural to the peach as the flow of blood from a wound in the human body, and which in like manner occurs when the tree is cut or injured in any way. I mention this in order to bring out the distinction between this general flow of gum from injuries and a disease which should properly be termed a canker. It is true that cankers are usually accompanied by a copious gum flow, but gum is also exuded from cuts, bruises, cracks, and borer holes, none of which are, rightly speaking, cankers. I shall, therefore, use the term canker in its more correct

*An address delivered at the recent annual convention of the Ontario Fruit Growers' Association.

sense to apply to those unsightly open sores on the trunk and limbs of peach trees, which are due primarily to the death of the bark and the growing tissue beneath it, and which are extended from year to year by the dying of fresh zones of tissue at the edges.

Although this disease cannot be considered as of so serious a nature as yellows and little peach, it is sufficiently important to warrant attention. The damage done by cankers each year in the peach districts of Ontario is far greater than is generally known. Not only is there a great destruction of individual limbs by them, but whole trees are often destroyed by cankers developing on the trunk or around the crotch, and it is common to see trees of which a half or a third has been lost by the formation of



Young Orchard Land, Well Located, in a British Columbia Valley

—Photo by R. Leckie-Ewing, Okanagan Landing, B.C.

a canker on one of the main limbs near the trunk. While the disease is present everywhere in the peach regions of Ontario it seems to be much more severe in some orchards than in others, and it is usually found at its worst on poorly-drained or wet land. Peaches on sandy hillsides, where both air and soil drainage are good, are relatively free from the disease.

Before entering into the question of cause, I should like to dismiss with a few words a popular misunderstanding regarding cankers. There is a tendency among less observant peach growers to attribute them to the work of borer larvae, which one often finds buried in the gum and dead bark, and which eat out the soft fresh tissue at the edges. But though these "grubs" are very frequently associated with cankers and play a part in enlarging them, they have nothing to do with causing the canker in the first place. They are not found in all cankers by any means, and are usually absent entirely from the early stages of every canker, so that despite a widespread belief to the contrary we must endeavor to find the cause elsewhere.

Judging from the manner in which many other well-known cankers arise, one would be inclined at the beginning to suppose that peach cankers are the work of fungi. Cankers of a similar nature, but without gum, of course, are to be met with in apple, oak, poplar, sumach, and numerous other wild and cultivated trees, and so many of these, like the Black Rot Canker of the apple, have been shown to be the work of some particular fungus. There is a strong probability that peach cankers are likewise caused by fungi as well. The experimental work that has already been done supports this view. Jehle, of New York, succeeded in producing cankers by inoculating peach limbs with the

Brown Rot fungus. Prof. L. Caesar and Mr. H. T. Gussow, the Dominion botanist, did similar experiments with Brown Rot, but found that though gum was copiously produced the wounds healed afterward without an extension of the canker. In the New York Report for 1900 there is a record of the inoculation of peach limbs with another fungus found universally on the dead and dying limbs

of peaches, and gum exudations resulted in each case. In addition to these, the writer has made numerous observations which tend to show that the cankers are caused by fungi. In a few instances cankers may arise from wounds, borer holes, frost cracks, and gum blisters. The vast majority start around the bases of dead twigs. Sometimes these twigs are seen to have been killed by Brown Rot, and many instances occur where a mummified peach remains on the tree and at the base of its dead spur or stalk a canker has begun.

In numberless other cases there was no evidence of the Brown Rot, but the dead twig sticking out of the canker was covered with the minute pistules of the common *Cytospora* previously mentioned. Even in the exceptions mentioned, where borer holes, cuts, etc., give rise to cankers, there is strong evidence that this last mentioned fungus has invaded the tissues about three places, and has caused the cankers. The results of these observations were not conclusive, but served to strengthen the suspicion that either the Brown Rot or the *Cytospora* or both were closely associated with canker formation.

(To be continued)

The Apple, the National Dish of Canada

THE suggestion advanced in the November issue of *The Canadian Horticulturist* that a concerted effort should be put forth by all interested in the advancement of horticulture in Canada to have "The Apple" recognized as the "National Dish" of Canada, has met with a most gratifying response. In order that the ball might be set rolling *The Canadian Horticulturist* wrote some weeks ago to a number of prominent people and asked them what they thought of the suggestion, and if they would be willing to help the movement. All have expressed their approval and have taken steps to promote the suggestion.

The Dominion Fruit Commissioner, Mr. D. Johnson, of Ottawa, replied: "I will be glad to do everything possible to bring about the desired results, and be pleased if you could urge a number of fruit growers' associations, not only the provincial associations, but strong local associations as well, to take this matter up, and send copies of the resolutions both to the Minister of Agriculture and myself. Hon. Mr. Burrell is very alive to such things, and if we have the resolutions we will then know if it is the wish of the country that something should be done along this line."

President Robt. Thompson, of the Ontario Fruit Growers' Association, wrote that he favored the suggestion, and would bring the matter before the

members of the Ontario Fruit Growers' Association at their annual convention in November. Mr. Thompson did this, mentioning it in his annual address. The suggestion was most favorably received, and a strong resolution endorsing the proposal was passed, a report of which is published elsewhere in this issue.

Mr. J. H. Bennett, the President of the Ontario Horticultural Association, also favored the proposal in his address to the members of that association at their convention in November, and they also passed a resolution favoring the idea.

President T. G. Bunting, of the Pomological Society of the Province of Quebec, writes *The Canadian Horticulturist* that he is much in favor of having the apple recognized as Canada's national dish, and that he will mention it at the annual meeting of the Quebec Pomological Society to be held this month.

CABINET APPROVAL

Hon. Geo. E. Foster, Dominion Minister of Trade and Commerce, who has done so much to advertise and popularize the use of the apple this year in Canada, is also favorable to the movement. In a letter to *The Canadian Horticulturist*, Hon. Mr. Foster said: "In so far as it is your desire to establish the apple permanently as the favorite fruit of Canada, and induce our people to consider the advisability, both from the sanitary and patriotic point of view, of rais-

ing it to the dignity of the National Dish, I am with you; and a beautiful and variegated dish this would be, adorned with the distinctive fruits of six of the nine provinces of Canada. With our present facilities of storage, and width of seasons, this dish could be served up almost every month of the year, and for the little time that the actuality was not available one could subsist on memory and imagination. Certainly by all means let us take the apple for the national dish of Canada."

Now that the movement has received

Floral Effects in An Amateur's Garden

WHERE there's a will there is a way. This is as true of operations in the garden as of most everything else. It has been proved to be the case in the garden of Mr. A. Carson of Barrie, Ont., who in spite of unusual difficulties has evolved a garden of which any amateur flower grower might well be proud.

Mr. Carson is a commercial traveller. His business takes him from home about five days in the week. Saturday is the only full day he can devote to his garden, except during vacation, when his entire time is spent among his flowers. In spite of this handicap Mr. Carson attends to all the work in his garden himself except for the assistance of a hired man in the fall and spring to plow and dig.

Mr. Carson believes in absolute system. He maintains that when once a garden is put in good shape the work is then easy and it is a pleasure to keep it so. "What is finer," asks Mr. Carson, "than making flowers a hobby? Where is there anything grander, anything more stimulating to tired nerves?" An enthusiastic gardener always enjoys the best of health. Not often will you find a man or woman who spend their spare time in the garden prone to the common ills of life.

In the early spring all seeds in Mr. Carson's garden are started in cold frames. Storm windows from the house are used for glass. This is surely an indication that he is decidedly an amateur in his methods. Poppy is sown broadcast, and when it is nicely up it is thinned out. All the other annuals are transplanted. There is a good deal of work in this, but when done the garden presents a very neat appearance and furnishes much satisfaction to the man who does the work. It is an advantage, also, as to arrangement and harmony of color.

In contests conducted by the Barrie Horticultural Society, Mr. Carson has been awarded first prize for his boulevard and lawn, for neatness and general appearance. The edges of the curb and walks are constantly trimmed. The grass

this hearty support in influential quarters, The Canadian Horticulturist hopes that all its readers will assist in promoting the good work. Provincial Fruit Growers' Associations and local associations which have not already done so are invited to pass resolutions and forward copies of them, with the names of the movers and seconders, to The Canadian Horticulturist in order that these may be made public and in due time submitted to the Government so that official and national approval of the proposal may be obtained.

is not allowed to grow over. To have an effective lawn it is absolutely necessary to keep the edges well trimmed. No lawn, no matter how well cut, will look right with the edges rough with long spikes of grass.

On the south side of the house and ninety feet back from the sidewalk, there is a lilac hedge about seventy feet long and trimmed square. This hedge divides the front lawn from the inside. Along the side facing the street there are eighteen clumps of perennial phlox in different shades—white, mauve, crimson, and other effects. Between the phlox there is planted scarlet sage (salvia), bordered with elysium. When in bloom the effect is most striking and beautiful. On the north side of the house a lattice fence divides the lawn. In front this is banked with red geraniums and the fence running out to the street is covered with Virginia Creeper banked with a seventy-foot hedge of perennial phlox and bordered with oxalis. This, also, is very pretty. On this part of the lawn a weeping elm stands in the centre.

The garden consists of flowers that are easy to grow and that have plenty

of bloom. Asters are planted in solid colors and in rows. Salpiglossis are massed in one solid bed, as is also scabiosa. These are placed at each end of the aster bed and at each corner; at the back of the bed, a clump of white and pink cosmos bloom. For a background white and blue annual larkspur are used, and at the back of that a row of perennial larkspur (Delphinium) in all shades of blue. Behind the delphinium are sweet peas. The bloom in this arrangement is wonderful.

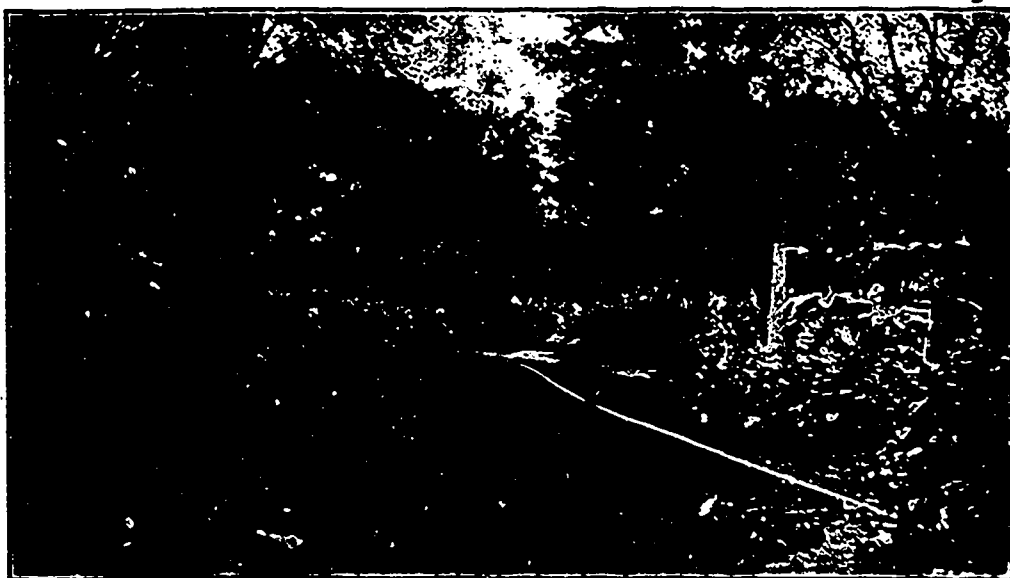
Along the driveway, the entrance from the back street, there is a hedge of purple and white larkspur and white and pink cosmos in all four rows. This hedge is seventy feet long, eight feet wide, and a mass of bloom.

Petunias figure largely in the garden, there being a solid bed seventy feet long and four feet wide, with a few marigolds among them. There is also a bed of Iceland poppy, six by fourteen feet, and a bed of Phlox Drummondii, of the same dimensions. The Iceland poppy bed has a border of caliopsis. Among the phlox are a few love-in-a-mist, and as they are taller than the phlox the effect is very pretty.

Some six or seven hundred gladioli are planted in rows eighteen inches apart. The gladioli last year were left in the ground over winter. The experiment proved disastrous, as they grew so thickly this summer the result was very little bloom.

On the lawn and in the garden there are three rockeries. These are filled with flowers of continuous bloom, edged at the base with elysium and oxalis.

The canna bed has castor bean, tuberous begonia, and elysium around it. The large elm tree on the lawn has rock built around it one and one-half feet high and three feet from the trunk. This is filled



A Beauty Spot in the Garden of Mr. A. Carson, Barrie, Ont.



A Rockery and a Glimpse of the Lawn of Mr. A. Carson, Barrie, Ont.

with earth, and all around the tree nasturtiums are planted very thickly. The effect is decidedly pleasing. Surrounding the lawn are quite a lot of very handsome maple trees, one a bronze leaf. In the spring this tree is very fine. The leaves are almost a blood red. One is

a cut leaf maple, of a drooping nature. It is a beauty. It stands out on the lawn in a most attractive manner. The nature of this tree is to grow rank, but by cutting it back from the top every four or five years, it assumes a beautiful drooping shape.

The Best Roses for Amateur Gardeners*

James M. Bryson, Moore Park, Toronto, Ont.

WHEN it is considered that a great many varieties of the rose are almost the same as regards color or shades of color, it becomes a hard task from an amateur's point of view, to determine just what are the best varieties to grow. Of course, where space and expense are unlimited, it is an easy matter to plant all or nearly all of the varieties in cultivation. Then, of course, you have all the varieties that are easy to grow, as well as the ones that are indifferent. Be that as it may, the rosarian with a small collection or one who contemplates planting a few bushes for a start finds himself in a quandary when he attempts to decide as to the varieties that will give the best results. Under ordinary circumstances he must aim at getting varieties that are, if possible, mildew-proof, of robust habit and vigorous growth. Unfortunately, most varieties of the rose, at least seventy-five per cent. of them, are more or less subject to this pest. Another point to be considered is to be careful to select varieties whose color is pleasing to the eye and at the same time possess the aforesaid qualities, vigorous growth and hardiness. Unfortunately, a very large percentage of our finest roses are what are

termed thin roses; that is to say, they lack substance. A large number of these are easy to grow and are always in flower from the middle of June until the end of October.

There may be many whose sole object is to grow roses for exhibition purposes, but most people grow them for their beauty alone. The rose will grow and thrive in almost any soil to a certain state of perfection. Up to a few years ago, the only type of rose that was grown on this continent was a few varieties of the hybrid perpetuals, among which were Magna Charta Baron, De Bonstettin, and General Jack. Rose lovers were afraid to plant either hybrid teas or teas and noisettes, because it was said they were not hardy enough to stand our Canadian winters. My experience with hybrid teas and teas, and I except no variety, either, climbing or dwarf, has been that these two sections of the rose are just as hardy as any of the hybrid perpetuals, providing the proper means of protection is applied to carry them through the winter. Last winter in Canada was the most severe test that outdoor roses have had in the last twenty years in this province, but such tender roses as Marcheai Neal, Devoniensis, Niphotos, Lady Hillingdon, Sunset, Sunrise, and many others of the teas and noisettes I could mention, came through the test in as good shape as any

of the perpetuals that are grown by me in Avoca Vale. I merely mention this fact to dispel the belief that there are only certain varieties and types of roses that will come through the winter in good shape.

In the hybrid perpetual section, some of the best varieties with their colors and modes of growth are the following: The new perpetual 'Gloire de Chedane, Guineasseau is perhaps the largest. It is a most profuse bloomer and delightfully fragrant and not liable to attacks of mildew except late in the season. This variety blooms continuously from the middle of June up till the end of July and again in the fall.

Hugh Dickson is another brilliant rose, lighter in color than the former variety, but just as floriferous and sweetly perfumed. It does best as a garden rose in Canada when budded on the seedling briar. Alfred Colomb, another grand old rose, bright red in color and globular in shape.

Alfred K. Williams, red-shaded carmine, is very sweetly perfumed. Captain Hayward, light crimson, one of the most popular roses for either exhibition or garden decoration. Charles Lefebvre, velvety crimson, overlaid with blackish crimson, one of the best roses of its color. Earl of Dufferin, dark maroon crimson, is a magnificent variety, sweetly fragrant, blooming well on into August. As the blooms are very heavy, they are better tied to stakes to prevent their lying on the ground. Gustave Piganeau, one of the largest roses; color, a beautiful carmine. Ellen Drew, pale rose color, an almost perpetual bloomer and mildew-proof, also almost thornless. Mrs. R. G. Sharman Crawford, rose pink in color, cup-shaped, and a rose that is never out of flower, but mildews badly. Mrs. John Laing, shell pink, an old variety, but still one of the best, almost perpetual flowering. Margaret Dickson, color bluish-white, a good rose and almost the only rose of its color in this section.

Marie Beauman, color carmine red; very sweetly perfumed, a magnificent exhibition or garden rose, according to the way in which it is grown. Paul Negron, rose pink, until lately considered to be the largest rose grown. This is a rose that is particularly good in autumn, though none too free at that time. Prince Camille De Rhon: This I consider the darkest rose in this section; color almost black, sweetly perfumed, and a variety that likes lots of feeding. Frau Karl Druschki, pure snow white, and already so well known that it requires no comment from me. Coronation, new, the largest rose in cultivation in Canada; color, a brilliant shrimp pink, with flowers measuring five inches across, a very vigorous grower, without

*Extract from an address delivered at the recent annual convention in Toronto of the Ontario Horticultural Association.

feeding, and absolutely mildew-proof. Ulrich Brunner, red, a good grower, and proof against mildew and black shot. The varieties of the hybrid perpetual section mentioned I consider to be the best

for any purpose. The majority of them are a distinct advance on some of the older varieties, although the colors are in some cases almost the same. All are perfectly hardy.

midity and sunshine. With chrysanthemum blooms the greatest danger is their getting mouldy through dampness. This has to be carefully safeguarded against. To prevent this, however, it is only necessary to maintain an even temperature in the greenhouse day and night.

The Charm of the Chrysanthemum

B. C. Tillett, Hamilton, Ont.

MANY years ago the chrysanthemum, or 'mums, as they are sometimes called for brevity's sake, was but an inconspicuous flower of the wilderness. Its native home, as most people are doubtless aware, is in China and Japan. In those countries its history can be traced back for two hundred years. Its arrival on the American continent is of comparatively recent date. It is recorded that it was first exhibited in New York some twenty-five years ago.

The chrysanthemum ranks in popularity next to the rose and the dahlia, but it is in a class by itself. It comes at a season of the year when outdoor flowers are becoming scarce, and that gives it an added charm. Then again, it comes in endless variety of beauty and color, each combatting with the other for supremacy.

Another reason, especially among amateurs, that tends to make the chrysanthemum a favorite, is that the plant arrives at maturity very quickly. We can sow our seeds and cut our blooms the same year, and by propagation from cuttings, an operation easy to perform, we can have all the plants we please the following year. There is, too, always the possibility with the chrysanthemum seed that something new may be discovered. In the United States, seed-raising took hold long ago of many professional growers, seed being imported from the Far East, and then growers started to raise their own seed and to make crosses. In Europe, novelties were soon hit upon, and the visitor to the great exhibitions there was always alighting upon some new variety in size or color, though nothing has been actually accomplished in the way of new forms. The blooms, compared with those of fifty years ago, show a greater delicacy or more graceful finish, especially with the incurved variety. This is the outcome of elaborate care on the part of expert exhibitors. The size of the blooms has also been greatly increased.

It is perhaps in the matter of color that the chrysanthemum holds its greatest attractions. It may be we are more critical of color than were our forefathers, and certainly this generous flower teaches us the value and dignity of mass treatment as does no other flower I know of. At the same time, a single bloom is large enough in itself to be an attraction.

Many of us will remember the sensation caused at the Chrysanthemum European Centenary held in London in 1889, by the enormous blooms exhibited that year, which were then considered the acme in the matter of size; and yet such blooms have since been surpassed over and over again. Time was when we had great blooms on great tall stalks six and eight feet high. Now stalks have become shorter, but the blooms continue to increase in size.

Of course, the exhibition bloom is an artificial production brought about by a laborious system of cultivation and training of both plant and bloom. Left to itself to grow in its natural state, the plant will produce a profusion of blooms, but they will be small, on account of the many branches. The fewer branches, the larger the blooms.

On some future occasion I hope to discuss the methods of cultivation, and to give some practical hints on how to obtain the best blooms; but, of course, spring is the time when cultivation commences, and that is some way off. When the blooms are reaching maturity, we must watch the varying degrees of hu-

It adds much to the enjoyment of a visit to the shows if one has some knowledge of the different kinds of chrysanthemums; that is, their classification. The principal divisions are into the large flowering kinds and the pompon, the blooms of the latter measuring hardly an inch across. Dealing with the larger flowering kinds, they may be divided into Chinese and Japanese; not that there is any national distinction, but because those blooms which are of irregular form, that is, having the petals twisted in and out of each other in any direction, are called Japanese, whilst those having closely-knitted petals, incurved, with smooth, regular surface and form, are called Chinese. The Chinese type is more commonly seen on this continent, and is known as the incurved. These, then, are the two principal groups—"Incurved" and "Japanese." The Pompon is a small flowering and hardier kind, with flowers hardly an inch across. The "Single" may be likened to a daisy. Its petals range around a central disc. In the "Anemone," the ray florets are seen largely developed, regular and stiff, and the central or disc florets more pronounced than in the case of the "Single."



Climbing Roses and Larkspur in the Garden of Mr. J. H. Bennett, Barrie, Ont., who last month was Re-elected President of the Ontario Horticultural Association.



One of Seven Flower Beds Planted Last Spring by the Galt Horticultural Society

For three years the members of the Galt Horticultural Society have been conducting a campaign of civic beautification. It has been attended by excellent results. Many former unsightly spots have been transformed. The school children have been interested.

Lastly comes the "Reflexed" Japanese, where all the florets or petals are shorter and have a sharp downward turn at the tip.

If the two main divisions are kept well in mind, there only remains to remember the Pompon, the Single or Daisy, the Anemone, and the Reflexed.

With very little shelter, all those var-

ieties may be grown together and in profusion, and while the highest skill is required to produce blooms for exhibition purposes, there is no other flower at this season of the year which can afford us so much pleasure or give us so much variety of bloom and color as the chrysanthemum, or which can be more easily cultivated.

Hardy Conifers*

W. T. Macoun, Dominion Horticulturist. Ottawa.

THERE are many varieties of the American Arbor Vitae, *Thuja occidentalis*, no less than seventy-two having been grown at Ottawa. There are a few, however, that are outstanding. The ordinary wild form makes a beautiful evergreen, and when grown in masses with the branches sweeping the ground they are very effective. It makes the most satisfactory evergreen hedge at Ottawa.

Among the best varieties are *Ellwangeriana* of compact, rather dwarf but vigorous habit and having slender leaves and branches; *Hovei* of rather dwarf habit with bright green leaves and the branches flat and parallel, giving the shrub a remarkable and attractive appearance; *Compacta*, a dwarf compact, roundish shaped variety with bright green leaves; *Pyramidalis*, a very compact upright grower. Its columnar form makes it one of the most conspicuous objects on the grounds; *Saundersii*, a somewhat pyramidal form with deep green foliage and somewhat twisted branchlets; *Douglas'-Golden*, probably the best golden-leaved form, and the so-called Siberian Arbor-vitae, *T. occidentalis* *Wareana*, which in the severest winters has not been injured, while almost every other variety has been. It is compact, of semi-dwarf habit, and has deep green blunt leaves, which keep their color in winter. *Thuja plicata* or

gigantea, the species which grows wild in British Columbia and which makes a very beautiful tree there, does not succeed very well in the drier atmosphere of Ontario.

THE HEMLOCKS

The hemlocks are beautiful, graceful trees, and while rather slow growing, eventually become magnificent specimens. The native species of Eastern Canada, *Tsuga canadensis*, is the most satisfactory. As an evergreen hedge it is very attractive, and on account of its slow growth can readily be kept within bounds, but should not be used where a quick effect is desired on this account.

THE SPRUCES

There are three species of spruce native to Eastern Canada, namely the white, red, and black, but the white is much the best for ornamental purposes, and the black spruce has not done well under cultivation at Ottawa. It grows naturally in swampy ground and appears stunted when grown in well drained soil. The red spruce, which is a very prominent tree in the Maritime Provinces, is a good deal like the Norway spruce in color of foliage, but is not as graceful a tree as the Norway. The white spruce is, however, a very desirable tree. One should get the bluest specimens that can be obtained as individual trees vary much in color, some being much bluer than others. This native spruce is a more graceful tree than

the Colorado blue or Rocky Mountain blue spruce, but both are necessary. Where there is only room for one the preference is given to the Colorado blue, as one cannot get quite as blue an effect from the white spruce and the Colorado blue spruce takes less room. Moreover, the white spruce suffers from the Spruce Gall Louse, which in recent years has injured the appearance of it. The variety of Colorado blue spruce known as *Kosteriana* is particularly blue. They are obtained grafted. If one has a large place and needs many trees the cheapest way to obtain blue specimens of this spruce is to buy small mixed seedlings and select those of best color, as the Colorado blue spruce varies from a most attractive shade of steely blue to green, and all gradations are found in the seedlings. Well grown specimens of the bluest shades are expensive. This spruce is one of the hardiest. It succeeds well in the prairie provinces, where the temperatures are very low sometimes. It is a rather slow grower, but eventually reaches a good height.

One of the best spruces is a western native species, *Englemann's* spruce, which grows in the Rocky Mountains. This does very well at Ottawa. It has a more graceful outline than the Colorado Blue Spruce and while the leaves are not quite so blue they are of an attractive bluish green shade. The Norway Spruce has been planted on private grounds in Canada, more, perhaps, than any other species. There are several reasons for this. It is one of the cheapest spruces to buy; it grows rapidly; and it is quite ornamental particularly for the first twenty-five or thirty years. The Norway Spruce is the fastest growing spruce of all the species which have been tested at Ottawa. Its pendulous branches make individual specimens very attractive and its large cones add also to its interest. It has been much used for wind-breaks in the province of Ontario and is very desirable for this purpose. Many hedges have been made of this tree and where they get plenty of light are quite satisfactory, but if the hedges are shaded they lose their foliage at the bottom. There are large numbers of dwarf, variegated and weeping forms of the Norway Spruce but none of them are very attractive. The Servian Spruce, *Picea Omorica*, is a beautiful species which it was thought was going to be hardy at Ottawa, but in a very severe winter it was killed back. *Picea bicolor* or *Alcockiana* is a handsome hardy distinct species. The dark green of the upper part of the leaves and the bluish silvery green of the lower surface, make it very attractive.

The outdoor hydrangea does not require any protection during winter.—
Wm. Hunt, O.A.C., Guelph, Ont.

The Sweet Pea--A Queen of the Annuals*

H. M. Lay, Walkerton, Ont.

THE sweet pea may justly be called the Queen of Annuals. Its beauty and grace of form, delicacy and variety of color, sweetly subtle perfume, its hardiness, above all the length of its flowering season, are striking qualities which accounts for the affection with which it is regarded. During the last ten years the sweet pea has become so popular in America as well as in Great Britain, and so many useful manuals on its culture have been written by practical florists that as a novice I feel it difficult to say anything that others more competent have not already touched upon. I take comfort, however, from the knowledge that from Adam down all gardeners have to do each for himself, the spade work which is perennially necessary, elementary though digging may be.

This charming flower came to us from the sun-kissed island of Sicily. In its native home it enjoyed a warm climate, tempered by the humidity of the Mediterranean breezes. It is, however, not the only islander who has borne transplanting well and who contrives to thrive in more rigorous climates than that of his own "tight little island." We read that an ecclesiastic in that country about two hundred years ago first sent seed to his friends in England and Holland. So we see that a useful function of modern horticultural societies was anticipated long ago. No very great progress, however, in its culture appears to have been attained until the last forty years or so, as in a work on gardening called the "Florists' Guide," published in 1857, the height of sweet peas is given as from three to four feet. The modern books hold out hopes of even ten or fifteen feet of glorious flower bedecked vines.

Whether we determine to have one row or a dozen in our garden, it is important that we should plant the best seed to be had. There are a number of growers who make a specialty of sweet pea seed, and if we purchase from those who have won their spurs on the exhibition stand, we can have some assurance of success.

PREPARATION OF THE GROUND

You may have very fair results from planting your seeds in the spring, in ground that has had merely ordinary good cultivation, but it is satisfactory to the enthusiast to know that no flower responds more delightedly to kind treatment. In 1911 the London "Daily Mail" offered a series of valuable prizes for the best bunch of sweet peas. The result was a magnificent exhibition of thousands of bunches of sweet peas. The first prize was £1,000, and both it and

the third prize were won by a Scottish clergyman, the Rev. D. Denholm Fraser. Mr. Fraser has written a charming and exhaustive little book on sweet peas. He tells us that the winning blooms were grown in his kitchen garden where at a depth of three feet there was no sign of the rich loam giving out. After reading this I believed in the truth of the saying, "wherever in the world you find anything good, you find a Scotsman sitting down beside it." With such a garden, we wonder less at his success, for most of us, I fancy, cannot scrape so deeply without exhausting the "pay-streak." In my own garden, after removing the top spit or spadeful, I find room for improvement.

A good plan is to mark out the proposed row at least three or four feet wide, dig out the first two spits, throwing them on separate sides of the trench. The bottom spit is then turned over and any stones that may be met with are removed. The bottom of the trench is then spread with a layer of farmyard manure, about three inches in depth. This is thoroughly dug into the soil so as to induce deep rooting. On the top of this comes a liberal sprinkling of bone meal, say two or three ounces to the yard. The trench is then gradually filled with soil and alternate layers of good, rich farmyard manure and bone meal, using the soil from the second spit first,

and keeping the good soil for the last. At least a day should be allowed for settling, longer, if possible. The surface is then raked smooth. A good sprinkling of soot is beneficial as a top dressing, both before and after sowing.

SELECTING VARIETIES

There are about a thousand varieties of sweet peas. About half of these are the newer Spencer or wined varieties--descendants of their famous ancestor, Countess Spencer, first introduced at the exhibition of the British National Sweet Pea Society in 1904. The amateur who has only a limited space may feel rather perplexed in choosing from many lists of these beautiful flowers that might be made up. Of some fifty varieties which I have attempted to grow, the greatest favorites were among the following:

White, Burpee's White; Cream, Primrose and Queen Victoria; Scarlet, Scarlet Empress; Crimson, King Edward VII; Carmine, George Herbert; Orange, Thos. Stevenson; Pink, Constance Oliver, Gladys Burt, Elfrida Pearson; Mauve, Florence Nightingale, Tennant, Irish Belle; Maroon, Othello; Variegated, Dainty, Mrs. C. W. Bredmore, Mrs. Cuthbertson.

Sweet Peas require constant attention during the season, but what other flower is there to which you can go day after day for nearly four months and always be sure of an abundance of lovely bloom? If one does not undertake their culture on too ambitious a scale, the labor will be one of love and well repaid by the health and joy it will bring with it.



A View in the Garden of Mr. H. M. Lay, Walkerton, Ont.

Mr. Lay has had unusual success as a grower of sweet peas, among other honors, capturing prizes at the Toronto Industrial Exhibition. The bed in the foreground is made up of cannas, balsams, stocks and dianthus, with a border of blue lobelia.

*Extract from a paper read during November at the annual convention of the Ontario Horticultural Association.

Ontario Vegetable Growers Discuss Seed Production

SEED production was the most important theme at the tenth annual convention of The Ontario Vegetable Growers' Association. Production and marketing problems came up for discussion, but the delegates returned again and again to the subject that was uppermost in the minds of all,—where is our seed to come from in the future? In the past Canadian vegetable growers have depended almost altogether on Europe for seed, Germany supplying the greater portion. The supply has now been cut off by the war. There may be enough seed in the country to meet the needs of growers for the crop of 1915. But what about 1916? everyone asked.

In the past Canadian vegetable growers have paid little attention to seed production. "Can we grow our own seed?" is the question they are now asking each other. To answer it they brought to the convention two of Canada's best known seed experts, and combined their expert evidence with the result of their own practical experiences. W. T. Macoun, Dominion Horticulturist, was unable to be present, but a paper from him was read on the all-important subject. The feature of the discussion, however, was the address of Paul A. Boving, of Macdonald College, Que., who brought to the convention the knowledge gained from seed growing on two continents. His answer to the question, "Can Canada grow its own seed?" was an emphatic, "Yes." He agreed that production on a commercial scale might not be profitable, but as to the advisability of growers producing for their own use he was most positive that they should. Seed that has developed well under our conditions, he maintained, can produce progeny that will do even better. We will be sure of the quality, trueness to type and vitality of the seed we grow ourselves. Mr. Boving questioned the economy of importing all the seed of a \$35,000,000 crop.

"Necessity now does away with reason," said Mr. Boving. We must produce the seed if we would have it. An important factor in the production will be the government's subventions of three cents to forty cents a pound that will be paid growers for the seed they produce on their own farms. This seed will be grown under government inspection and hence will be reliable.

The first point enunciated in the growing of good seed was the selection of foundation stock that is true to type and of moderate size. In gathering roots for seed purposes, Mr. Boving advised that the seedling rootlets be disturbed as little as possible and that a couple of inches of the head be left on in order that the crown be not injured. This lat-

ter is desirable though not essential. Storing he regarded as another important point, the requirements being a place as cool as possible, commensurate with safety, and not too dry. At Macdonald College they have been pitting their roots for seed production for the past four years. In planting he advised his hearers to remember that roots do not stand drying in transport and had best be planted on days that are neither windy or sunny. The square system of planting was favored, seed roots of mangels being set in thirty inches apart each way, and the smaller vegetables twenty inches.

Cross fertilization is one of the important points in seed production that must be carefully watched. Swedes, for instance, inter-cross with rape and turnips, and a seed plot should be at least one hundred and fifty yards from either of these. Similarly mangels will cross with beets and sugar mangels, carrots with the wild carrot, and long radish with globular, and different plots of all these vegetables must be located a safe distance apart, in carrots four hundred to five hundred yards.

Mr. Boving directed that mangle seed be harvested when a cut in the cluster revealed a mealy surface, turnips when the bottom pods brown and the upper ones turn yellow, carrots as the heads ripen.

Cabbage stock may be gathered in September and transplanted to the trench, where they will grow the following year, and covered for the winter. If the foundation stock has been particularly good they may be left in the row in which they have grown. In cauliflower seed production he recommended growing the plants in greenhouses and setting out in the spring.

THE MARKETING PROBLEM

Discussion of the marketing problem was first limited to retail selling direct to the consumer. The establishment of conveniently located markets in all larger cities was favored. Mr. Thomas Delworth, of Weston, gave the subject a turn, however, by declaring his belief that producing and marketing call for two distinct types of men and that for his part he would hereafter confine his attention to producing and let someone else do the selling. This conclusion was concurred in by F. C. Hart, head of the branch on cooperation of the Ontario Department of Agriculture, who maintained that the average profit on a grower's load was not sufficient to justify him spending half a day in selling it and another half in delivering it. Neither did Mr. Hart condemn the middleman. He believed that the middleman system had sprung up because it was

convenient and desirable. Also he believed that through cooperation the producer might own at least a part of the distributing organization.

What are the factors of successful cooperation? Mr. Hart defined them as a spirit of give and take among the membership, proper organization, sufficient capital with which to do business, a business manager who is competent, and a willingness on the part of members to take the usual business risks.

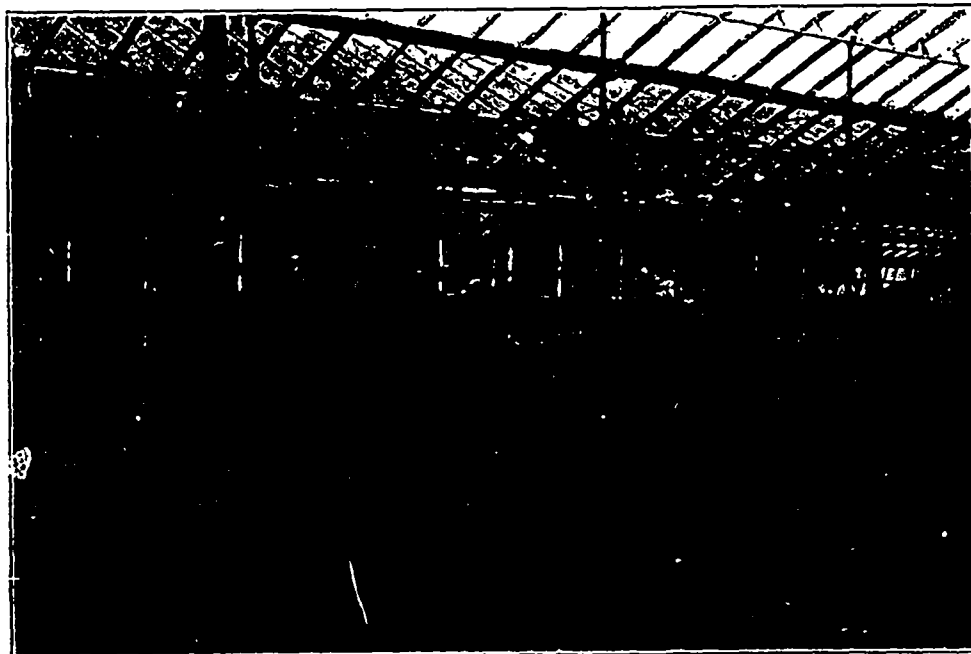
Special mention was made of the good work being done in farmers' clubs in cooperative buying and selling. Several instances were given, the most notable one being that of the Rainy River Potato Growers' Association, which believes its name by shipping hay, grain, poultry, eggs and live stock, in addition to potatoes. Last year this Association did a business of eighteen thousand dollars. It is financed on the joint and several note of its members for two thousand dollars. Each member is thus made financially responsible and his loyalty ensured. To extend similar cooperative organizations among the vegetable growers, Mr. Hart promised the full support of his department.

Vegetable growers in the vicinity of Toronto lose ten thousand dollars from the ravages of celery blight. In the past season, Mr. S. C. Johnston has been conducting experiments to determine the efficacy of Bordeaux mixture (4-4-40) in controlling the blight. In a few cases the results were not satisfactory but the general conclusion was that where celery was well sprayed every week from the time it appears through the ground up to harvesting the blight may be almost effectually controlled.

UNITED STATES CONDITIONS

Mr. Thos. Delworth, as delegate to the American Vegetable Growers' Convention, spoke of recent developments in the vegetable business in the United States. He made particular reference to the efforts being made to utilize a system of parcels post far superior to anything we have in Canada, and to the various systems of irrigation that he saw in operation on United States vegetable farms. He expressed a preference for the Skinner system.

The direct value of plant breeding work to the vegetable growing industry was the subject of an interesting talk by A. J. Logsdail, of Ottawa. This work at the Central Experimental Farm is necessarily limited to early maturing varieties. At present they are endeavoring to produce a variety of tomato that will mature early and at the same time mature a good percentage of its crop in the first two weeks. Early Adirondack, for instance, will mature only three to



Tomato Plants in Greenhouse of W. W. Hilborn, Leamington, Ont.

six per cent. in the first two weeks, and often the first frost at Ottawa catches the entire crop. Mr. Logsdail has set his standard at twenty per cent. of the full crop maturing in two weeks. They already have a strain of Alacrity that matures twelve per cent. in two weeks, and has gone as high as twenty-four per cent. in a month. Similar work is being done with corn, and Mr. Logsdail exhibited a matured ear, got as a result of crossing Early Malcolm and Early Adams, the new variety being fully as hardy as its parents, and of twice the size. Eventually he believed each climatic zone will work out its own strains for its own use.

EXPERIMENTAL WORK

Reports of the experimental work conducted at the O.A.C. and the Jordan Harbor farm in the interest of vegetable growers were given by F. M. Clement of Jordan, and J. E. Britton of Guelph. Both of these addresses will be given more fully in future issues. At the evening session, Prof. Graham spoke on "Poultry Raising in Connection with Vegetable Growing," two industries supposed by many to be incompatible. He believed that poultry could be reared without injury to all vegetables, except lettuce, providing the weather was not too dry and the chickens were always well fed. He told of having run one hundred chickens to the acre in Prof. Crow's vegetable garden at Guelph. This he considered as many as should ever be allowed to a single acre. Prof. A. H. McLennan, of Macdonald College, concluded the evening's programme by giving an illustrated talk on vegetable gardening, his views showing some of the best gardens in Eastern Canada and the Eastern States.

The annual report of the secretary, Mr. J. Lockie Wilson, bore testimony to the splendid manner in which the vegetable growers have responded to patriotic appeals. He mentioned one association in particular, that of Scarborough, which filled a car for the Canadians at Valcartier, and had such a surplus that they had to charter another car at a cost of sixty-three dollars to themselves, to carry it to the camp. For some reason or other this gift was never acknowledged. Numerous gifts of a similar nature had been made by other associations.

That the annual membership fee be advanced from fifty cents to one dollar, was the advice of Mr. Wilson, but it did not appeal to many of the delegates, and there was much discussion, without a definite decision being arrived at. The extension of the zone for parcel post as a means of assisting in marketing direct to the consumer was also advocated in the secretary's report. A financial statement for eleven months, November 30, 1913, to October 31, 1914, showed total receipts of \$1,192, expenditure of \$936, and a balance on hand of \$256.

On behalf of the Committee on Cooperation, Mr. Reeves of Humber Bay submitted a resolution asking that definite action in reference to cooperative dealing by the association be deferred for the present. He stated that the committee had exhaustively examined the possibilities of cooperative buying of seeds, but that war had so disorganized the market that seed buying was a problem they could hardly solve. He advised that the branches continue to buy cooperatively in the meantime, and a workable plan would be submitted for centralized buying at the annual meeting. Several delegates objected to this

resolution, notably Mr. McCalla of St. Catharines, on the ground that the association was falling down just when help is most needed. Others pointed out, however, that were a policy to be adopted now and the plan fail, due to war conditions, it would be disastrous to future cooperative effort. The resolution carried.

Hon. Mr. Duff, Minister of Agriculture, was the first speaker at the evening session. He emphasized the duties of all agriculturists in the production of food stuffs in unusual quantities during this hour of the Empire's need. He intimated that his department was considering the advisability of embodying the addresses of the annual convention of the Vegetable Growers' Association in a small pamphlet, that could be printed and got to the members before spring planting, and thus be of more use to them than the larger and fuller report now issued, which does not reach them till later. Several of the delegates took this to mean that their annual report was to be discontinued, and they were not slow in expressing their dissatisfaction with any such change.

The convention this year was thoroughly representative, even if it did not record an advance in attendance. The great problem of seed production gave to the proceedings unusual importance, and in the words of their president, Mr. C. Wesley Baker, of London, the growers endeavored to prepare themselves for "business unusual" as well as "business as usual."

Vegetable Pointers

Never handle celery when the top is wet. It induces rust.—F. F. Reeves, Humber Bay, Ont.

The best way to store potatoes and garden root crops is in a root house isolated and specially constructed.—Jas. Guthrie, Dixie, Ont.

When crops grown in the greenhouse are given the best conditions possible for their growth, loss from diseases will be reduced to a minimum. In other words, prevention is better than cure.—C. W. Waid.

The maggot which works in the roots of cabbage and cauliflower, is sometimes in or on the root when the plants are taken from cold frames, the fly, resembling a housefly closely, having deposited her eggs among the young plants. This can easily be prevented by using screens either of wire (mosquito screen) or cloth over the cold frames when unprotected by glass. No apertures, however small, should be left, and inasmuch as the glass is raised frequently the screen should be in place at all times to insure protection.

The Canadian Horticulturist

COMBINED WITH

THE CANADIAN HORTICULTURIST AND BEEKEEPER

With which has been incorporated
The Canadian Bee Journal.
Published by The Horticultural
Publishing Company, Limited,
PETERBORO, ONTARIO

H. BRONSON COWAN Managing Director

The Only Magazines in Their Field in the
Dominion

OFFICIAL ORGANS OF THE ONTARIO AND QUEBEC
FRUIT GROWERS' ASSOCIATIONS
AND OF THE ONTARIO AND NEW BRUNSWICK
BEEKEEPERS' ASSOCIATIONS.

REPRESENTATIVES

UNITED STATES

STOCKWELL'S SPECIAL AGENCY.
Chicago Office—People's Gas Building.
New York Office—Tribune Building

GREAT BRITAIN

W. A. Mountstephen, 3 Regent St., London, S.W.

1. The Canadian Horticulturist is published in two editions on the 25th day of the month preceding date of issue. The first edition is known as The Canadian Horticulturist. It is devoted exclusively to the horticultural interests of Canada. The second edition is known as The Canadian Horticulturist and Beekeeper. In this edition several pages of matter appearing in the first issue are replaced by an equal number of pages of matter relating to the beekeeping interests of Canada.

2. Subscription price of The Canadian Horticulturist in Canada and Great Britain, 60 cents a year; two years, \$1.00, and of The Canadian Horticulturist and Beekeeper, \$1.00 a year. For United States and local subscriptions in Peterboro (not called for at the Post Office), 25 cents extra a year, including postage.

3. Remittances should be made by Post Office or Express Money Order, or Registered Letter.

4. The law is that subscribers to newspapers are held responsible until all arrearages are paid and their paper ordered to be discontinued.

5. Change of Address—When a change of address is ordered, both the old and the new addresses must be given.

6. Advertising rates, \$1.40 an inch. Copy received up to the 20th. Address all advertising correspondence and copy to our Advertising Manager, Peterboro, Ont.

CIRCULATION STATEMENT

The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with December 1913. The figures given are exclusive of samples and spoiled copies. Most months, including the sample copies, from 13,000 to 15,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruits, flowers or vegetables.

January, 1913	11,570	August, 1913	12,675
February, 1913	11,550	September, 1913	13,728
March, 1913	11,269	October, 1913	13,778
April, 1913	11,570	November, 1913	12,967
May, 1913	12,368	December, 1913	13,233
June, 1913	12,618		
July, 1913	12,555	Total	150,293

Average each issue in 1907, 6,627
" " " 1913, 12,524

Sworn detailed statements will be mailed upon application.

OUR GUARANTEE

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of The Canadian Horticulturist are as carefully edited as the reading columns, and because to protect our readers we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with any subscriber, we will make good the amount of his loss, provided such transaction occurs within one month from date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state "I saw your advertisement in The Canadian Horticulturist."

Rogues shall not ply their trade at the expense of our subscribers, who are our friends, through the medium of these columns; but we shall not attempt to adjust trifling disputes between subscribers and honourable business men who advertise, nor pay the debts of honest bankrupts. Communications should be addressed

THE CANADIAN HORTICULTURIST
PETERBORO, ONT

EDITORIAL

A NEW YEAR'S WISH

The development of character on the highest lines should be the chief aim of our lives. That we may all make while progress in this direction is the sincere wish of The Canadian Horticulturist for all our readers for 1915.

SIGNS OF PROGRESS

THE announcement on the index page of this issue of The Canadian Horticulturist that on and after the first of next year, the regular edition of The Canadian Horticulturist will be divided into two sections and published in the form of a fruit edition and of a floral edition, is of more importance than might at first appear. It marks an advance in the horticultural interests of Canada.

Thirty-seven years ago the members of The Ontario Fruit Growers' Association felt the need for a publication devoted to the interests of horticulture. In the face of great difficulties they launched The Canadian Horticulturist. From that day to this The Canadian Horticulturist has been the recognized medium in Canada of the great horticultural interests.

At first it had many difficulties with which to contend. It was small in size, the subscription price was high, and comparatively few people were interested in advanced horticultural efforts. At that time there were no horticultural societies in Ontario. In time, mainly through the efforts of the then editor of The Canadian Horticulturist, many horticultural societies were formed. These affiliated with The Ontario Fruit Growers' Association, and subscribed for The Canadian Horticulturist for all their members, paying seventy-five cents a year for it.

Ten years ago another forward step was made. The publication of The Canadian Horticulturist was taken over by a company composed of leading fruit and flower growers, and in which The Ontario Fruit Growers' Association retained a considerable interest with representation on the board of directors. The Canadian Horticulturist was enlarged in size and the subscription price was reduced. Largely through the efforts of the present editor the Ontario Horticultural Association was formed and the government was induced to pass a new Act respecting Horticultural Societies, and increasing their government grant. Since then the work of the horticultural societies of the province has shown a vast improvement. The Canadian Horticulturist has continued its close identity with them.

Now the time has come for another forward step. Hitherto it has been found necessary to divide the space for reading matter between the professional fruit and the amateur floral interests. Under these circumstances it has often been impossible to devote as much space to either as has been desirable. Under the new arrangement, which will come into effect the first of the new year, by publishing The Canadian Horticulturist in two editions, the first devoted mainly to fruit and the second to flowers, this difficulty will be largely overcome. In both editions space will still be devoted to both subjects, but not to the extent that it has been in the past. In due time we expect that these two editions will develop into separate and distinct pub-

lications devoted wholly to their special branch of horticulture. The advance in the subscription price will be fully justified by the improvement in The Canadian Horticulturist. We will appreciate it if our readers will advise us at the earliest possible date which edition they desire to have us send them. We know that the readers of The Canadian Horticulturist will appreciate the improvements we intend making, and we count on continuing to have their loyal support in the future as in the past.

THE MIDDLEMAN'S PROBLEMS

Of late years there has been a growing tendency on the part of many fruit growers, including even men having considerable commercial experience, to belabor the city retailer as being one of the main factors in the increased cost of marketing the fruit crop. Again and again we hear fruit growers describe cases where barrels of apples or baskets of small fruit have been sold to retailers at low prices and sold out again by them at an apparently unreasonable advance. The difference between the price the retailer paid for the fruit and the price he sold it for to the consumer is generally described as clear profit.

If retailers made an unreasonable profit on their turnover the law of supply and demand would quickly lead to a sufficient increase in the number of retailers to bring down the price. Their bookkeepers and clerks would quickly see the profit they were making and would launch out into business for themselves. The expense of starting up in the retail business is sufficiently low to make this easily possible.

Strong evidence that the average retailer is not able to become wealthy overnight has been furnished by the experiences of fruit growers and other producers who have attempted to establish retail outlets for their produce have almost invariably ended disastrously for the producers and generally in a very short time. The cost of conducting a business in a city has always been found to be heavier than appears on the surface.

Mr. Clark, a retailer in Toronto, established a strong case for the retailer in the address he gave during November before the members of the Ontario Fruit Growers' Association, as will be seen by the report of the address published in this issue. Fruit growers will do well to read this address with care. It may help some growers to appreciate that the retailer, instead of being the black sheep he has often been painted, is himself the victim of forces over which he has no control, among which, and by no means least, are rapacious landlords who, by monopolizing the land in our cities are able to levy heavy tribute on producers, middlemen, and consumers alike to the extent of millions of dollars a year.

READY FOR AN ADVANCE

The Fruit Marks Act has justified itself. The opposition to its enactment was bitter. To-day fruit growers freely admit that it has proved of untold benefit to the fruit industry. At first it was feared that the Act might be too strictly enforced and hardship result to many growers. To-day it is realized that the Fruit Division at Ottawa has looked after the administration of the Act in an admirable manner, and that the time has come when the Act should be more strictly enforced than in the past.

At the recent Dominion Fruit Conference the desire of the fruit growers for an even more rigid enforcement of the Act was very evident. There was a demand for more inspectors, for the elimination of

THE CANADIAN HORTICULTURIST AT HALF PRICE A GREAT OFFER

During December only, The Canadian Horticulturist may be ordered for what will practically be half price. As announced elsewhere in this issue, the subscription price of The Canadian Horticulturist will be advanced on the first of January, 1915, from 60 cents to \$1.00 a year. **During December, however, it will still be possible to subscribe for The Canadian Horticulturist for two years for only \$1.00.** This is your last opportunity, therefore, to obtain The Canadian Horticulturist for two years at the rate of only 50 cents a year.

POINTS TO BE NOTED

This offer will not be continued after December 31, 1914.

We Wish all Readers of The Canadian Horticulturist a Prosperous and Happy New Year

THE HORTICULTURAL PUBLISHING CO., Ltd. - PETERBORO, ONT.

Subscriptions for a period longer than two years at the reduced rate, will not be accepted.

When sending your subscription state which edition you desire us to send you—the fruit edition or the floral edition. (Note the announcement on the index page.)

Send your remittance by registered letter, postal note or express money order.

A CHRISTMAS SUGGESTION

A subscription for The Canadian Horticulturist for two years for only \$1.00 would be a fine Christmas remembrance for some of your friends. Do not forget them.

the number three grade, for the proper filling of packages, and for other similar improvements. It was pointed out that several associations are marketing packs that are considerably higher than the requirements of the Act. The resolutions passed at the conference, as published elsewhere in this issue, show that representative fruit growers of Canada are in favor of another forward move, which will have for its object a still further improvement in the fruit pack of Canada.

PUBLISHER'S DESK

We are sure that you have noticed and appreciated the front cover of this issue of The Canadian Horticulturist. We consider it just about the nicest front cover design we have yet used. If you have not done so be sure and read every line of the poetry displayed thereon. It carries a message of hope and good cheer not only as it relates to the Christmas season and the New Year, but to all who hope that good will emerge from the terrible struggle now taking place in Europe. Be sure you catch this double inspiration. It will do us all good.

Next year's issues of The Canadian Horticulturist are going to be far the best we have ever published. With special editions for fruit growers, and special editions for flower growers, it means that both classes of our readers are going to have more articles in each dealing with the subjects in which they are particularly interested. The Canadian Horticulturist next year will be a particularly valuable premium to be offered by Horticulturists' Societies to all their members. See that your Society places it on its premium list.

The January issue of The Canadian Horticulturist will devote special attention to the use of fertilizers. This will be the first Fertilizer Number that we have ever published. It will be practical, simple and helpful. Watch for it.

If the press would point out the good qualities of the apple and its value as a food and its cheapness as compared with other articles of food that we use every day, they would be doing a good work.—Robert Thompson, St. Catharines, Ont.

The Annual Rally of the Horticultural Societies of Ontario

THE big day of the year among those who are interested in the work of the horticultural societies of Ontario, is the occasion of the annual convention of the Ontario Horticultural Association. This year delegates were present as usual from all parts of the province, from Hawkesbury, in the east, to Windsor in the south-west, and from Fort William in the extreme west. The convention was held in Toronto on November 11 and 12. As usual many of the delegates were ladies. The sessions proved interesting throughout.

President J. H. Bennett, of Barric, opened the proceedings with a brief presidential address after which the treasurer, C. A. Hesson, of St. Catharines, presented the annual report. This showed total receipts of \$247.44, composed of a balance from the year before of \$130.78, and of fees from horticultural societies for the past year of \$115.00. The expenditures amounted to \$79.48, including affiliation fee with the American Civic Association, \$5.00; stationery, \$12.45; postage and exchange, \$2.00, and \$50.00 paid to the secretary, as well as \$5.00 for his assistant, and \$5.00 for the housekeeper of the Parliament Buildings, who looked after the convention rooms. This report does not look as if the Association was doing very much with its funds to advance the cause of horticulture, but there was no discussion of it and the convention seemed satisfied. The balance on hand at the close of the year was \$167.90.

The enterprising secretary of the Association, Mr. J. Lockie Wilson, who is the superintendent of horticultural societies for the province, presented a voluminous report. It showed that five new societies had been incorporated during the past year, viz., Carleton Place, Dryden, Newcastle, Streetsville, and Westboro. Only one society, Varwick Hill, had failed to make its return. The membership of the St. Thomas Society last year was 1,100, an increase of 32, Stratford 500, an increase of 313, St. Catharines 925, an increase of 270, Windsor 406, an increase of 172, Brantford 372, an increase of 170, Walkerville 197, an increase of 120, Berlin 285, an increase of 100, Hamilton 618, an increase of 79, Winchester 146, an increase of 66. Most of the superintendent's report was composed of reports from individual societies and showed the interesting work they had accomplished during the year.

While the convention was in session a magnificent vase of Wm. Turner chrysanthemums, grown by the Dale Estate, was brought in and placed on the table. It was a revelation to all present of the perfection to which these flowers can be grown.

A feature of the convention was the presence of Ontario's recently appointed premier, Hon. W. H. Hearst, who gave a brief address, as did also Hon. James Du., and Hon. F. McDiarmid, Ontario's new minister of Public Works. Rev. Mr. Scott, of Perth, who was acquainted with Hon. Mr. Hearst when he was a young man, made a most pleasing speech setting forth his early acquaintance and impression of Ontario's new premier.

Letters of regret for their inability to be present were read from J. Horace McFarlane and R. B. Watrous, the president and secretary respectively of the American Civic Association.

EDUCATIONAL ADDRESSES

A feature of the convention as usual were a number of splendid addresses of an educational character. Mr. Lunbar, superintendent of the famous parks of the city of Rochester, gave an address and showed a large number of slides illustrating scenes in Rochester's city parks. In these parks are grown evergreens from all parts of the world. The speaker stated that he believes that they grow all the known varieties of crab apples. Views of Japanese crab apples in bloom and of Chinese magnolia planted down the centre of a city street were very fine. On what is now known as Lilac Sunday the parks are crowded by thousands of people.

Mr. James M. Bryson, of Moore Park, Toronto, gave a lengthy and splendid address, also illustrated by stereopticon views, on the subject, "The Best Varieties of Roses for Amateur Gardens." As there are eleven acres of roses in Moore Park, where some fifteen thousand roses are grown, an idea of Mr. Bryson's qualifications to deal with this subject may be gained. An extract from this address appears elsewhere in this issue. Further extracts will be published later.

Mrs. Ada L. Potts gave a valuable address on the subject, "Gardens for School Children," in which she advocated having the study of nature placed on the curriculum. Discussions of nature subjects could be conducted in connection with gardens

(Continued on page 29)

Ontario Fruit Growers in Convention Discuss Problems

ONTARIO fruit growers are in favor of the suggestion made in the last issue of *The Canadian Horticulturist* that their chief product, the apple, should be generally recognized throughout the Dominion of Canada as the national dish of its people. At the fifty-fifth annual convention of the Ontario Fruit Growers' Association, held in Toronto, November 11th to 13th, President Robert Thompson, of St. Catharines, brought the matter before them in his annual address, when he pointed out that England had roast beef, Scotland oatmeal, and Ireland the potato. "We in Canada," said Mr. Thompson, "might well take the apple as our national dish, as in no other country does the apple flourish as it does in Canada." Later the President's suggestion was embodied in the following resolution:

"As the apple reaches the highest state of perfection in Canada, is both beautiful to look upon and very pleasing to the taste; is popular with both rich and poor; is one of the most health-giving and stimulating articles of diet; it is therefore the opinion and wish of this Association that the apple henceforth will be regarded as the national dish of Canada."

The resolution was adopted amidst applause. Who knows but that in later years this may be regarded as the most important act of the Fifty-fifth Annual Convention of the Ontario Fruit Growers' Association.

The discussions at the convention showed that all has not gone well with Ontario fruit men this past season. Severe frosts in the spring practically destroyed the peach crop. A general money stringency seriously interfered with the marketing of earlier fruits, and war conditions have now somewhat demoralized the apple market. But the fruit growers are not discouraged. They have adopted the national motto, "Business as Usual."

The past year has accentuated a situation that has been developing for many years—the difficulty of marketing the apple crop with economy and efficiency. Growers now realize that this rather than the production of fruit is their most difficult problem, and they have set themselves resolutely to solve it. Discussions of a business nature took first place in practically all sessions of the convention. Fruit Commissioner Johnson opened the discussion that held an important place in the proceedings of three days.

GREATER PRODUCTION ASSURED

"If we don't find some way to increase consumption," said Mr. Johnson, "we will soon have over-production. We have 25,000,000 fruit trees in Canada. In the Aenapolis Valley not 50 per cent. of their trees are in bearing. New Brunswick is also planting. Quebec is coming in once more with McIntosh and Fameuse. Two-thirds of the orchards in British Columbia are under five years of age, and the other one-third are only beginning to bear."

The Commissioner was not pessimistic. He pointed to great possibilities of market extension right in our own cities. One-half of our urban population, he estimated, do not eat apples at all, and not one-quarter of the amount that should be consumed is now marketed. It was to bring the merits of the apple before city consumers that the Government conducted its advertising campaign this fall. The results were gratifying. Mr. Johnson stated that fully 50,000 inquiries had been received at Ottawa as a result of the campaign.

More apples would be consumed were it not for the price," was his comment. He recommended the bulk car method of shipment adopted extensively for the first time this season. He contrasted the desirability of two methods of handling these bulk shipments by using as illustrations two cars shipped to Ottawa this fall. In the first instance the apples were purchased at twenty-five cents a barrel, loaded on the cars in bulk, carried one hundred and fifty miles to Ottawa, and sold at one dollar to hucksters. The dealer made forty cents profit on the shipment. The hucksters sold to consumers at two to three dollars a barrel. Hence the economy of this method of handling fruit did not redound largely to the benefit of the consumer.

In another instance the City Council of Ottawa interested themselves in the marketing problem. They bought the apples in Western Ontario, paying the fruit grower forty cents delivered at the car. The bottom of the car was protected with six inches of straw, the sides were padded, and the apples piled in to a depth of three feet. At Ottawa the apples were bagged at a total cost of seven cents, and delivered in the consumer's cellar at sixty-five cents a barrel. A single notice in the paper was sufficient to sell the whole car.

"In this case," said Mr. Johnson, "the producer got all he asked, and consumers had their apples at less than one-half what it usually cost them. Had more apples been available at this price, twice as many would have been used." There will always be a demand for good barrelled and boxed fruit. But for the marketing of inferior goods even in the best of seasons, Mr. Johnson recommended the bulk shipment.

MARKETING PROBLEMS

Prof. J. W. Crow, O.A.C., Guelph, carried on the discussion. He drew a sharp distinction between the responsibility of the grower and the consumer. Retail marketing by the producer he did not consider either practicable or desirable. "When the grower follows his apple to the wholesale market," said Prof. Crow, "from then on it is the consumer's problem." He attributed high retail prices, not to the immense profits that are being made by retail dealers, but to the multiplicity of fruit stands, each with a very small turnover. He saw very little hope of giving the consumer fruit as cheaply as he should have it until municipal governments recognized that fruit distribution was a subject for Government regulation and did something to curtail injurious competition among retail dealers.

The idea of growers advertising their products more extensively appealed to Prof. Crow. He believed that through seasonable advertising it would be possible to educate consumers to call for the different varieties in their season and not to limit their demand, as many do, to Snows and Spies. A more immediate duty of the grower, however, is to place on the market a product of higher uniform quality. No one operation, he contended, would contribute more to this end than thinning, and he gave figures estimating increased returns on one hundred barrels of fruit at twenty-three dollars and forty-nine cents, all as a result of thinning the fruit on the trees.

Marketing from a cooperative standpoint was dealt with by F. C. Hart of Toronto, who enunciated some of the principles which lead to success in cooperative dealing, such as a sufficient supply of capital, the establishment of a surplus fund for

permanent improvements and a real business manager. He scored some associations severely for their laxity in keeping accounts, and announced that his department was prepared to audit the books of any society that desired to take advantage of his offer.

Mr. G. E. McIntosh, of Forest, the association's transportation expert, embodied some of the general ideas laid down by Mr. Hart in one concrete suggestion. He believed that Ontario fruit growers should be organized, as are those of Nova Scotia, British Columbia, and the citrus growers of California. He suggested organizing local societies into district societies, a district covering one or more counties. The districts in turn would be organized in a central body, through which the main business of all the fruit growers of the province would be transacted. This, he believed, was in harmony with the modern spirit of centralized enterprise.

The "direct to the consumer" aspect of the marketing problem was handled by Mr. W. H. Bunting of St. Catharines, who told of his success in building a "direct to the consumer" trade through the medium of newspaper advertising. This method of marketing Mr. Bunting characterized as "a remunerative side line." He emphasized the fact that much of his fruit is still sold to the commission man and reaches the consumer through the medium of the retail dealer. In his belief the greater portion of Ontario's crop must continue to be so marketed for a long time to come. To fully round out the discussion on marketing, a retail grocer of Toronto, Mr. L. W. Clark, was given an opportunity of presenting the retailer's case. Mr. Clark apparently proved to the satisfaction of all that retailers work on a narrow margin. He took occasion to call attention to some of the abuses of the trade, such as partially filled berry boxes and the shipping of immature fruit. In his experience he has found that Canadian shippers were more addicted to these forms of dishonesty than were growers in the United States.

THE TRANSPORTATION PROBLEM

Unsatisfactory service by express companies has long been a source of irritation and of considerable loss to Ontario fruit growers, and the subject was again up for discussion at the convention. Member after member told of losses that had been sustained through rough handling, pilfering, and delayed deliveries. Suggestions for reform were embodied in a series of resolutions, the most important of which called for the extension of the powers of the Railway Commission to cover the regulation of all transportation agencies doing business in Canada. They all asked for the passage of Bill 85, now under consideration at Ottawa, the provisions of which have been given in a previous issue of *The Canadian Horticulturist*.

Other resolutions bore directly on the marketing problem. One expressed appreciation of the enterprise of Sir Geo. E. Foster in conducting the advertising campaign this year, and asking that the campaign be continued next year. Legislation was asked allowing the use of a box the same length and width as the standard apple box, but only five inches in depth, for use in the export trade. The convention again placed itself on record as favoring such additions to the staff of fruit inspectors as will make possible inspection of fruit upon shipment during the packing season, the inspectors to issue certificates



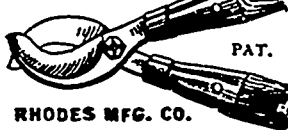
MID-WINTER SALE CATALOGUE

Every page is filled with bargains—every article dependable Simpson merchandise marked closer to cost than ever before. To get the most for your money you need this book. Send a post card to-day.

We pay delivery charges. We give a one-day service.

THE **SIMPSON** COMPANY LIMITED
ROBERT SIMPSON TORONTO

RHODES DOUBLE OUT PRUNING SHEAR



Cuts from both sides of limb and does not bruise the bark. We pay Express charges on all orders. Write for circular and prices.

RHODES MFG. CO.
536 S. Division Ave GRAND RAPIDS, MICH.

FREE LAND FOR THE SETTLER IN NEW ONTARIO

Millions of acres of virgin soil obtainable free and at a nominal cost are calling for cultivation.

Thousands of farmers have responded to the call of this fertile country and are being made comfortable and rich. Here, right at the door of Old Ontario, a home awaits you.

For full information as to terms, regulations, and settlers rates, write to

H. A. MACDONELL
Director of Colonization
Parliament Buildings., TORONTO
HON. JAS. S. DUFF
Minister of Agriculture
Parliament Bldgs., Toronto

EUROPEAN SEEDS

Order from ENGLAND NOW

KELWAY'S
QUOTE and CAN DELIVER

Anise	Cauliflower	Lucerne	Rape
Beet	Celery	Mustard	Rutabga
Cabbage	Kale	Pepper	Spinach
Carrot	Kohl Rabi	Raddish	Turnip
Vetch and Flower Seeds			

If you have hitherto placed your orders in other quarters, OUR PRICE under present circumstances, will compel you to buy from us.

Please write AT ONCE while stocks last for immediate and later delivery: also on contract for next Fall.

British Sailing to Canada continues all the time.

KELWAY & SON, SEED GROWERS
to the TRADE
LANGPORT, ENG.

stating the results of inspection so far as it has gone. The Federal Government, it was believed, might render assistance in the solving of the transportation problem as the Provincial Government has already done.

Educational addresses were this year placed somewhat in the background by the urgency of the market situation, but as usual they were of a high order. Prof. L. Caesar, Provincial Entomologist, as usual an appreciated speaker, dealt with the Cherry Fruit Fly, a pest first discovered by him in 1910, but now recognized as one of the most serious affecting the cherry. This address is published elsewhere in this issue.

As a result of his investigations, Mr. W. A. McCubbin, St. Catharines, attributed peach canker to definite fungus diseases, and not to borers, as was once so common. Extracts from this address also appear elsewhere in this issue.

General discussions were a source of much information. Prof. Crow strongly advised year-old sweet cherry trees for planting, emphasizing the superior value of Mazard stock. In selecting nursery stock of many of the plums and of sour cherries, he favored year-old trees, but with apples and pears he believed two-year-old stock will generally give better satisfaction. F. M. Clement, of the Jordan Harbor Experiment Station, reported results in the fall planting of cherries, pears, and plums. His remarks will also be published in full. A comparatively new phase of fruit growing was discussed by M. B. Davis, C.E.F., Ottawa, under the title "Fire Pots." In his work Mr. Davis found that an acre could be heated for one hour on a frosty night at one dollar sixty cents to two dollars fifty cents. If a crop were to be saved this expenditure would be well worth while.

Apple growing in the far eastern counties, where natural conditions are none too favorable, found its exponent in Mr. Harold Jones, of Maitland, Ont., whose remarks are published elsewhere in this issue.

Douglas Gardens

OAKVILLE, ONT.

Hardy Plants Grown in Canada

- Paeonies
- Irises
- Phlox
- Delpiniiums
- Heleniums
- Hardy Asters
- Hemerocallis
- Shasta Daisies
- etc., etc., etc.

JOHN CAVERS

SKINNER THE RAIN SYSTEM MACHINE

OF IRRIGATION TRADE MARK THE SKINNER IRRIGATION CO. DEPT. R., TROY, OHIO

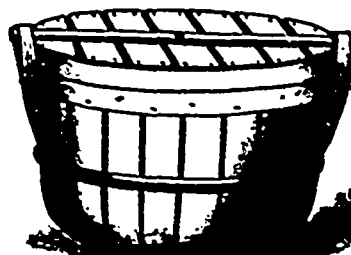
Write for six books on indoor and outdoor irrigation.

Peerless Guaranteed Fencing

Strongly made and closely spaced—making it a complete barrier against large animals as well as small poultry. Top and bottom wires No. 9—intermediates No. 12 wire—made by the Open Hearth process which time and other tests have proven to be the best material made for the manufacture of wire fencing. Send for literature. Ask about our farm and ornamental fencing. Agencies nearly everywhere. Live agents wanted in unassigned territory.

The Barwell-Maxie Wire Fence Co., Ltd. Winnipeg, Man., Hamilton, Ont.

Peerless Apple Shipping Baskets Complete with Covers



This package is light, strong, durable, easy to pack and load, will carry safely any distance,—contains a suitable quantity of apples for the average buyer,—and is attractive to the consumer, as a handy basket around the home. Write to-day for full particulars to:

CANADA WOOD PRODUCTS CO.
ST. THOMAS, ONTARIO

The Bee-Keepers' Review

Is out on a hunt for new subscribers and has a special offer to make to those subscribing at the present time. The regular subscription price of *The Review* is \$1 a year. Our special offer is to give the last nine months of 1914 and all of 1915 at the regular annual price. The nine months of 1914 contain all the valuable papers read at the National Convention at St. Louis, Mo., last February, including one from Prof. Morley Pettit, and one from Prof. F. W. Sladen, of Canada, besides many from over the border. Twenty-one months for a dollar. A bargain worth considering. No extra charge for Canadian postage.

Address, with remittance, The Bee-Keepers' Review, Northstar, Michigan.

BEE-KEEPERS' SUPPLIES

SEASON 1915

Early Cash Order Discount 5%—November 1st to December 31st.

Send for our New Catalogue

BEES-WAX WANTED

Best Market Price
Cash or Exchange

The Ham & Nott Co., Ltd.
BRANTFORD, ONT.

"Pre-cooling of Canadian Fruits" was dealt with by Edwin Smith, in charge of the Grimsby Cold Storage. F. M. Clement, who has now been in charge of the farm at Jordan Harbor for one year, told something of the work they are doing there, and extended a hearty invitation to all fruit growers to come and inspect the farm. Mr. Robert Thompson and several others present concurred in the statement that Mr. Clement had wrought a wonderful change on the farm. Of particular value to those planning to set out orchards in Eastern Ontario was Mr. W. T. Macoun's paper on "Yields of Varieties of Apples at Different Ages." Full reports of these discussions and papers will be given in future issues of *The Canadian Horticulturist*.

INCREASED MEMBERSHIP WANTED

Ways and means of increasing the membership of the association were discussed. At present, of the fifty-four fruit growers' associations of the province only seventeen are affiliated with the Ontario Fruit Growers' Association. Of the growers outside of the associations, only ninety-one are members of the central organization. The good work that the association might do is thus greatly curtailed. A committee appointed to consider the subject recommended that the director of each division be requested to take a census of the local organizations in his district and visit these associations urging them to affiliate.

Several members who have long been prominent in the membership of the association have passed away since the last annual meeting. Among these are Dr. Saunders, Mr. Linus Woolverton, and Alex. McNeil. The convention expressed its appreciation of the work of these men and grief at their loss. The appointment of Mr. D. Johnson as Fruit Commissioner was endorsed, and thanks tendered to Mr. J. A. Ruddick for his services in the past as head of the fruit branch. Sympathy was expressed for the secretary, Mr. P. W. Hodggets, who had been ill for some weeks. The Hon. Mr. Duff, Minister of Agriculture, was thanked for his interest in the association, personally and financially. Government regulation for the business in Nursery Stock to prevent the operations of unscrupulous dealers was called for. Any one who has planted an orchard to find several years afterward that the trees were not true to name and of an inferior variety will appreciate the importance of this last resolution.

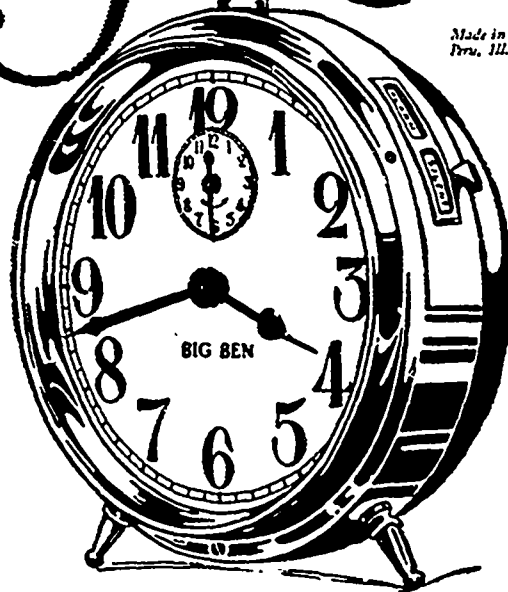
The various districts of the province were fully represented at this year's convention, but on the whole the attendance would not compare favorably with conventions of previous years. This falling off may be accounted for largely by the cancelling of the fruit show. Next year, however, if the growers have their way, they will hold the greatest fruit show in the history of the association. A special effort is to be made to increase the attendance at the convention of 1915.

DIRECTORS ELECTED

The directors for the following year were elected as follow: J. B. Smith, Mountain; C. W. Beven, Prescott; F. S. Wallbridge, Belleville; Elmer Lick, Oshawa; W. I. Bragg, Bowmanville; H. G. Foster, Burlington; R. H. Dewar, Fruitland; R. Thompson, St. Catharines; Geo. Schuller, Simcoe; Dr. Grant, Thedford; C. W. Gurney, Paris; Kenneth Cameron, Lucknow; and W. J. Saunders, East Linton. An additional director, F. M. Clement, was elected to represent the Jordan Harbor Experimental Station. The directors elect their own officers at their first meeting.

Big Ben

Made in La Salle and
Peru, Ill., by Westlar



A crackerjack of a Xmas present

Remember when you were a kid? The presents that were all shiny and bright, and that "worked!" Weren't they the ones that you were proudest of?

Something for your room—something you could use all year—something like big people had in their rooms. The sensible presents appealed to you best when you were a kid. Think back a bit and see. Then think of Big Ben for those boys and girls.

Toys, of course, should never be displaced. It wouldn't be Christmas without them. But mix in useful things—things that develop pride and that make little people feel responsible. Give them presents to live up to and to live up with. Don't make the mistake

of thinking they don't feel the compliment.

Let one thing that meets the eye of your little boy and girl on Christmas Morning be that triple nickel-plated, jolly, handsome, pleasant looking, serviceable, and inspiring clock—BIG BEN. See if you don't hear them say: "Why! Isn't that a crackerjack? Is that for me to use myself?"

Big Ben is a crackerjack-of-a-Christmas-present to give to any friend. He's two presents in one, a dandy alarm to wake up with, a dandy clock to tell time all day by. He stands seven inches tall. He's got an inner vest of steel that insures him for life,—big, bold, black hands you can see at a glance in the dim morning light without ever having to get out of bed—large, comfy keys that almost wind themselves and a deep, jolly ring that calls just when you want, and either way you want, five straight minutes or every other half minute for ten minutes unless you flag him off.

Big Ben is sold by 23,000 watchmakers. His price is \$2.50 anywhere in the States, \$3.00 anywhere in Canada. If you can't find him at your dealer's, a money order mailed to Westlar, La Salle, Illinois, will send him anywhere you say, attractively boxed and express charges paid.

Fruit Business from the Retailer's Standpoint*

D. W. Clark, Retail Grocer, Toronto, Ont.

THERE are people under the impression of a grocer buys an article for ninety-nine cents and sells it for a dollar he is making a profit of one per cent. Such is not at all the case. I have been in the grocery business in Toronto over thirty years, and from my own experience and the experiences of others in the trade, the expenses of a grocer reach from twelve to eighteen per cent. on the turnover. So that if a retailer sells a basket of fruit for one dollar, he must figure that from the time that basket entered his store until it was handed in at the door of the consumer, it cost him anywhere from twelve to eighteen cents. Suppose it cost him the average fifteen cents—you can see that if the first cost of the article was eighty-five cents and he sold it for one dollar, he is actually just breaking even and no net profit whatever has been made.

The overhead expenses of a retail grocer include many items. There are wages to be paid the manager or proprietor, and the selling staff; there is rent, or interest on investment, light, fuel, the upkeep of delivery horses and waggon's, and drivers' wages; taxes, insurance, store equipment and fixtures; depreciation on everything; stationery, stamps, etc., bad debts which frequently necessitate the writing off of considerable money; and sometimes unforeseen occurrences, such as the death of a horse or the smashing of a delivery wagon in a runaway. Goods which we purchase and stock in our stores so as to have them convenient for the consuming public must each and all bear their share of these

*A paper read at the recent convention in Toronto of the Ontario Fruit Growers' Association.

inevitable overhead expenses. In the case of fruit and other perishable goods, there is always the additional expense of waste to be added, for no merchant, no matter how careful he may be, can gauge his purchases and sales correctly at all times.

RETAILERS PROMOTE CONSUMPTION

I think you will all agree with me that the consuming public would not buy as much fruit and vegetables if they had to get their supplies direct from the country. The attractive displays of the retailers of Toronto every season are responsible for the great majority of sales, and if there were no displays to tender suggestions to the people, and if the consumers were left upon their own initiative to write or wire to the country for supplies, there would be a large amount of stuff go abegging. I would just like to see the retailers of the country give up the sale of fruit and vegetables for one year, and allow the consuming public to send to the country for everything they wanted. You can depend upon it, there would be very little fruit consumed this year.

If, then, the retail grocer is a necessary link in the chain of fruit and vegetable marketing to secure the maximum turnover, the next question to decide is the cheapest and best way for fruit and vegetables to reach his store. You growers, who obtain the maximum benefit from your crops, appreciate the fact that the harvest you produce should all find its way into consumption, and at prices that will bring you a reasonable net profit. If you produce more than a market can be found for, you lose. If the prices you receive do not

The Fruitland Nurseries

are now prepared to book spring orders for all kinds of Fruit and Ornamental Trees, Shrubs and Vines at lowest prices. Send for price list.

G. M. HILL BOX 42 FRUITLAND, Ont.

Strawberries 50 varieties

Raspberries 13 varieties

10 varieties **Seed Potatoes**

FREE CATALOG

THE LAKEVIEW FRUIT FARM

H. L. McCONNELL & SON, PORT BURWELL, ONT.

DISSOLUTION OF PARTNERSHIP

NOTICE IS HEREBY GIVEN, that the partnership heretofore carried on by the "CHAS. E. HOPPER COMPANY," as dealers in beekeepers' supplies, etc., has been this day dissolved by mutual consent. All debts owing to the said partnership are to be paid to The Root-Canadian House, at 183 Wright Avenue, Toronto, Ont., and all claims against the said partnership are to be presented to the said Root-Canadian House, by whom the same may be settled.

DATED at Toronto this 20th day of November, 1914.

THE CHAS. E. HOPPER CO.

Witness,
JOHN A. PATERSON.

The business will be continued at 183 Wright Ave., Toronto, Ont., by The Root-Canadian House.



No. 10 No. 25

DISSTON Pruning Saws

A STYLE FOR EVERY REQUIREMENT

<p>No. 10 Socket handle for attaching to pole. Adjustable blade. 14 inches centre to centre of holes.</p> <p>No. 25 Flat steel frame, riveted sockets, swirl stretcher. Beech handle, varnished edges, two nickel-plated screws. Blued steel blade. 14 inches.</p>	<p>D-24 Narrow point crucible steel blade, copper handle with beechwood grip. 14 to 24 inches.</p> <p>One-Man Cross-Cut Made on the same principles as our Disston handsaws. Designed to withstand maximum "thrust" without buckling, and for easy rapid cutting.</p>
--	---

Write for "Pruning Saw Booklet"

HENRY DISSTON & SONS, LTD.

2 FRASER AVENUE - TORONTO, ONT.




One-Man Cross-Cut D-24

DUPUY & FERGUSON'S CATALOGUE OF HIGH GRADE SEEDS FOR 1915



will be ready for distribution about the first of January: the handsomest, most practical and complete seed catalogue published in this country. It tells the plain truth about

D. & F.'s High Grade Seeds that Grow

The descriptions are accurate, absolutely correct and free from exaggeration and extravagant claims.

Write a post card for a FREE COPY to-day.

56 FIRST PRIZES were awarded at the Montreal Horticultural Exhibition, Sept., 1914, to Mr. F. S. Watson, on products grown from D. & F.'s seeds.

DUPUY & FERGUSON

38 Jacques Cartier Sq.
MONTREAL

pay you a net profit, you lose. Your aim is quite clear.

My opinion is that fruit can be bought to the best advantage by the retail dealer from the commission merchant. It seems to me to be the only fair way for you to market your goods. My reason is this: When the merchant buys from one party at a distance he has no choice in appearance and quality. The goods may be satisfactory to-day and to-morrow they may bring all kinds of complaints from consumers, and you must remember that we make good to our customer's anything that is not right. Melons may arrive too ripe or too green; peaches may be off color, etc., and as we are the final distributors we get the blame. If we purchase goods we cannot conscientiously recommend, we must lose in the price.

METHODS COMPARED

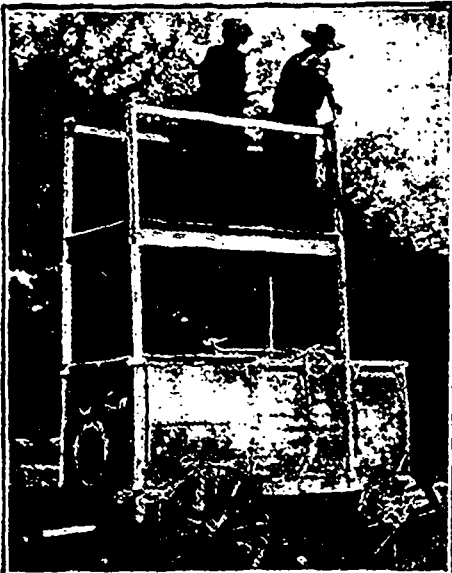
But on the other hand, when goods are bought from the wholesale market when competition is keen, we have our choice from scores of growers. If a retailer has a market for only one kind of fruit, he can personally select what he wants from all the offerings on the open market. A merchant, too, soon gets to know the shippers who send in the most reliable fruit and vegetables, and at the commission house he has an opportunity of obtaining his daily supplies from one or another.

The dealer must also protect himself from the standpoint of price. Should he purchase direct from one shipper, he pays the one price. But on the commission market the prices are up to-day and down to-morrow, so that if the price a merchant has paid to his own shipper happens to be higher than the ruling commission market quotation—as it would frequently be—he must cut his retail price and lose his net profit. It is, therefore, much the safer method—despite the recommendations of many of the daily papers, and others, ignorant of the situation—and surely the most satisfactory method to buy our fruit and vegetables. Some of you probably will be able to point to instances to the contrary, but for the best interests of the larger section of the growers and retail dealers, the marketing system I have outlined must prove the generally accepted one.

FAULTS OF THE FRUIT GROWER

The majority of us like to be commended for the good things we do, but we are usually loathe to hear of those things that ought not to have been done. Nevertheless, let me recall a few errors of commission and errors of omission that the fruit we frequently receive in our stores point to. Sometimes, for instance, we receive boxes of berries a little better than half filled. Out of a crate of twenty-seven boxes it may require three or four boxes to fill the remainder in order that we can offer them to our customers without fear of complaint. Suppose a crate of twenty-seven boxes cost thirteen cents a box. That would mean a total of \$3.51. Suppose we were to sell the remaining twenty-three boxes that have been filled up at fifteen cents a box, or an advance of two cents—which is the usual margin—we would only receive \$3.45 altogether. That would mean a loss on the first cost without taking into consideration the cost of doing business, which is from twelve to eighteen per cent. There you have an example of an error of omission.

When we purchase berries that come from the United States, the boxes are jammed full. Of course you realize that what I have said about Canadian boxes does not apply to all cases, but it has occurred frequently, and that is why I have mentioned



YOU Have Many Uses for This Machine!

WE are frank in telling you that a **SPRAMOTOR**, rightly used, will earn its cost the first season, and pay you a handsome profit besides.

Our **SPRAMOTOR** is a very adaptable machine—one that will benefit you in many ways. It saves orchard trees and row crops with equal certainty, destroys weeds, kills rot, blight, canker, lice, beetles and all parasites.

It throws paint or whitewash on to buildings twenty times as quickly as by hand and does a better job. Used with disinfectant it protects horses and cattle from biting, tormenting flies and lice. A

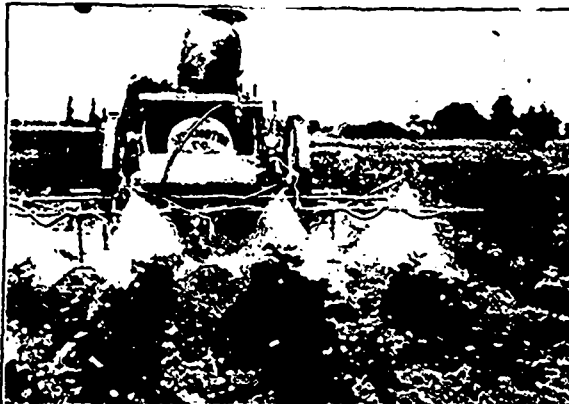
Spramotor

"It isn't a **SPRAMOTOR** unless we make it"

reduces the percentage of loss in fruit over 80%, as shown by Government tests in 19 different orchards. Used on potatoes, a **SPRAMOTOR** has increased a yield of almost nothing to 400 bushels an acre.

The **SPRAMOTOR** stands unequalled in the whole world as an effective spraying machine. It has won over 100 Gold Medals and First Awards against all comers. Twenty distinct patented improvements on the **SPRAMOTOR** that no other machine can have. Prices run from \$6 up to \$350—dozens of styles and sizes. Let us send you **FREE**, our valuable illustrated treatise on Crop Diseases. Postcard brings us quickly.

Spramotor Works
207 King St., LONDON, Can.



it here. The retail grocers are in a position to give the growers great assistance in the marketing of fruit if we receive it in good order and properly packed. The better condition it reaches us, the lower is the margin of profit we can afford to take, and the lower the price to the consumer, the more will there be consumed—and that is what you men are striving for.

From my own experience, I must say that a great deal of credit is due the Leamington fruit growers for the fair way in which they put up their goods. Most of the shippers there are dependable, and you can be certain that the retailers soon become acquainted with the good men, and endeavor to get their goods from them. Every man, of course, thinks his goods the best, just as every athlete thinks he has greater powers than his competitor. There are some shippers who mark their goods No. 1, whereas other producers would call them No. 2. Here we have an error of Commission. If the marketing of fruit is to be put upon a satisfactory basis, as a retailer I would think that more care should be taken in this respect. We often purchase goods supposed to be as the top row indicates, but when those underneath are investigated, we find an inferior quality which we cannot send out to our customers. All of this injures the fruit business in general, and is not good business on the part of the shipper. It tends to rob him of a good name he would otherwise possess. In retailing it is just the same. If we do not give satisfaction to our customers, somebody else will, and we lose the trade.

There are too many disturbing influences in the trade. Supposing a man goes out to the country to visit a friend, and brings home with him what fruit he wants. He usually gets it at a lower price than the retailer can buy in quantities—and he doesn't forget to tell us about it. We are frequently reminded by those who have just come in from the country how cheap apples are. Sometimes they tell us they can almost get them for carrying them away. They forget that we have high rents to pay, and wages, and everything else connected with the stocking, displaying and selling of apples, and they think they should get them from us as cheaply as they can occasionally obtain them in the country. It is up to the producer, if he wants to get good prices for what he grows, to help maintain prices and not to demoralize them for the retailer from whom he expects so much in the way of getting the goods into consumption.

Those of you who read some of our daily papers have seen the abuse we receive from Householders' Leagues about charging exorbitant prices. I assure you that competition is too keen in grocery staples for that. These people do not understand the methods or cost of doing business, and in their ignorance create all kinds of unjust prejudices against us. The service demanded by the public nowadays is one of the large factors in price advances.

I'm sure you will agree with me that the retailer is a necessity in the distribution of fruit and vegetables if the maximum is to be sold in a season. I believe in such conferences as these, and I hope that there will be more of them. They afford us an opportunity to obtain a better understanding of the difficulties with which each of us have to contend.

[Note.—On the conclusion of Mr. Clark's address, the fruit growers present were afforded an opportunity to ask him questions. The growers present appeared to be satisfied that Mr. Clark had made out a good case for the retailer.—Editor]

Annual Rally of the Horticultural Societies of Ontario

(Continued from page 293)

owned by the children themselves.

[Correction.—After page 293 had gone to press it was noted that the preceding few remarks had been made by Mr. Hamilton, of Toronto, not by Mrs. Potts.—Editor]

Mrs. Potts, as she did last year, gave another inspiring address this year, this time on the subject "Home Gardens and the Homemakers." "Nature," she said, "is the old cure that will repair the dislocations due to the mechanical conditions of life." This was the central thought of her address, which was an earnest appeal to women to take a more direct interest in horticulture, to be homemakers both inside and out of the house as the woman only can make a home. "Horticulture," said Mrs. Potts, "broadens the interests of the woman in the home, affords a pleasant diversion from the regular housework, and is calming to the overwrought nerves of the mother." The speaker referred to the influence of a live interest in horticulture in making her own life more enjoyable and predicted similar happy results to all others who would, through horticultural study and practice, come closer in touch with Mother Nature.

Mr. E. T. Cook, of Toronto, in the course of an excellent address, stated that homes without a garden suffer in monetary value as in these days a garden is becoming a profitable adjunct of the home. While Canada is to-day largely a land of farms it will in time become a land of gardens. Mr. Cook advocated simple planting and plenty of flowers suited to the environment of the home. This address also will be dealt with more fully in a later issue.

"Town and City Backyard Development" was dealt with at length by Mr. W. S. Dinnick, of Toronto, who last summer offered \$1,000 in prizes in a contest conducted in Toronto, which proved a great success. Mr. Dinnick described the successful results that have attended the efforts of the National Cash Register Company, which at Dayton, Ohio, transformed a slum district into one of the show places of the city. In Baltimore, the appearance of much of the city has been transformed through the efforts of a committee, which conducted competitions for the best backyards, vacant lot gardens, window boxes, and other similar contests. The work of the Garden Club in Minneapolis was dealt with, as well as work conducted in Philadelphia, and last year's competition in Toronto.

Mr. Benjamin Hammond, of Beacon, N. Y., was to have spoken on "School Garden and Welfare Work," but was unable to be present.

An interesting report of the Experimental work conducted at the Dominion Experimental Farm, Ottawa, and the best flowers grown there, was given by Mr. W. T. Macoun, the Dominion Horticulturist. The aim of the Experimental Farm has been to learn by experiment and experience what are the best varieties of hardy ornamental trees, shrubs, and herbaceous plants, and the best ways of growing them. The introduction of many species suitable for the colder sections of Canada has been the result. Many kinds of annuals are grown each year and there are large collections of irises, phloxes, paeonies, cannas, galdioli, geraniums, tulips, narcissi and other kinds of perennial plants which are grown for the purpose of learning their relative merits. New greenhouses that have been erected give about 7,500 square feet of glass in which to experiment with tender plants. One member of the staff, Mr. F. E. Buck, de-

Protect Your Fruit

BY USING

WARNER'S

APPLE BARREL PADS

It costs LITTLE and PAYS BIG

Manufactured by

ROSSELL B. WARNER, INWOOD, ONT.

New GOAL OIL Light

Beats Electric or Gasoline

10 Days Free Trial

Send No Money



Costs You Nothing

to try this wonderful new Aladdin kerosene (coal oil) mantle lamp 10 days right in your own home. You don't need to send us a cent in advance, and if you are not perfectly satisfied, you may return it at our expense.

Twice the Light on Half the Oil

Recent tests by noted scientists at 14 leading Universities, prove the Aladdin gives more than twice the light and burns less than half as much oil as the best round wick open flame lamps on the market. Thus the Aladdin will pay for itself many times over in oil saved, to say nothing of the increased quantity and quality of pure white light it produces. A style for every need.

Over Three Million

people now enjoy the light of the Aladdin and every mail brings hundreds of enthusiastic letters from satisfied users endorsing it as the most wonderful light they have ever seen. Such comments as "You have solved the problem of rural home lighting"; "I could not think of parting with my Aladdin"; "The grandest thing on earth"; "You could not buy it back at any price"; "Beats any light I have ever seen"; "A blessing to any household"; "It is the acme of perfection"; "Better than I ever dreamed possible"; "Makes my light look like a tallow dip"; etc., etc., pour into our office every day. Good Housekeeping Institute, New York, tested and approved the Aladdin.

We Will Give \$1000

to the person who shows us an oil lamp equal to the Aladdin (details of this Reward Offer given in our circular which will be sent you). Would we dare invite such comparison with all other lights if there were any doubt about the superiority of the Aladdin?

Get One FREE

We want one user in each locality to advertise and recommend the Aladdin. To that person we have a special introductory offer under which one lamp is given free. Just drop us a postal and we will send you full particulars about our great 10 Day Free Trial Offer, and tell you how you can get one free.

THE MANTLE LAMP COMPANY
411 Aladdin Building Montreal and Winnipeg, Can.
Largest Kerosene (Coal Oil) Mantle Lamp House in the World.

Men With Rigs Make Big Money

delivering Aladdin lamps. No previous experience necessary. One farmer who had never sold anything in his life made over \$500.00 in six weeks. Another says: "I disposed of 34 lamps out of 31 calls."

No Money Required We furnish capital to reliable men to get started. Ask for our distributor's Easy-System-of-Delivery plan quick, before territory is taken.

<p>WE PAY HIGHEST PRICES FOR RAW FURS</p>	<p>We receive more shipments of Raw Furs than any five houses in Canada</p> <p>FREE</p> <p>HALLAM'S TRAPPERS GUIDE French or English HALLAM'S TRAPPERS SUPPLY HALLAM'S TRAPPERS FUR QUOTATIONS worth \$50.00 to any Trapper</p> <p>Write To-day—Address Desk 385</p>	<p>WE SELL ANIMAL BAIT TRAPS GUNS &c. AT LOWEST PRICES</p>
<p>JOHN HALLAM LIMITED TORONTO</p>		

**This Beautiful Tea Set
of Bavarian China FREE**



This beautiful Set contains 40 pieces. 1 dozen cups, dozen saucers, dozen plates, 2 cake plates, 1 cream jug and a dreg bowl. The set is Bavarian China, nicely decorated and the shapes are the very latest.

A large order placed with a local wholesale house enables us to offer these sets to you in return for a very small amount of work on your part and without a cent's expense.

If you will send us 8 new yearly subscriptions to The Canadian Horticulturist at 60c. each, or 5 new two year subscriptions at \$1.00 each, we will send you one of these sets at once.

This is a wonderful opportunity for you to get a Tea Set **FREE**. Write us immediately.

THE HORTICULTURAL PUBLISHING CO.
PETERBORO, ONT. LTD.

votes his whole time to study and experiments with ornamental plants.

LAWN AND GARDEN COMPETITIONS

Prof. H. L. Hutt, formerly of the Guelph Agricultural College, in presenting the report of the committee on lawn and garden competitions, took advantage of the occasion to announce that he was no longer connected with the Agricultural College, his resignation having been asked for by the Minister of Agriculture, who had declined to give him a satisfactory reason for his action. Prof. Hutt stated that he had laid the matter before Premier Hearst. The committee in their report described the methods of conducting lawn and garden competitions that have been tried by different horticultural societies in the province, and gave helpful suggestions for the conduct of such work. Further mention of this work will be published later.

Mr. M. L. Lay, of Walkerton, gave a practical and interesting address on the "Culture of Sweet Peas." An extract from this address is published elsewhere in this issue and the balance of the address will be published later.

Mr. Bertrand H. Farr, of Wyomissing, Pa., one of the most successful growers of perennials in the United States, gave a lengthy address in which he dealt with succession of bloom and varieties of paeonies and perennials that have given him the best satisfaction. We expect to publish extracts from this address later.

THE APPLE OUR NATIONAL DISH

A suggestion contained in the president's address that the association should endorse the proposal to have the apple selected as the national dish of Canada was heartily endorsed by the convention in the form of a motion moved by Mr. W. T. Macoun, the Dominion Horticulturist, and seconded by H. B. Cowan, President of The Canadian Horticultural Association. The adoption of this report suggested the idea that steps might be taken also to select a national flower. Several different flowers were suggested and a resolution was carried authorizing the directors of the Association to consider the advisability of having the paeony selected as the national flower.

The directors were requested to make arrangements, if found practical, for conducting excursions of members of the local horticultural societies to the parks of Rochester, N.Y., and Ottawa.

The members approved of having the Association affiliate with the National Council of Women, and Mrs. R. L. Brierton was elected its representative to that Association.

Mr. T. D. Dockray, of Toronto, led in a helpful discussion of the best methods of conducting flower shows. He stated that they were useful for the purpose of stimulating an interest in horticulture and increasing the membership of societies. The arrangements should be left in the hands of a show committee.

Messrs. J. H. Bennett, Barric, Ont., J. Cavers, Oakville, and Prof. H. Thompson, of Toronto University, were appointed a committee to act in conjunction with an already existing committee appointed by the Canadian Horticultural Association, to take steps to see that a National Plant Registry be established at as early a date as possible. It was suggested that the committee should correspond with the authorities of the Central Experimental Farm to ask that a qualified member of its staff be appointed to aid the committee in all ways possible.

Mr. F. E. Buck, of Ottawa, presented the report of the committee on Names of Varieties. The report this year dealt with an-

nual plants. The committee aims to have only one name used, the common English name. Where the botanical name is common it will be accepted in the case of such flowers as phlox. Further mention of this report will be given later.

It was decided to ask the Dominion Government to modify its regulations so as to make it possible for roses to be imported by parcels post.

The following officers were elected: President, J. H. Bennett, Barrie; first vice-president, G. W. Tebbs, Orangeville; second vice-president, Dr. F. E. Bennett, St. Thomas; treasurer, C. A. Hesson, St. Catharines; secretary and editor, J. Lockie Wilson, Toronto; honorary directors, W. T. Macoun, Ottawa; Prof. H. L. Hutt, Guelph; W. B. Burgoyne, St. Catharines; directors, F. B. Bowden, Hawkesbury; R. E. Kent, Kingston; Geo. Vickers, Barrie; T. D. Dockray, Toronto; Jas. Ogilvie, Hamilton; Thos. Cuth, Clinton; R. W. Brooks, Brantford; J. H. McKay, Windsor; Dr. Bothwell, St. Thomas.

An Apple Consumption Campaign

R. M. Wislow, Victoria, B.C.

Taking advantage of the stimulus given to the apple industry by the advertising campaign of the Dominion Government, Calgary, Vancouver, and Victoria instituted "Apple Weeks"; Calgary's and Vancouver's ran from November 2nd to 7th, and Victoria's during the following week.

The British Columbia Markets Commissioner reported from Calgary that the Albertans rallied to the support of the luscious apple from British Columbia, recognizing that they got full value for their money. Prizes were offered for the best window display. In the schools, domestic science classes gave special attention to apple cooking, and the children had an opportunity to compete for prizes. The C.P.R. dining cars, hotels and restaurants offered their patrons menus of special apple dishes. The British Columbia Department of Agriculture donated \$250 towards the expenses of the campaign.

Vancouver took up the "Week" with enthusiasm, wholesalers and retailers combining in an effort to make the week the greatest boost the apple, the British Columbia apple in particular, has ever received. Prizes for windows most attractively dressed were offered, and as in Calgary all hotels put on special apple menus and newspapers filled their columns with matter eulogistic of King Apple. Every section of British Columbia exhibited at the show held all week at the Vancouver Industrial Bureau, which was enlivened by a choir of children singing apple and patriotic songs.

Victoria's apple days were of special benefit to the Island growers and consumers, and the project was keenly supported by the wholesale and retail trade. The British Columbia Fruit Growers' Association, recognizing the great benefit of these "Apple Weeks" to the industry at large, contributed \$250 towards the advertising expenses in Vancouver and \$100 in Victoria. The Okanagan United Growers contributed three cents a box on their sales for the campaign, and it is expected that the other growers will fall into line and do the same.

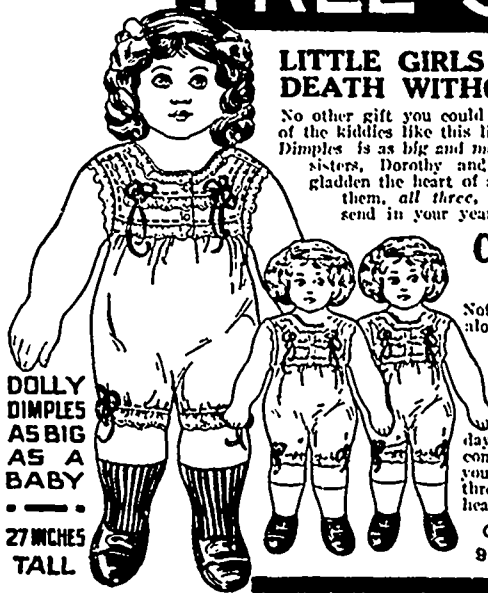
A bearing orchard makes annual demands upon the soil almost as heavy as a twenty-five bushel crop of wheat, not allowing anything for the yearly growth of wood.—E. E. Adams, Leamington, Ont.

RENNIES SEEDS

PUREST-GLEANEST MOST RELIABLE
FOR SALE AT BEST DEALERS
WRITE FOR CATALOGUE

TORONTO - MONTREAL
 WINNIPEG - VANCOUVER.

FREE-3 Dollies



LITTLE GIRLS CAN LOVE THEM TO DEATH WITHOUT BREAKING THEM

No other gift you could think of will be taken into the hearts of the kiddies like this little family of dolls. Big, lovable Dolly Dimples is as big and most as pretty as a real baby. Her little sisters, Dorothy and Dainty—either one of them—would gladden the heart of any wee girl or boy. But you can get them, all three, absolutely FREE by deciding now to send in your yearly subscription to

Canadian Home Journal

The Quality Magazine

Not a cent extra to get these glorious dolls along with the favorite home paper, full from cover to cover with the things women want to read. Even if your subscription has not yet expired, you may order now while this exceptional offer is open. Send the regular price—just one dollar, today. Have the Canadian Home Journal come to your home every month. And if you send now, you will get FREE these three dolls, beautifully lithographed on heavy cloth, ready to sew up and stuff.

CANADIAN HOME JOURNAL
 99 West Richmond St., Toronto.

DOLLY DIMPLES AS BIG AS A BABY
 — — —
 27 INCHES TALL

HIGHEST TYPE SPRAYING MACHINE IN THE WORLD

Pretty big claim that, but fully justified by the facts. At the Canadian Government Spraying Contest, Grimsby, Ont., the **SPRAMOTOR** took first prize with ease from eleven competitors. That puts **SPRAMOTORS** in the lead among all makes.

The outfit illustrated here is our gasoline-power model, the best machine we make, and therefore "the highest type spraying machine in the world." We make **SPRAMOTORS** in many styles and sizes, for the largest farm and for the smallest, at prices from \$6 up to \$350—everyone the best outfit for the money. We are sole makers of the



Spramotor

"It isn't a **SPRAMOTOR** unless we made it" and have been making nothing else for the past twenty years. Over 20 patents covering features you can get in no other machine but the **SPRAMOTOR**. We have won over 100 Gold Medals and First Awards in all parts of the world. The next best machine isn't good enough for you.

FREE Write us a short letter, giving some idea of your spraying needs, and we will send you free, a copy of our valuable illustrated work on *Crop Diseases*, also full details of a **SPRAMOTOR** that will best fill your requirements.

SPRAMOTOR WORKS

206 King St., LONDON, Can.

Johnny-on-the-Spot

"Johnny-on-the-Spot," on skids or on truck, will take care of all your chores—pumping, separating cream, pulping, eburning, washing, etc.

Stop wasting your time and energy in useless drudgery. Let "Johnny-on-the-Spot" do it—one of the famous Gilson "Goes Like Sixty" Line—a high quality engine at a low price. WRITE FOR CATALOGUE AND FULL PARTICULARS. ALL SIZES.

Gilson Manufacturing Co. Limited
10 York St., Guelph, Ontario

\$47.50

Apple Advertising Campaign Commended*

D. Johnson, Dominion Fruit Commissioner, Ottawa

IN watching this season's operation, it has been driven home to me more and more that for the great bulk of apples there is too great an expense from the orchard to the consumer. I do not for one moment wish to criticize the reasonable middleman or insinuate that there is not a place for well packed apples in boxes and barrels. Well packed fruit cannot be too much encouraged and will receive all possible assistance from the Dominion Department of Agriculture, but Canada is not consuming the amount of apples that she should. Not one-quarter of the fruit is being consumed in our cities that would be consumed were it not for the expense of placing it in the hands of the consumer.

The fact that so many inquiries were received is also a good indication that the public are giving attention to apples. In Washington I was told by a large association that by the expenditure of ten cents a box in advertising on a certain number of carloads of apples they increased the net price twenty-five cents a box, or in other words, an expenditure of ten cents brought them in thirty-five cents.

We know what has been accomplished by advertising in western land booms which have attracted attention from all parts of the world, filling the country with an industrious population and increasing land values two or three hundred per cent. We also know what advertising has done in increasing the consumption of bananas and oranges in Canada. It is an alarming fact that while apples have not increased in consumption, yet the imports of these fruits have increased in value from \$1,891,539 in 1903 to \$6,525,518 in 1913, or an increase of 325 per cent. in the last 10 years.

In view of these facts, I think the time has arrived for the Canadian apple growers to proclaim to the world through the medium of advertising, the value of their product. And, while we would not advocate the adoption of all the methods by which advertising has increased the price of certain commodities, yet the principle of advertising is right, and could be followed with equal advantage to producer and consumer; and

Buy them by the Barrel or the Box!

You can't have too many at Hallowe'en!

At the Top of your Thanksgiving Grocery List

GET THIS BOOK FREE

DOMINION GOVERNMENT
Department of Trade and Commerce, Apple Division
OTTAWA

Sample Advertisements Used by the Dominion Government in its Recent Apple Advertising Campaign.

The well-to-do people will always buy apples in barrels and boxes, but the working people cannot afford to do this. They may buy a barrel or a box, but they will not be able to eat the quantity that they desire. I believe that 50 per cent. of the population of our cities are scarcely touching apples at all, and those who are using them are not eating half as many as they should.

The Government undertook an advertising campaign this fall to try and attract the attention of the masses to apples. This campaign was carried on for seven weeks, and at an expenditure of something over \$12,000. The result has been that something like 36,000 letters of inquiry have been received asking where apples can be got, and how they should be served. Of course, it is impossible for the Government to advertise any particular grade of apples or any particular price. If the growers themselves had reinforced the campaign by advertisements as to the price and quality of apples which they could offer, it would have assisted tremendously in the marketing of the crop. As it is, we are advised by wholesale and retail dealers all over Canada that the demand was greatly increased by the efforts put forth in that way.

or ten cents a barrel for advertising purposes they would have brought their names prominently before the public and have secured for themselves a good reward for the expenditure. In addition to the home market, there are also the great fields of Europe to be exploited, South America, Australia, and South Africa, in which a vigorous commercial and advertising campaign would bring an enormous increase in the consumption of our fruit.

I am heartily in favor of the widespread movement for bringing into action up-to-date publicity methods for increasing the sale and consumption of the apple. Wide-awake business has long passed the stage when a doubt existed as to the value of advertising, but fruit growers, as a class, have somewhat lagged behind the van of progress. Growers and shippers everywhere are beginning to wake up to the error of their ways, and to join hands for the long pull, the strong pull together, that should result in making the excellencies of the King of Fruits known throughout the length and breadth of the continent—J. Forsyth Smith, British Columbia Market Commissioner, Victoria, B. C.

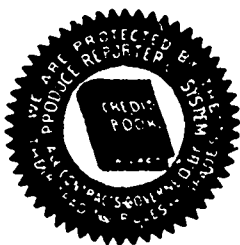
Fruit spurs are easily recognized by their short scraggy appearance on the branches. Leave them intact.

*Extract from an address delivered at the recent annual convention in Toronto of the Ontario Fruit Growers' Association.



CHRISTMAS PRICES FOR FRUIT AND VEGETABLES

At this Christmas season our good facilities will enable us to get you top prices for your Fruit, Vegetables and General Produce. We have a large connection on the Toronto market as well as branch warehouses at Sudbury, North Bay, Cobalt, Cochrane and Porcupine. Competent men are in charge at each point. Our branches form a ready outlet in time of congestion on the Toronto market. We never have to sacrifice your interests.



REFERENCES

Canadian Bank of Commerce (Market Branch) and Commercial Agencies.

Send for Shipping Stamp

H. PETERS

88 Front St. E., TORONTO, Ont.

Advantages of Cooperative Marketing

A. E. Adams, Secretary, United Fruit Companies, Ltd., Berwick, N.S.

COOPERATIVE MARKETING is the only method whereby the shipment of the produce of the farm can be so regulated as to not overcrowd certain markets and leave other markets bare.

It is the only method whereby our apples can be placed in right quantities on the markets to realize the highest prices.

It is the only method whereby new markets can be developed to the profit of the grower instead of the operator or speculator.

It is the only method whereby the grower can have his apples marketed at a fair cost.

It is the only method whereby the grower can get right to the actual wholesale dealer in Europe.

It is the only method whereby the grower can get into direct touch with the really big buyers, the buyers who will take whole cargoes.

It is the only method whereby large combines and organizations can be effectually dealt with.

Now let me demonstrate how cooperative marketing is carried out:

In the first place statistics are gathered giving the management complete information as to the crop in all apple producing countries. European conditions are taken into consideration and a decision is arrived at as to whether the year is one in which to prosecute sales or whether better results can be obtained in other ways.

When apple shipping starts, complete lists of all varieties on hand are gathered from all companies. Conditions are closely watched. Our European office keeps us advised daily as to the pulse of all markets.

We are kept regularly advised of what apples are going forward from all North American ports and to what markets they are going. We are kept informed regularly what the holdings are on this side of the Atlantic, and what they are at each market on the other side.

We know therefore that say next week there will be sent to Liverpool from New York, Boston, Portland, Montreal and Halifax 50,000 barrels, and from the same ports there will be sent to London, 40,000 barrels. Glasgow is getting 20,000; Hamburg, 20,000; Bristol, 4,000. We marshal these facts and take into consideration our cable advices. We note carefully how these various markets are clearing up, we keep in mind the size and condition of the English, French and German crops and refer to our charts showing how these markets have been affected in years gone by, with shipments of varying sizes. We review the situation in the markets on this side of the Atlantic and finally decide to adopt a certain course. Whatever course we adopt is adopted on a basis of scientific calculations, it is not mere guess work.

Having a large quantity of apples under our control we can withhold or forward to various markets just whatever quantity these markets can carry. If we see that a certain market is going to be overcrowded we can relieve it and every shipper benefits.

We have a second safeguard. Say, for instance, that contrary to all indications, a market makes a wrong turn after our apples have gone forward, we are not by any means at the end of our resources. We have our European representative who is in constant

The Modern Greenhouse

(MADE IN CANADA)

The last year or two has seen a radical change in greenhouse construction.

It has been found that a single large house is more efficient in every way than two or more small ones. It is more economical to heat and to take care of, gives more sun to the benches, and is cheaper to build.

The houses we have just constructed for J. H. Dunlop at Richmond Hill are excellent examples of this new type.

We also manufacture a complete line of heating and ventilating apparatus and install it if desired.

For further information regarding greenhouses of any type, or any accessories, add ess

Glass Garden Builders, Ltd.
201 Church St., TORONTO

For the Land's Sake

Use the best Manure
and get

GOOD CROPS

For Nurseries, Fruit Growers
and Gardeners.

Sure Growth Compost

Makes poor land fertile and keeps fertile
land most productive.

Supplied by

S. W. Marchment

133 Victoria St., TORONTO

Telephones: Main 2841; Residence, Park 951

Say you saw this ad. in The Canadian Horticulturist

This Spray Book Free!



A practical book of working instructions. Tells how and when to spray. Explains how to select the right mixtures for certain pests, how to treat insects and fungous growths, how to prepare, what strength to use, how to apply, which type of sprayer. Forty pages of the very information you want to increase your crop yield 25 to 75 per cent. We send it free. Write to-day.

Goulds Reliable Sprayers

are more durable, more practical than cheap outfits which only last a season or two. That is why 400,000 orchardists and gardeners have chosen Gould's Sprayers. They never clog, are easily cleaned, and spray most uniformly. Before you decide on any sprayer, find out about Gould's improved methods. It will save you money and trouble.

Send for the book to-day. It tells you about every type of sprayer, from small hand outfits to big power pumps. (19)

THE GOULDS MFG. CO.

Largest Manufacturers of
Pumps for Every Purpose

17 W. Fall Street, Seneca Falls, N. Y.





Peerless STEAM COOKER

Cook your Christmas Dinner in a Peerless Cooker. Send name and address for catalogue and Free Handy Household Utensil Offer. Direct from factory to your home prepaid. Agents Wanted.

Peerless Cooker & Specialty Co. - Berlin, Ont.

ORDER YOUR NURSERY STOCK

direct from the grower and save middlemen's profits. Write at once for our free descriptive catalogue of fruit trees, small fruits, evergreens, roses etc. Address

J. H. McCOMBS NURSERIES

R. R. No. 2 - WELLAND, ONT.



FOR PROFIT

Plant our Top Notch FRUIT, SHADE and ORNAMENTAL TREES, EVERGREENS, SHRUBS, ROSES, VINES, BUSHES. Ask for Price List (No Agents) at Central Nurseries. Special low price on APPLE TREES, too in lots. Canadian Growers. A. G. HULL & SONS, ST. CATHARINES, ONT.

Useful New Invention

Enables Anyone to Play Piano or Organ With- out Lessons

A Detroit musician has invented a wonderful new system which enables any person or a little child to learn to play the piano or organ in one evening. Even though you know absolutely nothing about music or have never touched a piano or organ you can now learn to play in an hour or two. People who do not know one note from another are able to play their favorite music with this method without any assistance whatever from anyone.

This new system, which is called the Numeral Method, is sold in Canada by the Numeral Method Music Co. of Canada, and as they are desirous of at once making it known in every locality, they are making the following special free trial and half-price offer to our readers.

You are not asked to send any money until you have tried and are satisfied with the new method. The Numeral Company is willing to send it to you on one week's free trial, and you will not have to pay them one cent unless you desire to keep it. There are no express charges to be paid, as everything will be sent by mail. Simply write a letter or post card to the Numeral Method Music Co. of Canada, 246R Curry Hall, Windsor, Ontario, saying "Please send me the Numeral Method on seven days' free trial." If you are satisfied after using it, the Method and fifty different pieces of sheet music will cost you only \$5, although the regular price of these is \$10. You should not delay writing, as the Numeral Company will not continue this special half-price offer indefinitely. Later on the Method and fifty pieces of music will be sold at the regular price.

touch, not only with us but also with every market.

For instance, London unexpectedly slumps, we have a large parcel almost there. These are all consigned to our own office, which immediately takes steps to tranship that fruit or such of it as will stand reshipment, to other markets. Hull, Copenhagen, Hamburg, Paris, so on, where prices may be better. Such action saved us large sums last year, and will always do so when such circumstances arise.

Last year over and over again, we saved the situation on certain markets by withholding our apples from certain boats, knowing that had we put them on, the market would have gone to pieces, and would have been a long while recovering.

Two striking instances occurred within one month: We were advised that if a certain boat carried more than 20,000 barrels the market would decline badly, and our estimates of future shipments indicated the same thing. We, therefore, withdrew our apples, and the boat sailed with 18,000 barrels. Had ours gone forward she would have carried 26,000, which would have unquestionably have put the market in a pretty bad state. Instead of doing so we brought in a C.P.R. boat, which sailed seven days later, arriving after the market was cleaned up and bare, and giving us the market entirely to ourselves, with splendid results. Through our action the ordinary shipper was saved and the market was kept steady for the benefit of not only ourselves but for all. Without cooperative centralization markets never could be regulated in this way and thousands of dollars would be sacrificed.

The South African Market for Fruit

The following report by the United States Consul at Johannesburg, Transvaal, on the market in that district for American apples and pears, applies also to the market conditions for the same varieties of fruit of Canadian produce.

Particular requirements of buyers in this consular district, as well as in other parts of South Africa, are Washington and Oregon apples, these being preferred largely on account of the system of packing best suiting market conditions. Medium-sized red apples, such as Jonathans, Rome Beauties, Banana apples, Kinesaps and Spitzenbergs, particularly the last two, are preferred to other varieties.

Apples should be wrapped in paper separately and packed with bulge. Boxes containing one hundred and twenty-five to two hundred, each box marked with contents, sell best. The most advantageous time to dispatch apples for this market is in September, October and November, September shipments being specially desirable, as October, November and December are the best selling months. A leading fruit importer of this city states that American exporters of apples should make it a point not to ship to South Africa after the first week in November. The season starts here with a rush and if goods arrive after the months above stated they frequently do not realize half of the cost of freight. In fact, goods which cost two dollars and sixty cents a box have had to be disposed of at twenty-five cents a box owing to arrival after the close of the apple season. Apples arriving here after December come in competition with all of the local fruits, such as peaches, pears, apricots and other fruits locally grown, and for this reason are very little in demand.

Imported apples are not allowed to be sold in the general market house of Johannesburg in competition with locally grown

Will You Help The Hospital for Sick Children, the Great Provincial Charity? ❖

Dear Mr. Editor:—

Thanks for the privilege of appealing through your columns on behalf of the Hospital for Sick Children. The Hospital takes care of sick and deformed children, not only in Toronto, but in the Province, outside of the city.

This coming year, of all the years in the Hospital's history, has a more serious outlook, as regards funds for maintenance, than any year that has passed its calendar.

So many calls are being made on the purses of the generous people of Toronto and Ontario, to help the soldiers of the Empire, that as I make my daily rounds through the wards of the Hospital, and see the suffering children in our cots and beds, the thought strikes me as to whether the people will as of old, with all the demands made upon them, answer our appeal and help to maintain the institution that is fighting in the never-ending battle with disease and death. In its endeavor to save the stricken little ones in the child-life of Ontario.

Last year there were 394 in-patients from 210 places outside of Toronto, and in the past twenty years there have been 7,000 from places in the Province other than Toronto.

It costs us \$2.34 per patient per day for maintenance. The municipalities pay for patients \$1 per patient per day; the Government allows 20 cents per patient per day; so, deducting \$1.20 from \$2.34, it leaves the Hospital with \$1.14 to pay out of subscriptions it receives from the people of Toronto and the Province. The shortage last year ran to \$18,000.

Since 1880 about 1,000 cases of club feet, bow legs and knock knees have been treated, and of these 900 had perfect correction. Nearly all these were from different parts of the Province outside of the city of Toronto.

Remember that every year is a war year with the Hospital; every day is a day of battle; every minute the Hospital needs money, not for its own sake, but for the children's sake. The Hospital is the battle-ground where the Armies of Life have grappled with the Hosts of Death, and the life or death of thousands of little children is the issue that is settled in that war. Will you let the Hospital be driven from the field of its battle to save the lives of little children for the lack of money you can give and never miss?

Every dollar may prove itself a dreadnought in the battle against death, a flagship in the fleet that fights for the lives of little children.

Remember that the door of the Hospital's mercy is the door of hope, and your dollar, kind reader, may be the key that opens the door for somebody's child.

Will you send a dollar, or more if you can, to Douglas Davidson, Secretary-Treasurer, or

J. ROSS ROBERTSON,
Chairman of the Board of Trustees,
Toronto.

fruit, the market house being controlled by the municipality; the fruit must be disposed of by the importers to dealers by direct sale. Locally grown apples are most plentiful in market during January, February and March; hence the advantage of the imported fruit being shipped in time to arrive here before the South African fruit is marketed.

Under no consideration is it advisable to send apples or pears to shipping ports except in refrigerator cars. There is a good refrigerator service from Cape Town and other South African ports to Johannesburg for fruit shipments, but it is regarded as essential to have the fruit landed at Cape Town, the first port of shipment to the interior points, as, owing to the hot weather prevailing at the East Coast ports, fruit is liable to deteriorate very quickly.

If American firms ship the right class of goods in accordance with these directions and at the time mentioned, importers state that they can be sure of getting better results in this country than in almost any other foreign market. At least twenty-eight thousand boxes of imported apples found a market in Johannesburg last season, the majority of these being imported from Australia.

Pears are usually required in one-half boxes, these having proved to be the most successful sellers. The varieties mostly in demand are Winter-Nellis, Gloutmorseau and Howells. The usual terms granted to purchasers are thirty days.

Of all the Australian states, New South Wales and Tasmania only are enforcing legislation with respect to the size of cases in which imported and locally grown fruit is to be sold. While an Act has been passed in Queensland, the regulations have not yet been proclaimed, hence Canadian apples packed in the standard Canadian case can, so far as the 1914 season is concerned, be shipped to that state without restriction. In Victoria, South Australia and Western Australia no state laws have yet been enacted regulating the size of cases in which apples or other fruit are to be sold. As Sydney is the terminal port of the Canadian-Australasian steamers, it is obvious that New South Wales is the principal market in Australia for Canadian apples landed during the months of October to December each year. Representations were made to the Department of Agriculture of New South Wales that the Canadian apple case, packed with a crown on the top side of the case, contained more fruit than it is, in the ordinary Australian packing, possible to place in the New South Wales case, and request was made for the suspension of the regulations in so far as they affected Canadian exports until the season of 1915. The reply has been to the effect that the Fruit Cases Act specifically provides that when fruit is sold in a case within New South Wales it shall be of a size, measurement, and capacity specified in the regulations, and, as the Canadian standard apple case does not conform with the regulations, the sale of fruit in such a case cannot legally be permitted.

The difference between the two standard cases is as follows:
 Canadian apple case...10x11x20 ins. inside
 New South Wales apple

case10x11 3/4x20 ins. inside
 The New South Wales cases vary in size, but the popular case (as above) has a capacity of not less than one Imperial bushel, and its cubic contents are 2.225 inches, or 2 1/2 cubic inches larger than the Canadian. As the New South Wales Act came into force on July 1, 1914, it will be necessary for British Columbia exporters of apples and pears for sale in New South Wales to ship fruit in cases of the prescribed sizes.

PINK BEAUTY GLADIOLI

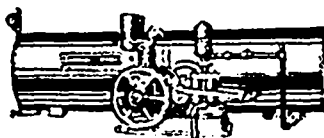
is the earliest of all. It is a long time till Gladioli bloom outside. You can shorten the time by planting Pink Beauty. It is not in the America class, but it has the "Award of Merit," Haarlem, 1909, "Award of Merit," Amsterdam, 1910, "First Class Certificate," Scottish Horticultural Association, Edinburgh, 1910, "First Class Certificate," Royal Caledonian Hort. Society, 1910, "Certificate," National Gladioli Society, London, 1912.

Price \$1.00 per 100 Express Collect.
 In November advertisement "Hulst" should be "Baron Hulst."
H. P. VAN WAGNER, R.R. No. 5, HAMILTON, Ont.

TWO SURE MORTGAGE LIFTERS



We have others Catalog Free
"FRIEND" MFG. CO. GASPORT, N. Y.



A Fairbanks-Morse Water System can be quickly and easily installed on any farm.

It will furnish you with an abundance of running water in the house, stable, creamery or wherever wanted. At the same time it affords you ample protection from fire.

Many styles—hand or power operated. Write for Booklet "Fairbanks-Morse Water Systems."

- Farm Engines
- Scales
- Tractors
- Grinders
- Feed Mills
- Windmills
- Pumps
- Lighting Systems
- Spraying Outfits

The Canadian Fairbanks - Morse Co., Limited

- Montreal Toronto
- Quebec Ottawa
- St. John Hamilton
- Et. William
- Winnipeg Regina
- Saskatoon Vancouver
- Victoria

Canada's Departmental House for Mechanical Goods



A CROP-SAVER AND MONEY-MAKER

That's what every SPRAMOTOR is to its owner. The outfit shown here is only one of many styles and sizes. It will do all kinds of spraying, whether trees, row crops, potatoes or weed killing.

The horse does all the work and you simply direct the spray. As many as eight nozzles may be used, and you get 350 lbs. pressure. With this moderate-price outfit, the largest trees can be properly sprayed. We are sole makers of the

Spramotor

"It isn't a SPRAMOTOR unless we make it"

and have concentrated on spraying outfits only for the past 20 years. We make SPRAMOTORS from \$6 up to \$350 to operate by hand, horse or gasoline power.

The SPRAMOTOR won Canadian Government Spraying Contest at Grimsby, Ont., against eleven other makes. It wins every year in field and orchard against all other makes. Whether you buy a SPRAMOTOR or not, you are entitled to a copy of our valuable treatise on Crop Diseases, fully illustrated, absolutely free. Tells how to spray, what to spray and when, giving facts, figures and photos.

Write us to-day and get your copy by return mail. If you will state briefly your spraying needs, we will send details of a SPRAMOTOR that will fit your requirements exactly.

Spramotor Works, 205 King St., London, Can.

FOR SALE AND WANTED

Advertisements in this department inserted at rate of 3 cents a word for each insertion, each figure, sign or single letter to count as one word, minimum cost, 30 cents, strictly cash in advance.

ALL KINDS OF FARMS—Fruit farms a specialty.
—W. B. Calder, Grimsby.

NIAGARA DISTRICT FRUIT FARMS.—Before buying it will pay you to consult me. I make a specialty of fruit and grain farms.—Melvin Gayman & Co., St. Catharines.

ASK DAWSON. He knows.
IF YOU WANT to sell a farm consult me.
IF YOU WANT to buy a farm consult me.
I HAVE some of the best Fruit, Stock, Grain and Dairy Farms on my list at right prices.
H. W. Dawson, Ninety Colborne St., Toronto.

A QUANTITY OF HONEY WANTED—Montgomery Bros., Merchants, Doloraine, Man.

BEEKEEPERS.—New invention for feeding bees in cellar. Price complete at \$1.00. Does away with feeding sugar on top of racks.—J. E. Thompson, Kagawong, Ont.

FREE FOR SIX MONTHS—MY SPECIAL OFFER to introduce my magazine, "Investing for Profit." It is worth \$10 a copy to anyone who has been getting poorer while the rich, richer. It demonstrates the Real earning power of money, and shows how anyone, no matter how poor, can acquire riches. Investing for Profit is the only progressive financial journal published. It shows how \$100 grows to \$2,200. Write now and I'll send it six months free. H. L. Barber, 405-20 W. Jackson Blvd., Chicago.

SANDER & SONS

ST. ALBANS, ENGLAND

ORCHID GROWERS. The Finest Stock in the World.

Catalogue on application

**FLOWER POTS**Hanging Baskets and Fern Pans
FOR THE FALL TRADE

We make the "Standard" Pot, the best Pot in the world—uniform, best of clay, well burned, in every respect superior to all others.

All our pots have rim on shoulder, thus allowing them to be placed together perfectly and preventing breakage in shipping and handling.

Place your Fall Order NOW.

A complete line and large stock of all sizes kept on hand to ensure prompt shipment.

Send for NEW CATALOG and PRICE LIST

The Foster Pottery Co.
HAMILTON - - - ONTARIO
Main Street West

A Packing Demonstrator

Owing to the increased demand for boxed apples, more particularly in the western market, and on account of the inability of most eastern growers to pack boxes with sufficient skill to render them attractive, it was considered expedient by the Dominion Government to appoint an apple packing demonstrator. This appointment was made by Mr. J. A. Ruddick, Dairy and Cold Storage Commissioner, under whose direction the work of the Fruit Division was at that time carried on. The position was filled by Mr. P. J. Carey, who had been in the employ of the Dairy and Cold Storage Branch for several years as Chief Fruit Inspector.

Since then Mr. Carey's services have been much in demand, and he has found ample scope among the growers of Ontario and Eastern Canada for his ability. Applications for Mr. Carey's services, made to Mr. D. Johnson, Fruit Commissioner, Ottawa, will receive prompt attention.

Great skill is required in the packing of fruit in boxes. There are many growers in the east who have never packed fruit in any other package than the barrel, and to these the art of box packing is particularly difficult. Mr. Carey has done much to raise the standard of boxed apples in Ontario, and has also given demonstrations in Quebec and the Maritime Provinces, with the result that many of the more progressive growers in eastern Canada are now fairly expert packers.

In addition to demonstrations at exhibitions and similar meetings, Mr. Carey has visited many packing gangs in the orchards of Ontario, particularly, and in this way has been able to give first hand assistance to many whom he could not reach in any other way. Much instruction work of this nature has been done and as the quality of boxed apples shipped from Ontario is increasing every year to meet the growing demands, there is every likelihood that demonstration work in apple packing will continue to effect excellent results.

It is a mistake to think that men capable of running a large business, like a cooperative fruit growers' association, successfully are plentiful. They are scarce. It is a mis-

take to underpay them. They should be given a remuneration that satisfies them, and their work will be better. If their work is not satisfactory they should be dismissed but if it is satisfactory there should be no haggling over remuneration.—D. Johnson, Canadian Fruit Commissioner.

NEW AND RARE SEEDS

Unique collection. Hundreds of varieties adapted for the Canadian climate. Perennial and perfectly hardy. Own sowing. Catalog free.

Perry's Hardy Plant Farm
ENFIELD, MIDDLESEX, ENG.

FRUIT MACHINERY CO.

INGERSOLL, ONT.

Manufacturers of Fruit Sprayers

and a complete line of

Apple Evaporating Machinery

Our complete **POWER SYSTEMS** for evaporating, when installed by our experienced millwrights are the most practical, sanitary and labor saving to be found anywhere. Our prices and terms always reasonable.

Write for Illustrated Catalogue

BARTLETT PRUNING TOOLS

are designed on scientific principles, made of the highest grade materials and sold on their merits.

We make a complete line, including our **JOINTED TREE TRIMMER**, and will be glad to send catalogue and booklet on pruning upon request.

No. 18, Pruning Saw
Price \$1.75

No. 777, Two Hand Pruner
26-in. Ash Handles, \$2.00

Your dealer can supply you. If he does not, mail money order to us and we will ship prepaid.

No. 18 BARTLETT MFG. CO. No. 777
4 Boydell Building DETROIT, Michigan

GREENHOUSES

OF "THE WOOD ETERNAL"

LOUISIANA RED CYPRESS

DURABILITY AND STRENGTH

**GREENHOUSE
SASH & BARS**

Plans and Estimates upon request

BATTS LIMITED

365 PACIFIC AVENUE

WEST TORONTO