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The Irrigation of Small Fruits and Vegetables

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WHEN considering the advisability of installing a system for irrigation purposes, the four points to keep in mind are, climatic conditions, the character of crop to be grown and markets. Having these points in mind and giving them the consideration that they deserve, it is possible to decide in favor of or against irrigation in any particular case.

It is the writer's experience, based on experience in the Pacific Coast States, particularly in California, as well as in New England, where irrigation is practiced by some of the largest vegetable and small fruit growers, that irrigation is feasible in Ontario and particularly in the Niagara District, where it should result in greatly increasing the returns on the high priced lands. Irrigation has already been tried in Ontario for vegetables and small fruits in a number of places and has proved satisfactory.

Irrigation simply means applying a quantity of water to the land for the use of a growing crop. Almost every annual report of the different farmers' organizations of Ontario, as well as of the Ontario Department of Agriculture, makes frequent mention of periods of more or less prolonged drought each of which have seriously affected the crops. The summer of 1911 is fresh in the minds of many people as the prolonged drought cut the crop of small fruits in Ontario very short, affecting not only the consumer, who had to

pay the high prices, but the grower who was not adequately compensated for his small crop, even by the high prices. The grower, also, was not able to fulfil one of the first principles of good business, the giving of satisfaction to his customers, inasmuch as he was forced to charge them abnormal prices.

In years of big production and low prices the man who irrigates will again win out, as his extra fine crop, the result of irrigation, will realize the top prices. As business men know, the man with extra fine produce can sell more easily in the years of big production than the man with poor or only medium produce. In a year like 1911 irrigation will often mean, in a crop like strawberries, the difference between success and failure, so that even with the most expensive system of irrigation the cost of installation would be paid for by one season's crop.

DIFFERENT SYSTEMS

There are two systems of irrigation that may be practised. The gravity method requires a large supply of water, which is applied to the soil through open ditches, the water flowing by gravity. As it flows it soaks into the ground. The second method is by overhead sprinkling. This requires the water to be delivered under a pressure of fifteen to thirty pounds to the square inch. The quantity depends on the area to be irrigated at one time. The former method is cheaper in initial cost but extravagant in water, and higher in up-keep. The

latter method is economical of water, cheaper in up-keep, but more expensive in initial cost for installation. In the long run it is the best method to adopt for small fruits or vegetables.

To apply water by gravity the water must be brought to the highest part of the land to be irrigated. From this point it is delivered through furrows, about three to four feet apart and three to four inches deep, over the land, the furrows following the contour of the land so that there is an even, gentle fall. When a crop is growing the water is delivered between the rows. The land must be laid out and planted so that the water may be delivered by this method. With a little study and practise it can be done quite easily on most lands, provided the water can be brought fairly cheaply to the highest part of the land. In practice it is desirable to use lands for this purpose that can most easily be irrigated by this method.

In the overhead sprinkling system the water is carried through pipes to the land to be irrigated. Here the water is applied in much the same method as by a gentle rain. The water is distributed from the main pipes through laterals placed from fifty to seventy feet apart and up to five or six hundred feet long. Along this lateral, placed at intervals of four feet, is a special nozzle through which the water is forced and carried a distance of thirty to forty feet from the pipe.



A Peach Orchard, Two Years from Planting, on the Farm of D. M. Hamlink, Huron County, Ont.

The pipe at the end of the lateral is smaller than the pipe at the beginning on account of the ever diminishing quantity of water flowing through the pipe owing to the flow through the nozzles. This decrease in the size of the pipe towards the end allows the water to be kept up to the same pressure to the end. The water is evenly distributed from these laterals over the ground for the full distance that the spray will reach and on completion of the watering of one side the position of the nozzles is reversed so that the other side for a distance of thirty to forty feet may be watered. These lateral pipes are connected to the main by a special valve which allows of the pipe being turned in either direction to the right or to the left so that either side may be watered. By means of this valve the water may be thrown high or low depending on the direction and velocity of the wind, and how far it is desired to throw the water. This can easily be regulated after a few moments of trial.

A SIMPLE OPERATION

Applying the water is not difficult, but it requires some practice. The chief difficulty in the way of prospective irrigation is the source from which to obtain water and the best method of bringing it to the land. If the water is to be applied by gravity it must be brought from a point higher than the land that is to be irrigated. There should not be any very low places over which the water is to be carried as this adds to the expense of building ditches or wooden flumes. There may be a few cases where it is possible to get water under pressure direct from mains, but these cases would only be near cities or towns, and likely on very high priced land.

MAKING DITCHES

In carrying the water through open ditches, the ditches, in ordinary land, may be opened with a plow. Thus very little shovelling of earth will be required. The banks of ditches may also be built over low places by means of the plow. Some water will be lost through soaking away, and in very sandy or gravelly soils it may be difficult to carry water on account of this loss, but very few soils will be as open as this.

Probably the best method to adopt, especially in the Niagara District, would be to bring the water in sufficient quantity to the land through open ditches and then pump it into pipes to be distributed from overhead. Pumps are now made that will handle water containing considerable quantities of fine sediment, but of course it is desirable to have as much of the sediment as possible removed. This can be done by bringing the water to a standstill in a large basin, constructed after the principle of a silt-basin, so that the sediment will settle to the bottom. This water can then be handled by the pumps without causing trouble in the nozzle.

There are a number of places, such as the Welland Canal, which runs through a part of the Niagara District, where water could easily be obtained by gravity. If, however, a near source of water cannot be found from which the water may be obtained by gravity, it can be lifted to a height of fifty to one hundred feet without great expense and then carried through pipes direct to the land. Of course, it costs money to lift the water this height, but after the engine and pump has been installed the cost of power will be small.

POWER NEEDED

The power required to irrigate an acre of land by the overhead method is about three and a half to four horse-power. The power required per acre decreases with an increase in acreage so that twenty-five horse-power will supply enough water for about twenty acres. The Skinner Company, of Troy, Ohio, are the pioneers in this system of irrigation. They issue several very complete bulletins on the subject of irrigation, any one of which is well worth reading by one interested. The total cost of the equipment necessary to irrigate from three to five acres by this system is from two hundred to two hundred and fifty dollars an acre. Properly handled it would be a paying proposition for many growers. The method of irrigation to be adopted would have to be worked out by each person, and would depend on the kind of crop, the soil, the source of water, and the capital required.

TWO CROPS POSSIBLE

Irrigation would be particularly valuable for strawberries, raspberries, and vegetables, especially vegetables for the early market, or vegetables planted late in the season, such as late crops of cabbage or cauliflower, as the soil is usually dry at the time they are planted. Again, irrigation will enable the grower to get two crops of some things from his land in one season, whereas if irrigation was not practised he would obtain only one crop.

Irrigation prevents frost from injuring such crops as strawberries and early tomatoes, as on a frosty night irrigation will prevent injury even when the temperature is from three to seven degrees below freezing point. Growers can thus afford to push these crops without being at the mercy of frosts.

Irrigation, to be effective, requires a large volume of water, especially when applied by gravity, as this is a wasteful method of applying water and should be used only where there is an abundant supply. The Ontario Vegetable Growers' Association have already become interested in irrigation, and it will not be long before growers of small fruits will be adopting irrigation with a view to increasing their returns. It is a question requiring careful study and thought and those first to adopt it will be the first to reap the benefits.

Co-operation by Fruit Growers

One of the most helpful bulletins dealing with cooperation by fruit growers yet issued is one distributed by the University of Missouri Agricultural Experiment Station. It is Bulletin Number ninety-seven. Besides explaining why cooperation is necessary and the causes which have led to the failure of many cooperative associations, the bulletin gives a history of various successful organizations and publishes copies of the by-laws and regulations.

The bulletin shows clearly the high standards called for by some of the leading fruit growers associations, notably the Hood River Apple Growers' Union.

ADVICE TO GROWERS

Included in the advice given by the Hood River Union to its members is the following:

The union will notify you by mail when a variety is to be picked. Upon receipt of such notice, pick, wipe and sort the apples, and get everything ready for packers as follows: Packing boxes, paper, packing table, nailing machine, nails, and so forth. Notify the office or the field inspector when you are ready for packers. The field inspector will then call on you, and if in his judgment the job is ready for the packers, he will arrange to put the packers at work. If not he will advise you how to proceed.

If the weather is hot, pick during the cool part of the day. Do not allow packers to pull off fruit spurs, nor bruise apples by dropping them into buckets or boxes. Apples should be placed in the baskets or boxes, and not dropped into them. The stems of the apples should not be broken off. Haul the apples from the orchard to the packing house daily; do not allow them to stand in the orchard or in the sun.

WIPING AND SORTING

Wipe the apples just enough to make them clean and get off the spray. Do not polish them. Sorting should be done when the apples are being wiped. In sorting keep the fancy grades in boxes themselves, the choice grades by themselves and the culls separate. Put the tier apples and larger together, and the half-tier and smaller together. Fancy Spitzenburgs should always be graded for color, seventy per cent. more good red color. Keep the Spitzenburgs separate from the reds. Special advice will be given on other varieties for color as sold.

Do not fill the boxes too full of apples for piling in your warehouse. The apples will be bruised by the box placed on top. If boxes should be too full, either take some out or place cleats between the boxes. No boxes should be placed on top of a box of apples so full as to cause pressure on the apples in the under box.



Packing Peaches on the Farm of J. W. Smith & Sons, Winona, Ont.

After the covers are nailed on, always pile the boxes of apples on the sides, and load into wagons on the sides. Do not pile boxes of apples into wagons by standing them on the ends. This doubles the risk of bruising when hauling by increasing the weight on the apples in the under end, and settles the apples in the

box, making an empty space in the top end, and the pack may be rejected for loose pack. Packers will not be held responsible for loose pack when the apples come to the warehouse loaded in this way. Always pile boxes of packed apples on the sides and load them into your wagons the same way.

Picking and Packing Peaches

A. J. Logsdail, B.S.A., Grimsby, Ont.

WITHIN a few weeks fruit growers will be busy with the peach crop. It might be well, therefore, to briefly summarize a few of the factors that go to make success in picking and packing this fruit.

The longer a peach is allowed to remain on the tree till fully ripe, the better will it be in quality, but it must be picked sufficiently firm to allow it to carry without injury to such distant markets as eastern Ontario and the middle western provinces.

In picking peaches it should not be necessary to press the fruit to determine whether it is sufficiently ripe to pick. The appearance of the different varieties varies considerably, and only experience can teach one to quickly determine with the eye the fruit that is ready to pick from that which is nearly but not quite fit. A large proportion of the help available in the fruit growing districts is inexperienced and necessarily slow, but it will pay any grower to carefully teach the pickers how to pick, and save himself continual worry throughout the season, by receiving at the packing shed a large percentage of "finger-bruised" and "nail-cut" fruit that would otherwise have been perfect.

A peach should be picked, not with the points of the fingers and thumb pressed into it, but with the palm of the hand and the full length of the fingers around the fruit, thereby distributing what pressure there may be necessary over the whole peach, without producing finger bruises or nailcuts.

The eleven quart basket is the most popular size of package, each basket holding about fifteen popunds of fruit. Three layers of fruit in a basket of this size constitute a fair sample of first-class fruit. "Extra fine" and "Fancy" peaches are often packed two layers deep in what are called "Nine Quart" and "Six Quart" baskets, the former holding about twelve pounds of fruit, and the latter about eight. The "Nine Quart" is the same length and breadth as the "eleven," but shallower.

HOW TO ARRANGE

Fruit should be packed firmly and arranged so that they are slightly (though very slightly) above the level of the basket; they should be firm, but never squeezed into place. A basket too tightly packed is as serious a fault as one too loosely, though the latter is the commonest fault to be found in the handling of this crop.

A number of the fruit growers in the vicinity of Niagara ship by boat to Toronto, and they have devised what is known as the Leno-basket. The "Eleven Quart" basket is used for this purpose, the fruit being heaped well above the level of the basket, and instead of the usual basket lid, a leno covering is used. This is sewn to the top rim of the basket. The advantages claimed for these packages are: that they ship in better condition because they cannot be piled one above the other, but have to be placed upon shelves; that they sell more readily, the fruit being more attractive when packed in this manner, and that they bring a higher price on the market. The disadvantages are just those factors that are claimed as advantages: they cannot be piled one above the other, therefore they can only be carried where room will permit the use of shelves; where space is at a premium, as is often the case in fruit and express cars, the leno basket is at a great disadvantage; the higher price secured is very largely offset by the added amount of freight; and the leno covering is not as quickly put on as the basket cover. The use of this pack, therefore, is directly controlled by facilities of transportation, and even then can conveniently be used only on a limited scale.

A packing shed is a most necessary adjunct to a good orchard, and should be placed as near as possible to it. Four posts and a roof will answer the purpose, which is that of affording shade and cool air to the fruit as it is brought in from the orchard to be graded and packed. A portable shed, with shutters for windows, by which means ample ventilation can be secured, and provided with sloping packing benches, is a great asset in handling the fruit quickly and thoroughly during the rush of peach packing. All baskets full of fruit should be carried to the shed immediately, and there placed in the shade.

SMALL BASKETS

Several growers prefer using the small six quart basket for picking the fruit in the orchard, as there is less chance of bruising the fruit; the small baskets are more convenient when picking, and the fruit is more easily handled when brought to the shed for packing. It is a mistake, and one that is made by many, to think that a basket of peaches can be picked and packed at the same time. One man in ten might be able to do it, but for the other nine it is most necessary to see that the baskets are rearranged and packed before the covers are fastened on, and the grade of fruit marked on them.

Never before has the fruit industry of Ontario and the country been in a healthier state than it is to-day. This condition of affairs is due to numerous causes, but one of which I will mention

here, namely that of the fruit canning industry.

Within the past few years this industry has grown enormously, and has opened for the fruit grower a good market for his fruit, and one to which he can send his inferior grades with the surety of receiving a fair price for such. The canners will accept the best, and pay accordingly for it, but they will also find a use for the poorer fruit, and due to the growth of this industry, must be attributed in a large degree the marked improvement in the general quality of home grown fruit to be found on any of our city fruit markets.

Brief mention might be made of the recent efforts of the Provincial Fruit Branch and the Dominion Fruit Division to ascertain the feasibility of shipping peaches to the English markets. South Africa having developed this trade to a certain extent, an effort was made along the lines found most suitable by our brother colonists, and the results of these efforts suggest a good opening for some of our best and most enterprising growers. The fruit was picked when well colored but quite firm (almost hard), only the very finest fruits were selected, and that with the greatest care. They were then each wrapped in thin soft paper and surrounded with a liberal allowance of wood wool and packed one layer deep in boxes containing twenty to twenty-four fruits in each. They were shipped in iced cars and Atlantic refrigerator storage, and arrived in good condition on the London Covent Garden market. The prices secured for them indicate that there is an excellent opening for someone alive to this opportunity, though there are several important points that it would be well to be thoroughly acquainted with before venturing on such long distance shipments; such as the methods of business on Covent Garden market (the largest fruit market in the world), the best route to ship by, the agents to employ as salesmen, and many other minor factors, such as cartage, wharfage, portorage - relics of conservative business methods, which though cumbersome to the uninitiated, may be depended upon as being thoroughly sound.

In conclusion, a few figures might be of assistance, if not to the growers, perhaps to those who wish to buy. For general reckoning the following numbers of the different sizes of baskets can be shipped per one hundred pounds express tariff: Six eleven quart, seven nine quart, and twelve six quart.

There are several excellent cooperative marketing organizations in the tender fruit districts, which have greatly facilitated the disposal of the fruit, and at the same time improved the quality of the pack; and to-day with the combined influence of cooperative organization,

the canning industry and fruit inspection, there is no excuse, if indeed there ever was, for dishonestly packed fruit. Samples of such packing should be diligently tracked to their source, and the offender punished in no light manner.

Orchard Management

Gordon McKeen, Hauts Co., N.S.

A number of years ago it was thought that the size of the orchard should correspond with the number of live stock kept to maintain the soil fertility. Now many a large orchard is seen where the owner may keep only one cow.

In keeping the orchard up to its highest capacity the two most essential factors are cultivation and fertilization. Combine the two and the orchard will meet your bills. Among the different modern methods of maintaining the fer-



A Handy Tool in the Orchard

Grape hoe at work in the orchard of J. W. Smith, Winona. Note the way it can be worked in close to and around the trees, thus practically eliminating hand labor.

Photo by a rep. of The Canadian Horticulturist

tility the leading one is to first, in the spring, thoroughly prepare the land by ploughing and manuring, then once a week give it a good harrowing until the middle of June, then sow with vetches whose roots are rich in nitrogen. These vetches make a good mat and keep the tree rootlets safe should the ground be bare and the winter severe.

I do not advise the ploughing of the orchard late in the autumn, as it exposes quantities of the feeding roots to the action of the frost. It is better to wait until a suitable time in the spring. When that time arrives repeat the methods already mentioned with the exception of the manure, as the vetches will take its place.

One thing in the management of an orchard that many of us have not the nerve to try is thinning the overburdened trees after the fruit reaches quarter size. In this one must use judgment, as some varieties that do not overbear can easily

bring their fruit to maturity with a high percentage of number ones. In many other cases this is a necessary operation.

Pear Scab and Its Treatment

Dr. J. B. Dandeno, Bowmanville, Ont.

Pear scab is a very serious disease of the pear tree. It ranks, perhaps, second in importance to that of the twig or fire blight. When pear scab gains a good start it is exceedingly difficult, if not impossible, to clear it out of the orchard because of certain characteristics which this disease possesses. Apple scab is a relative of the pear scab, having a similar relation to it as beets have to mangels. Both are fungus parasites. They differ, however, in one important particular, and a knowledge of this peculiarity is essential to a successful warfare against the pear scab. This disease attacks the fruit, leaves, and branches, while the apple scab attacks only the fruit and the leaves. The apple scab does not attack the pear tree, nor does the pear scab attack the apple tree, as many people suppose. Apple scab yields readily to ordinary fungicides, mainly because it grows upon the surfaces and, therefore, can be reached with the spray liquid. Pear scab works on the twigs and small branches, burrowing under the bark and wintering over while in this condition. Because of this habit the fungicide can not readily be applied directly to the fungus. Moreover, serious damage is done to the twigs and branches, many of them becoming so "cankered" by the scab that death is the result. Pear scab is common in this locality, and much of the roughened appearance of the older branches is due to it.

For trees which are not seriously affected, the disease can be kept well in check by spraying with lime-sulphur and bordeaux just as for apple scab, with the addition of one application after the leaves drop in the fall. This should consist of strong lime-sulphur, or of a copper sulphate solution (not bordeaux) of suitable strength. In addition to this it would be wise to examine the trees to see if the branches have become affected. If they have, such branches should be pruned out and burned.

For trees whose branches are now more or less seriously affected, the pruning saw is the chief instrument. Prune out the worst, even to one-third of the total top, a similar portion next fall, and the remainder of the old top the following year. By this method sixty to seventy per cent. of the orchard may be saved. During this time the orchard should also be treated with fungicide as indicated in the preceding paragraph.

Pear scab gains an entrance to the branches during their first year's growth when they are green and delicate. After the corky bark is formed, entry is made only through wounds.

Canadian Gardens--A St. Thomas Beauty Spot

A. J. Elliott, Aylmer, Ont.

ARTICLE No. 8

ONE of the cosiest and loveliest nooks of the many in the Railroad City of St. Thomas, and as far south-west as possible from its converging interests, stands the beautiful home

have seen many. It savors of the Old Country, and I believe that stored away in his cranium the thought was established there by his Highland forbears. There are paths both ways that cut it

As you follow path into cross path you find your expectation fulfilled, for there is everything there from the modest little vinca to the aggressive Alleghany hollyhock, mallow marvels, cosmos, and many others, in fact everything that will make a cut flower. It is here that Mr. McKay draws a line. He will not grow anything that does not come up to this standard. It must be a good bloom to cut. Since his tulips got through, Mr. McKay has taken special pains with his poppies, and his showing of Oriental poppies was simply blazing, and yet he likes to grow the Iceland poppy and others.

As you open the garden gate, you are struck by the sight of a bed of beautiful pansy blossoms, of many shades and markings that immediately attract attention. Gaillardia is a favorite that was just blooming. It was kept in bounds with hoops, skilfully held in place by painted laths. Digitalis, peonies, aquilegia, were also in bloom, making the place a joy to an amateur florist.

NOT FLOWERS ONLY

Mr. McKay does not confine himself to flowers alone. His garden is a mixed one, and although a large bed of gladioli may be giving assurance of something good coming, the next square may be asparagus, onions, or any vegetable you may mention. His forte at the moment of my visit was lettuce, and how he transforms the ordinary leafy lettuce into solid heads formed quite an



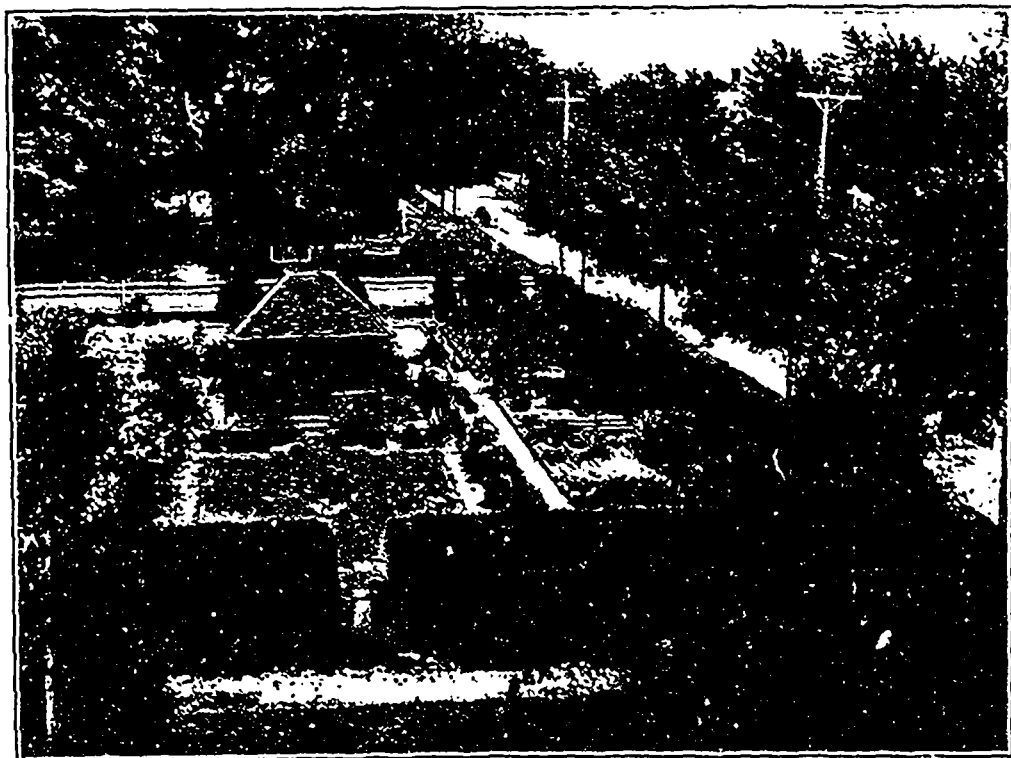
The Verandah and Part of the Front Lawn of Mr. McKay's Residence.

of Mr. Kenneth W. McKay, the genial county clerk of Elgin, and proprietor of the Municipal World. He is a florist by nature and is ever ready to talk flowers to any one who is at all interested in raising them. Neither is it all talk with him for he loves to help out when desired with his advice and his plants, to say nothing of the many bouquets that during the season find their way into the houses of his friends. In the competitions of the St. Thomas Horticultural Society he is a constant winner, and as he buys the best seed or plants he can get and gives them unlimited care and attention this is not to be wondered at.

A fine lawn fronts the house on the two roads indicated, and is as fine a piece of sward as will be seen anywhere. The house fronts on Prince Albert Place, and the garden is at the east end of the lawn, hedged in by spruce, with the entrance nearest the house hidden by a good border ablaze with poppies at the time of our visit.

Passing behind this screen we find a gate and enter the garden. A lover of flowers will involuntarily express a sigh of satisfaction and expectation at the first cursory glance. It is difficult to say exactly why. Probably its unique character is the cause, for never have I seen such a one in this country in all the years of my sojourn here, and yet I

into beds, each of which is kept where it belongs by a square frame of two by four cypress scantling painted green, which helps to give it a trim appearance.



A Section of Mr. McKay's Well Planned and Neatly Kept Garden.

interesting lecture the last time we were together.

Manure is Mr. McKay's slogan, all that can be used, and then some more. There is a tool house in the centre of the garden and behind it a long box holding several loads of manure. Into this is put all refuse from the house and garden, leaves, grass cuttings, and similar material, and thus each spring Mr. McKay has a compost that he says, and there is evidence to back it up, is just what the garden requires.

ROSE GARDEN

One hundred rose trees have been purchased for a special rose garden. This will necessitate more land, but I am sure that he will make a success of it.

The illustration here shown is taken from the back window of the house, and gives a bird's eye view of this lovely garden.

Success with Sweet Peas

Mrs. Nicholson, St. Catharines, Ont.

Having met with some success in the growing of sweet peas, I would like to tell you how it was obtained. In the first place we secured all the new kinds (that is Spencer's) that we could obtain both in the United States and England. Some thirty varieties in all were procured, no two alike. As they were all expensive, and as there were only ten or fifteen seeds of some kinds, we did not like to lose them. We therefore bought a book on sweet peas.

This is one of the things it taught us to bury the packets in the ground, and cover them an inch deep for eight or ten days. This we did, after which they were ready to be planted. We did not dig a trench this time. As the ground was heavily manured, we took out about three inches of earth, and as the seeds were nearly all sprouted, we planted them just where we wanted them to stand. With those that were not sprouted we took a knife and gently cut them. In all I do not think that we lost a dozen seeds. Each kind was kept separate and all were labelled. When they were coming through the ground we took ashes from the rubbish pile and sprinkled it well on each side of the plants, so that the grubs would not disturb them.

When the plants were up an inch or more we began to hill them up. As soon as they began to throw out feelers we began to string them. Every day or two we tied another string. Where there were only one or two we never let a bud flower. We had any number that had four flowers to a stem. We have cut a bouquet eight or ten inches across and every one with four flowers on, and such beautiful varieties.

A couple of days before our fall show we bought cotton sheeting two yards wide that covered the rows. To stand



The Transformation of a City.—No. 1.

and look under the covering was a sight too beautiful for description. You will never know what some varieties are like until you shade them from the sun, especially in the oranges, reds and pinks. They are simply gorgeous.

If you are wanting to exhibit them, covering them with cotton will protect them from the wind and rain. One Sunday we had the worst wind and rain storm of the season. Had we had cheese cloth instead of cotton we would not have won any prizes the following Tuesday, when the show was held. Don't forget that sweet peas like soap suds.

Garden Notes

Don't forget to save some seeds to give to your friends.

Don't forget to enjoy the company of your flowers. The mornings and evenings are the best hours in the garden.

Many insects can be killed on golden glow, sweet peas, rose, buckthorn, plums, or any plant, by applications of soap solution. This is perfectly safe to use, and leaves no bad odor, and a few

applications apparently are sufficient to rid a plant of its unpleasant parasite.

Window boxes will be improved by application of liquid manure. See that all dead flowers are picked off. Freshias, Bermuda lilies, Hyacinths, and paper white Narcissi should be planted this month if desired to have them blooming indoors for Christmas.

If you grow gladioli you will find "Mr. Grub" is very fond of them. Often remove the earth where a gladiolus bulb was planted only to find a large grub lying just where the growth has started. These pests can be overcome by keeping a careful watch for them and digging around the plants in the early morning.—D. W. Marden, Pilot Mount Man.

It is best to stand foliage plants out of doors during the hot summer months in partial shade. Under the shade of trees, if not too dense, or on the north side of a fence or building is the best place for them in summer time. A layer of coal ashes or a sprinkle of lime should be placed for the plants to stand on to keep earth worms out of the pots.

Planning for Future Flowers

J. McPherson Ross, Toronto, Ont.

STANDING in the nursery at the end of a walk, on both sides are a group of the plant commonly called Scotch thistle, botanically *Onopordon acanthifolia*. They are fully six feet high and in full bloom and certainly are showy plants. With silvery gray, prickly leaves, they make good sentinels and guard the path well, for who enters there must be mindful how they pass these Scotch gentlemen, or they will get a prick for their carelessness. These plants are self-sown, a true biennial, and are worthy of a place in any garden for the effect they create.

This leads us to remember how many of the very showiest of our garden flowers may be now sown to grow plants for next summer. It is well said that a gardener's work is always six months ahead of him, rather let us say twelve months in many cases and sometimes years where the best results are aimed at, but the wise flower enthusiast is now getting ready to sow his or her garden favorites.

THE RIGHT TIME

The proper time to raise plants from seeds of both perennials and biennials is as soon as the seeds of this season's flowers ripen. With an almost avaricious pleasure the keen gardener waters the ripening pods of some choice flowers in order that he may be ready to gather and dry them on paper in some safe place to sow at the first opportunity.

Some of the showiest flowers we have are thus easily grown and with so little trouble in the doing that it amounts to a pleasure to the doer. The most prominent varieties which occur to our mind are delphiniums, foxglove, canterbury bells, columbine, gaillardia, lychnis, cyphosiphila, (baby's breath); arabis, (rock-ress); achillea, Oriental poppy, phlox and hollyhocks. There are many more desirable kinds of the larger flowers, but the foregoing just makes a dozen, let us say, indispensable garden favorites.

SELECT YOUR SOIL

The best soil to sow these in is a sandy loam well enriched, and so situated that it will have, if possible, partial shade at the hottest time of the day. Poppy, foxglove and Canterbury bell seeds are exceedingly fine, and should be covered with but a dusting of fine soil, which should be firmed with the foot or back of the spade. Hollyhock and larkspur seeds, being coarser, can have more covering. The delphiniums grow slowly but the hollyhocks soon come up.

After all the seeds have been properly sown and a neat label with the name and date of sowing has been stuck in the row, water the rows carefully with a fine hose on your watering pot. The only

thing to mind, and it is the main point till the plants appear, is not to allow the surface soil to dry out at any time. Do not keep the bed too wet but just damp.

When your plants are large enough to transplant, have a nice clean bed in which to prick them off in rows at least twenty inches apart and a foot in the rows for plants like foxglove and hollyhocks. Keep the soil loose by frequent hoeings and you will have by fall plenty of plants for next summer's flowering.

A bed, or more properly speaking, a border of flowers I passed frequently this past month, gave me great delight. It consisted, as nearly as I could make out in the limited time the fast speeding trolley allowed me, of purple, white and yellow iris, foxglove, campanulas and one continuous row of valerian. The plants were grouped in masses, but the valerian was a continuous row, and looked fine.

We have just done cutting paeonia blooms, and really the beauty, the size, the color and the perfume of most of the

varieties added to the hardiness of the plant, its easiness of growth in all kinds of soils, its beauty of foliage, and its freedom from insects, entitle the paeony to be designated the "King of Flowers," if the rose is the queen. Again, you can transplant a paeony root any time excepting in winter.

August and September are the months to plant paeonies. If you have old plants and wish to renew and divide them, this is the time of the year to do it. This advice applies also to that other garden favorite, the phlox, in variety. From this on they are the glory of the garden. The phlox particularly needs dividing every three or four years, or else it runs out.

To have the best results from the paeonia and the phlox, the soil should be trenched—a gardening term for digging the soil two feet deep, with liberal manuring—and be sure it is well drained. In fact, all our herbaceous plants may be thus divided and replanted in August and September, particularly the Oriental



The Transfiguration of a City—No. 2

This city garden has transformed an ugly bare spot, with the results here shown. Waste spots in cities should be taxed and forced into use.

poppy. This, also, is the only time to plant the lilies in sorts, particularly *Lilium Candidum*, or the Madonna, or Annunciation lily, as it is termed. The loveliest effects may be had by planting clumps of delphinium interspersed with groups of *Lilium Candidum*, or campanulas.

For fall flowering, dahlias and gladiolus hold sway and it's while we are now contemplating the blooms which grace the borders that we can plan new and more pleasing surprises for next season. It is also now that we can arrange for our spring flowers by sowing pansies, forget-me-not, daisy, and others, for spring blooming. The directions for sowing before mentioned answer for these as well.

Another old favorite, hardy and early blooming plant, is the bleeding heart. This always makes a conspicuous show in the spring when early flowers are so appreciated. Old clumps of this flower, along with phloxes and pæonies, may be divided and replanted during the coming month. It also delights in a dry loamy soil well enriched. Nor should we forget in our future planning to provide good edging effects by having plenty of the various funkias. The wide shapely foliage and compact habit of this plant makes it an ideal plant for bordering.

Sedum spectabilis makes a beautiful edging, and we must not forget our old friend *Phalaris arundinacea picta*, or ribbon grass. When this plant gets too high, cutting it back to three or four inches promptly renews its lively appearance, and here I must mention the beauty and showiness of the pyrethrum. I don't know any plant more satisfactory than this for the weeks it is in flower. It is so piquant and showy, its long stems bearing the neat and attractive flowers and foliage. No well ordered garden is complete without an assortment of the lively pyrethrums.

Novel Effect with Sweet Peas

Mr. R. B. Whyte, of Ottawa, uses a striking method of growing sweet peas. At intervals throughout his garden Mr. Whyte has planted sweet peas which are trained to grow up wire nettings. The netting is so cut that separate pieces can be looped into circles about two feet in diameter. The netting is fastened to stakes set in the ground to prevent its blowing over.

Each piece of netting is the height of a person's head. As the vines grow up all around and cover it the different clumps of sweet peas thus trained make a striking effect in the garden. Mr. Whyte uses the Peerless Perfect Poultry Fence, which he has found gives better results than some other varieties of fences which have sharper points that catch and cut the vines.

The Pæony

John Cavers, Oakville, Ont.

THE herbaceous pæony increases in the public interest and favor the more the finer varieties become known. Its intrinsic merits form a substantial basis for this growing interest. Its hardiness and tenacity of life are unusual in plants. It is safe to class it with the "iron-clads." It does not winter-kill. There is, perhaps, no plant so well adapted to brighten the homes of the Canadian north west as the pæony because of this quality of hardiness. This quality is inherited. The modern varieties are descended from *Pæony albiflora*, a native of Siberia.

Another feature of the pæony that commends it to general favor is the freshness of its foliage. The foliage is interesting from its earliest growth in spring until it is matured by hard frosts in the fall. When the foliage and stems of a clump come to full growth as they do in the end of May, the size, freshness and healthy appearance of the former with the length and stoutness of the latter, give to the plant an appearance of healthy, vigorous strength seldom found in plants.

The blooms of the pæony are of many forms—from the single, through the various stages of becoming double, to the full rose form. Some are unusually fine in the bud stage, such as *Achilles*, *Mme. Crousse*, *Modeste Guerin*, *Duchesse de Nemours*, (*Calot*) and *Umbellata rosea*; and *Achille* and *Duchesse de Nemours* (*Calot*) are exceptionally beautiful in the half-open stage.

The colors are of many shades and tints from white to almost black. The lighter colors, however, prevail; and the lighter pinks in hydrangea and apple-blossom tints distinguish most of the fine later introductions. Fine reds are scarce, but *Felix Crousse* and *Constant Devred* are good ones of this color, the latter being a late variety. *Mme. Bucquet* and *Mons. Martin Calinzac* are the two of darkest color, the latter being the darkest grown. *Mons. Jules Elie* is the grandest pink and is by some considered the perfect pæony.

The pæony is free from the attacks of insect enemies and comparatively free from fungous diseases. Perhaps the only cautions that need be urged in this regard are to avoid planting in a wet, undrained location, and to avoid bringing coarse, unrotted manure into close proximity to the tubers.

The following notes may be found helpful:

A good garden loam well enriched, is the best soil for pæonies.

In full sunshine is the best location.

Plant in the latter half of September.

Preserve the name-labels.

Plant so that the crown is two to three inches below the surface.

Give to each plant a space of nine to ten square feet.

Mulch the ground after it has become hard frozen.

If for a border, plant in clumps of three to five of one sort.

If for a bed, plant ten to twenty-ft. of one sort.

A single row of pæonies, in which various sorts may be used, planted two feet apart, makes an excellent dividing line in a garden.

If a large clump effect be wanted quickly plant three one-year plants fifteen inches apart in the form of a triangle rather than a four to five year-old plant.

If possible, leave the plants undisturbed for eight to ten years.

An annual dressing of fertilizer, preferably rotted cow manure, worked into the soil directly after blooming time, or very early in the spring, will give good results.

A liberal supply of moisture, natural or artificial, from the time the flower buds are formed until the blooms are cut, or fully opened, will increase the size of the blooms.

Many varieties form flower-buds in clusters of three to four. Remove all these except the terminal, the largest one.

Plant for a succession of bloom. *Umbellata rosea* is the earliest of the *Albiflora* species to bloom. *Couronne d'Or* (white), *Marie Lemoine* (white), and *Rubra superba* (*Richardson*), (crimson), are good late sorts.

Gladioli and narcissi may be planted amongst pæonies. These will prolong the blooming season of the pæony bed. The gladioli must be planted every spring; the narcissi must be planted in the early fall, and they may remain undisturbed for two to three years.

If the blooms are wanted for house-decoration cut them when the buds begin to break open and place the stems in water. In cutting blooms leave two or three leaves on the stem of the plant.

The virtues of the pæony are summed up by a writer in *Vick's Magazine*, as follows:

"No flowering plants capable of enduring our northern winters are more satisfactory than the pæonies. Masses, without being coarse, fragrant without being pungent, grand without being gaudy, various in form and color, beyond the possibility of being successfully superseded, they stand in the first rank of hardy flowers."

Many house plants suffer from a neglect to water regularly. Some varieties that are kept in sunny window require water every day.

The Gladiolus, My Favorite Flower*

E. E. C. Kilmer, Brantford, Ont.

MY favorite flower is the gladiolus. I have made it a favorite for several reasons: First, it is easily grown; second, I get an infinite variety of color, form and texture in the blooms; third, as the bulbs reproduce and sometimes multiply the outlay never exceeds the initial cost, which is not very great; fourth, a wealth of bloom is easily secured for practically the entire season; fifth, the blooms retain their freshness and vigor for a long time after being cut; sixth, the blooms are specially suited for vases and for house decoration; seventh, the plants are extremely free from pests, and very certain of blooming.

In growing the gladiolus, I make my preparations in the autumn. I have the ground absolutely free of weeds and spaded to a depth of four to six inches, after which I cover it with a good layer of rich manure, and leave till spring. In the spring I spade the manure in to a depth of twelve to fourteen inches, and rake the ground down smooth. About May tenth to the twentieth, according to the season, I put out my first bulbs in rows from fifteen to eighteen inches apart, according to the number of bulbs I have to plant and the space at my disposal. I place the bulbs six inches into the soil at distances of ten inches in the rows. As soon as the leaves make their appearance I work the ground over with a Dutch hoe almost daily, thus keeping free from weeds and inducing plenty of moisture to rise from below. I seldom use the hose on the plants as I think it destroys the blooms, but when I find it necessary to use water I put it on

in the evening and endeavor to let as little as possible on the blooms. At intervals of two weeks I put out more bulbs until I have four lots under cultivation.

I cut my blooms when the lowest one is partly open and place them in the cellar for about thirty hours before using for bouquets.

When the autumn frosts have become sufficiently hard to brown the leaves, I lift the bulbs and leave them on the ground for a day or two, after which I cut off the leaves near the bulb, break off the old bulbs, and place in shallow trays in the shed for a week or two. I then go over the bulbs, removing the dried bases of the leaves and any loose coverings, after which they are placed in fruit baskets, carefully labelled, and left in a dry place, free from frost, until required the following spring.

The soil in which I grow my bulbs is a good sandy loam. It is protected from winds on the west by a hedge, and on the north by the house and a hedge. I use only Canadian grown stock of a medium price, except a few upon which I experiment and have never yet failed to secure an abundance of good bloom.

Floral Suggestions

Wm. Hunt, O.A.C., Guelph, Ont.

Shrubby begonias should be repotted into good rich, light potting soil about the end of August and brought into the window at once. Begonias do not like a too sunny position at any time.

To have calla or arum lily in flower early in the winter they should be repotted about the end of July. Repot them in July and bring them into the window about the end of August. Give them good drainage when repotting, and good rich soil. Water them well when

once well started and sponge and spray the leaves with clear water frequently. Liquid fertilizer will help them during the winter.

Dig the chrysanthemum plants up, if planted, about the end of August. Bring them into the house before frost, usually about the end of September. These plants like plenty of water at the roots, sprinkling frequently, and a cool window away from fire in the fall when flowering. After flowering, cut the flower stem down, and stand them in a cool window or put them in the cellar until spring. The soil should only be kept barely moist during the winter. The pompon type are especially good for window plants.

Impatiens, or Bloom For Ever, should be dug and potted in light potting soil about end of August and brought into the window at once. These like a bright sunny window in winter. Spray the foliage frequently to keep down red spider and other insect pests.

Pelargonium plants in pots, when through flowering in June or July, should be stood outside in not too sunny a spot. Dense shade should be avoided. In August when the old wood is ripened, cut the plants well back, allow them to start into growth a little, and then shake the roots out of the soil. Cut the roots back about one half and pot the plants in small pots in rather sandy soil. Place them in a cool window near the glass early in September before frost. In five or six weeks repot them into a two or three size larger pot into good soil with plenty of drainage at the roots. Give them a cool sunny window away from fire heat during the winter. Sprinkle or spray the foliage almost every day while growing until they are out of flower to keep down the green aphid or lice that often infest these plants badly, especially in a hot window and a dry atmosphere.

*The fourth prize essay in the competition conducted last year for prizes offered by Mr. Hermann Simmers, of Toronto, and Mr. R. B. Whyte, of Ottawa.



Gold Medal Collection of Gladioli, exhibited at the Canadian National Exhibition Toronto, last fall by A. Gilchrist, Toronto Junction, Ont.

Summer Sprays for Vegetables

Prof. E. M. Straight. Macdonald College, Que.

THE air is pregnant with insect life! The "hum" and the "whir" are fruitful topics from the standpoint of the rural poet; but the market gardener whose vegetables are attacked by caterpillars on the leaves, grubs in the roots, larvæ in the stems, besides multitudes of fungoid diseases above and below ground, fails to see the poetry. One thing he is obliged to see, viz., His crops. They, unless protected, will gradually go back to the soil; and the realization will be forced upon him that his labor has been for nought. The growers are accepting the verdict, "Spray or surrender." If all did so the task of protecting plants would be much easier, for the gardener is handicapped if forced to fight alone.

It would seem that arsenate of lead is winning a place over paris green as an insecticide. It sticks better, costs more, is popular and easily obtained. Paris green is not to be despised by any means.

belong to this class. Dig out the plants so attacked and burn them. You cannot save them and you may hinder the spread of the disease to the remainder of the field.

Plant lice cannot be poisoned. They do not eat, and therefore cannot be reached by a stomach poison. Lice suck up their food. They are usually very difficult to control. We may hope to reach them only by means of a contact poison, that is, something that will kill the insect by coming in contact with its body. Hot water is a good example of a poison of this kind.

Every gardener, if he would intelligently fight insect pests and fungoid diseases, must know his enemies. He must know something of their life history, the weak point in their life cycle, or in other words their most vulnerable point of attack. It is not necessary for him to know the scientific name or the exact number of joints in their hind legs, but a

The Late Blight and rot of the potato is so generally known that frequently this malady is simply called the potato disease. It is the oldest potato malady, and was the cause of the potato famine in Ireland. The spots cannot be easily confused with other potato diseases. These diseased areas frequently begin at the edge or top of the leaf and spread until the whole leaf is involved. They present in moist weather a dark, somewhat water soaked appearance with slightly purplish tint. Upon the tubers this fungus develops the well-known dry rot of the field and storage pits.

POTATO FLEA BEETLE

The potato is often attacked by a very small beetle which also attacks the tomato, cucumber and beans. This insect is commonly called the potato flea beetle. They often congregate in such numbers that the leaves of plants appear almost black with them. Potatoes and tomatoes often have their leaves so badly eaten that the leaves shrivel and die in the case of the tomato, although the potato usually pulls through.

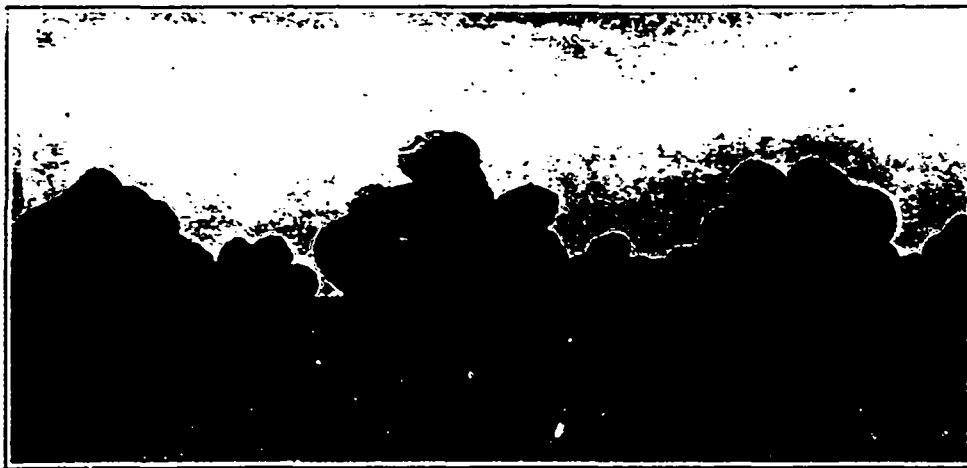
COLORADO POTATO BEETLE

The Colorado potato beetle is a native of a strip of country which lies just east of the Rocky Mountain range and includes eastern Colorado. In its native state the beetle lives upon the wild weeds of the potato family. The chief of these is the buffalo bur, but the beetle is quite a general feeder on plants of this group, including not only potatoes, but tomatoes, egg plants, tobacco, and pepper. The adult passes the winter in the ground. In spring the beetles emerge, seek food plants on which they feed and deposit eggs. These adults sometimes, though not always, do much injury. They die shortly after depositing their eggs. The eggs hatch in from four to eight days, depending on the temperature. The young reach full growth about three weeks later. Soon eggs are laid again, and the second generation hatches. Ordinarily two broods are all that we may expect.

REMEDIES

All of these maladies may be controlled by bordeaux mixture and paris green or arsenate of lead. Bordeaux mixture of the usual formula, four-four-four, and if paris green is used, one pound to forty gallons of water is quite sufficient. Two pounds of arsenate of lead will kill the beetles with equal certainty, and it remains on the foliage longer, owing to its sticking properties. The first application should be made as necessary, about the time the Colorado potato beetle is hatching, and at intervals of ten days as required. Usually three applications will be quite sufficient.

The two principal enemies of the cabbage are the cabbage butterfly and the



The Relative Yield of Potatoes with Different Sprays

The potatoes in piles one and two show the proportion of marketable and unmarketable potatoes where the lime-sulphur spray was used once. Piles three and four show potatoes on which Bordeaux mixture was used once. The two piles on the right were not sprayed at all.

It will kill insects which chew if properly applied. The celebrated lime-sulphur, so effective as a fungicide in the orchard, is not to be recommended so highly as we once thought for vegetables. Our experiments would indicate that the old reliable Bordeaux mixture is superior to lime-sulphur for potatoes, and we believe for other truck crops. The grower has in bordeaux mixture and arsenate of lead a combination with which he may do very effective work against most enemies of the garden.

BACTERIAL DISEASES

We have a class of diseases, however, which spray mixtures cannot reach. These maladies are bacterial in origin, within the tissue, so that spraying the plant is of no more avail than spraying a man dying with tuberculosis. Melon wilt and the soft rots of some root crops

good working knowledge of his enemies is essential to the best success.

ENEMIES OF POTATOES

The potato is attacked by Early Blight, Late Blight, Flea Beetle, Blister Beetles, and Colorado Potato Beetles. Certain bacterial diseases also attack the plant which cannot be controlled by sprays.

Early Blight of the potato is a premature spotting and dying of the potato leaves, due to the work of a parasitic fungus (*Alternaria solani*). The occurrence of the Early Blight, however, is liable to be influenced by the general vigor and other conditions of the plant; yet there is no just basis for denying the parasitic nature of the disease. Early Blight is the cause of the early dying of potato tops, but does not cause rotting of the tubers.

Marketing Early Vegetables

E. E. Adams, Leamington, Ont.

SOME years ago it was the rule to ship some kinds of vegetables in barrels, hogsheads, boxes, or other packages. There has come a change. To-day we find many varieties of vegetables in packages of various kinds, attractively labelled and containing a definite amount of same varied commodity.

Things have changed with men's ideas. The marketing of many kinds of horticultural products has followed somewhat closely along commercial lines. Packages vary little now, as more advanced ideas have wrought out a new system, whereby more standard packages are used. These have proven very advantageous. It is rather confusing to have a large number of packages and as many different prices attached to them. We find some markets quote some lines of vegetables at so much per strap, so much per box, so much per hamper, and many other ways, which causes considerable confusion, but from the leading shipping centres now we find celery in cases of four to six dozen, tomatoes in four basket carriers and some in six basket carriers, cukes in what are called half-barrel hampers, lettuce the same, potatoes in barrels containing one hundred and sixty-five pounds, and so on. These packages being standard, buyers know what to expect when a quotation is given.

Some growers or shippers are using a brand or trade mark to distinguish the quality of the goods which they market, and much to their advantage, as buyers soon recognize an honest brand and ask for it on the market. A brand should include the name and address of the grower or shipper, as also the variety of contents of the package.

Much of the fruit and vegetable products are sent to market to some commission house to be sold for the best

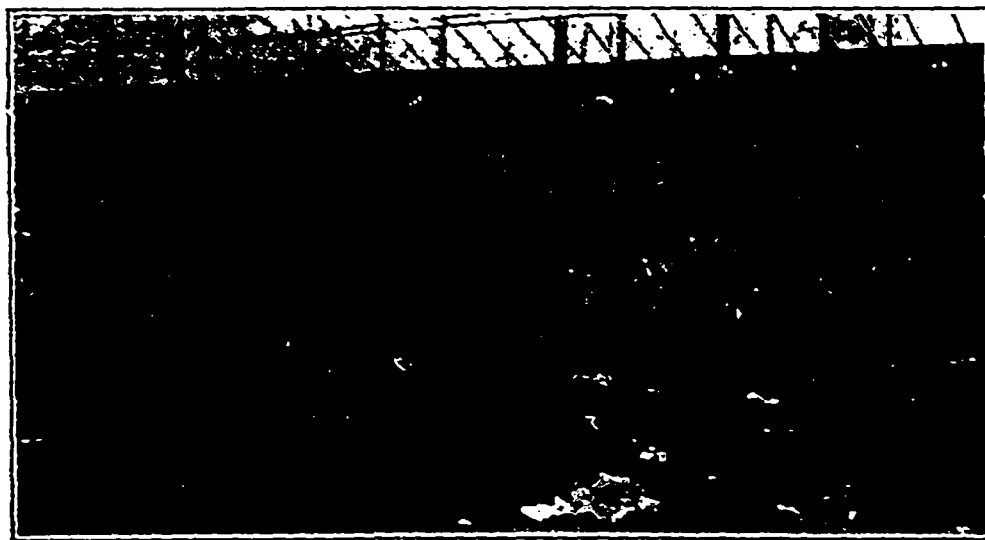
price obtainable on a basis of ten per cent. commission. This is at times a very satisfactory method, but it is not always the best. In the marketing of perishable stuff, we must do the best thing possible in order to avoid loss, and as commission merchants have usually a large trade to cater to, their services are very necessary to assist distribution, although some think otherwise.

For shipping hot house tomatoes we are using boxes measuring six by nine by nineteen inches and containing twenty pounds. These are all wrapped in tissue paper with the grower's name, and the box has a lithographed label on one end, and each end has a thin band of sheet iron nailed around it for security. These boxes are made of nine one-quarter of an inch thick and planed on one side. We also use corrugated paper all around the inside of the boxes as protection to the fruit. For hot house cucumbers we use the eleven quart basket, with a label pasted on the top before covers are made up.

Lettuce is shipped in boxes and barrels. Asparagus in eleven quart baskets, radishes in boxes, cabbages in bushel baskets, wax beans, field grown tomatoes, peppers and egg plant in the eleven quart baskets. Canteloupes are shipped in bushel crates and baskets, also in eleven and sixteen quart baskets.

Close attention is given to careful growing, packing and shipping. Every order received each day up to five o'clock is shipped promptly. Promptness in filling orders is to be regarded as one of the great essentials to success.

When applying nitrate to plants in active growth care should be taken not to scatter it on the leaves as it is very injurious to the foliage of many garden plants and vegetables with flat leaves.



Lettuce Grown by R. H. Ellis, Leamington, Ont., Spring 1912

cabbage root maggot. Where the cabbage butterfly spends the winter is not known to us; but these white butterflies are of perennial occurrence, as everyone must have seen as they flit over turnip, rape, cauliflower, and cabbage fields in early spring. The butterflies do no damage, but from the eggs which they deposit are hatched the green caterpillars which have been so destructive in many parts. There are several kinds in the season. These caterpillars are easily controlled by arsenate of lead or paris green. Owing to the peculiar nature of cabbage foliage a sticker is usually added to the poison. We have found soap added to the spray as effective as anything for this purpose.

The white maggots that feed on the roots of cabbage hatch from eggs laid by a small fly somewhat resembling the common house fly, near the plant at the surface of the ground. If tarred paper discs are used when plants are set there will be little trouble. This disc prevents the deposition of the eggs. After the plant is attacked little can be done. Certain decoctions are recommended to be sown in the soil around the plants, but the task is almost hopeless.

OTHER CROPS

Cucumbers, squash, pumpkins, melons and other similar crops are all subject to the striped cucumber beetle. These little fellows are not easily poisoned and not easily controlled. We have used bordeaux, though not a poison, as good as anything for this beetle. Bordeaux acts as a repellent. These beetles do not like its flavor and avoid plants so treated. Land plaster, road dust or even kerosene is of some avail. These substances protect the leaves by forming a close covering for them. The beetles will not get through the powder and the plants are saved. The powder should be put on in the morning when the plants are wet with a powder gun or by sifting through a cheese cloth bag. Traps are sometimes employed. A few seeds are sown somewhat earlier than the main crop, around the borders of the field. The beetles congregate on these and may be poisoned by much stronger applications of arsenic than we would dare to use on the main crop. If these trap plants are killed by the poison no matter how early, the bacterial diseases of the cucurbits cannot be controlled by sprays. The plants attacked should be dug up and branch and burned. Serious outbreaks are sometimes thus avoided.

With all summer sprays for vegetables thoroughness is the important thing to be sought. A plant thoroughly sprayed with a weak spray mixture is much more thoroughly protected than one partly covered with one twice as strong. All plants subject to attack should be entirely covered with their spray armor at the time. Then, and then only, are the plants safe.

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H. BRONSON COWAN, Managing Director

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CIRCULATION STATEMENT

The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with December, 1911. The figures given are exclusive of samples and spoiled copies. Most months, including the sample copies, from 11,000 to 12,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruits, flowers or vegetables.

January, 1911	8,082
February, 1911	8,250
March, 1911	8,523
April, 1911	9,469
May, 1911	9,783
June, 1911	10,178
July, 1911	10,662
August, 1911	10,043
September, 1911	9,973
October, 1911	9,991
November, 1911	9,988
December, 1911	10,137
Total	114,589
Average each issue in 1907	5,627
" " " " 1908	8,635
" " " " 1909	8,970
" " " " 1910	9,847
" " " " 1911	9,541
July, 1912	11,279

Sworn detailed statements will be mailed upon application.

OUR PROTECTIVE POLICY

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

Communications should be addressed

THE CANADIAN HORTICULTURIST, PETERBORO, ONT.

EDITORIAL

THE FRUIT DIVISION

One of the most interesting features of the report of the proceedings of the Dominion Fruit Conference held recently in Ottawa, now being distributed by the Dominion Department of Agriculture, is the account it contains of the discussion of the advisability of having a commissioner placed in charge of the fruit division. The most significant feature of the discussion was the determined manner in which the fruit growers pressed their point in spite of a manifest desire on the part of leading officers of the Department of Agriculture, including the Minister of Agriculture, that the point should not be insisted upon.

The fruit growers did well to recognize the fact that Dairy Commissioner Ruddick, who has been acting as commissioner of the Cold Storage and Fruit Divisions, also has done good work for the fruit growers. Nevertheless the fact remains that Mr. Ruddick is not a practical fruit grower, and that his training has been along an entirely different line. The chief of the fruit division at present must lay all his recommendations before the dairy and fruit commissioner. He has no power to consult direct with the minister of agriculture. This condition should not be allowed to continue any longer than possible. It must not be forgotten either that Hon. Mr. Burrell, while in the opposite ranks in the House of Commons, was one of the most severe and persistent critics of the present arrangement. Were the fruit division placed under the control of a commissioner possessing the necessary qualifications, nothing but good would result.

LAND AGENTS

It is possible for a country to have too much of a good thing even of land agents. This is being demonstrated in many sections of Canada. While the disastrous results that follow speculation in land are becoming more clearly recognized every year, the public as yet has not reached the stage where it realizes that the best and only effective remedy is to apply a sufficient tax on unimproved land values to curb this evil.

British Columbia owes much to its land agents. They have helped to develop thousands of acres of fruit land and to boom the fruit growing possibilities of that province to a degree that has made them an important factor in its settlement by an unusually high class type of settlers. There are indications, now, however, that in sections of the province at least, the boom in fruit lands has about reached its height for the time being, and that the work of settlement, instead of being promoted, is being retarded by the high prices being asked for fruit land. A letter received recently from a subscriber of THE CANADIAN HORTICULTURIST in British Columbia contains the following reference to this subject: "I hope that Ontario will never be blessed with an army of land agents or speculators in fruit lands and town lots such as British Columbia has now. When a man has to pay two hundred to four hundred dollars an acre for uncleared land and spend another one hundred to three hundred dollars to clear it, he looks at it twice before buying. At present prices not much of this land is likely to be taken up for several years."

Land agents are now appearing in the fruit districts of Ontario, where they are receiving a warm welcome, because it is realized that they are likely to have an important influence in developing these sections. As yet there is not much danger of their operations proving harmful, especially in a few sections of the Niagara District, but the time may not be far distant when this will no longer be the case. More and more the trend of taxation must be away from the taxation of improvements towards the taxation of land values. A fruit grower who sets out an orchard or vineyard should not be taxed for his enterprise. Instead we should tax those who, while holding land idle, profit from the enterprise of their neighbors who improve their places. We should encourage the workers not the shirkers.

Last spring we drew attention in these columns to the fact that the Goderich Horticultural Society had adopted the pansy as the emblem for the town of Goderich and that it purposed encouraging its culture until it should become a feature of the town. Now comes word that the Waukegan Garden Club has adopted the sweet pea as its official flower. This is a most commendable line of endeavor. A few weeks ago the writer spent a couple of days in Galveston, Texas, where oleanders were blooming in front of apparently a majority of homes. The effect created by these beautiful flowers was beyond description. While it is not desirable that horticultural societies should limit their work too much to one variety of flower or shrub, there is a reason why more of our societies should encourage especially the growth of some certain variety of flower or vine, as is being done in Goderich, Winnipeg and elsewhere. Let us make our towns and cities know the beauty of their floral effects.

While there are a number of sections in Ontario and the east that make the province boast that they are the garden spots of Canada, they all fall far short of British Columbia in their ability to produce photographs to substantiate their claims. This does not prove that they lack the conditions to maintain they possess, but that they lack the photographs. For some years THE CANADIAN HORTICULTURIST has found it comparatively easy matter at any time to obtain excellent photographs of orchards and vegetable gardens in British Columbia, but a much more difficult matter to secure illustrations of similar scenes in Ontario, Quebec and the Maritime provinces. Recently a syndicate of publications wrote us for illustrations of fruit scenes in the east for publication in a Metropolitan Magazine. They seemed at a loss to know where to secure any. The fruit resources of the east will never be advertised as they should until those interested in promoting them realize the necessity of taking good photographs and using them as opportunity presents.

In Ontario this year over sixty persons have been qualifying for the special government grant offered to those who teach agriculture through school gardens. There is probably no other province in the state on the continent that is showing greater development along these lines. This is encouraging, and we may well hope that the good work that has thus been started will extend rapidly. Much of the credit for the success of this movement is due to the capable work of Prof. S. B. McCreedy, director of elementary agricultural education.

PUBLISHER'S DESK

The next issue of THE CANADIAN HORTICULTURIST will be our second annual Special Exhibition and Packing Number. It promises to be the best issue of THE CANADIAN HORTICULTURIST we have ever issued. The cover will be special in character and the contents of more than usual interest. Naturally the subject of the packing of fruit will be given due prominence. Among the articles will be one entitled "How We Pack the Fameuse Apple," by Mr. R. W. Shephard, of Como, Quebec, and another entitled "Packing Fruit for the Western Markets," by Mr. Robt. Thompson, of St.

Confidence.

How much do you think a large manufacturing or other business concern, selling hundreds of thousands of dollars worth of goods annually would take and forfeit the confidence the buying public has in the quality of their goods and in their willingness to give their customers fair and honest treatment at all times? Were it possible to buy this confidence you probably could not purchase it at any price. It has taken years of honest dealing and reliable goods, and thousands, or perhaps hundreds of thousands of dollars spent in telling people about these goods through some of the many forms of advertising, printed and otherwise, to build up and maintain this confidence. Were this confidence once lost they would have to start all over again.

This is why the business concern which has advertised its goods extensively for years, and has built up a big business, is obliged to keep up the quality of the goods put out, and to maintain its reputation for fair and honest dealing. One dishonest transaction, or one dissatisfied customer will, in the end, mean a loss of many times any immediate gain which might be made through such transaction.

The publishers of The Canadian Horticulturist have, for years, been building up confidence between its readers and the advertisers, who use space in its columns, to tell about their goods. For years we have positively refused to publish liquor or tobacco advertisements, electric belt, patent medicine, and get-rich-quick schemes, or any kind of advertising to which we felt our readers might object, or which we felt to be questionable. To publish one dishonest advertisement would cause many of our readers to lose confidence in the advertisers who use The Canadian Horticulturist. This is why we are so careful to admit to our columns only such advertisers as we feel we can thoroughly endorse. And this is why advertising space in The Canadian Horticulturist is becoming increasingly valuable.

We do not admit advertisers to our columns except such as we believe are thoroughly reliable.

Catharines Mr. Ralph Eaton, of Kentville, Nova Scotia, probably the largest fruit grower in the Maritime provinces, has promised an article on "Popular Nova Scotia Apple Packs." Mr. Eaton was one of the pioneer packers of boxed apples in the Maritime provinces, and is especially well qualified to handle this subject. Mr. A. V. Harkness, superintendent of the Jordan Harbor Experiment Station, is to contribute an article entitled "Picking and Packing the Apple Crop." The foregoing are only a few of the many interesting features this number will contain. In addition it will be profusely illustrated. Our aim is to make each of these special packing numbers larger and better than their predecessors. Success promises to attend our efforts this year.

During the past few weeks representatives of THE CANADIAN HORTICULTURIST have been busy securing descriptions of Canadian gardens in a number of towns and cities. In this they have had the assistance of expert photographers, and we anticipate that the results, when published, will be most pleasing to our readers. The descriptions of these gardens will appear one at a time during the coming year. We are finding it difficult to obtain descriptions of good gardens in the eastern and western provinces, and, therefore, would be grateful to receive the assistance of some of our readers in these sections, and also in the city of Montreal.

Although the next issue of THE CANADIAN HORTICULTURIST will be a Special Exhibition and Packing Number, we do not desire our readers to think that the garden and other features of the paper will be in any way neglected. These will receive as much space as usual, and the subject matter will be most instructive and timely. There will be a page of garden notes containing advice concerning fall work in the garden, another Canadian garden will be described and there will be several articles on special subjects. Each department of the paper will be at its full strength, and the contributors will be among the best we can secure.

SOCIETY NOTES

We invite the officers of Horticultural Societies to send in short, pithy reports of work that would interest members of other Horticultural Societies.

Winnipeg

The Winnipeg Garden Club has adopted the sweet pea as its official flower. This flower is abundantly grown here, and it grows in the most luxuriant manner. Nearly every garden in Winnipeg grows sweet peas, and it is amazing to see to what an extent the vines extend. Vines seen by the writer have been six, seven and eight feet high, and of the most prolific growth. They flower abundantly, until late frost.

As a branch of school work, vacant lot gardening as it is being conducted by the club, has shown as good results as competitive spelling. In the United States gardening in some cases has supplanted manual labor training, and the results have been most gratifying. The returns from the city gardens, both in pleasure and profit, were excellent.

Toronto

The enterprising aim of the High Park District Ratepayers' Association is to make the High Park District of Toronto a "Section Beautiful." With this end in view, a trophy and shields are being offered by the horticultural section for competition by the householders in the district for the best kept lawns and gardens. Mr. Roderick Cameron, of the city parks department, recently conducted his summer inspection. The fall inspection will be made between August 20 and 30.

The effect of the competition has been marked. At the conclusion of his spring inspection Mr. Cameron reported that the beautifying of homes with shrubs and flowers was apparent in every section. The lawns throughout, he stated, were better than his greatest expectation and the points awarded showed keen rivalry in all streets. For the recent inspection a maximum of one hundred points was awarded. Those points were apportioned as follows: Lawns, front ten, back ten, roses, hybrid perpetual and hybrid teas, fifteen, roses, climbing fifteen; hedges and evergreens, ten; climbing vines on house, ten, on fence, ten; flowering shrubs, ten; perennials and annuals, ten. In addition a bonus of twenty-five per cent on lawns and ten per cent on borders was allowed where no gardener was employed.

An interesting and significant feature of the competition is the penalizing of high board fences. Where the fence is uncovered a penalty of twenty-five points is imposed, and where covered of ten points. Mr. Wm. Hunt, of Guelph, has acted as a judge.

Hamilton

A somewhat new line of work is being undertaken this year by the Hamilton Society. Arrangements have been made with certain members who are now visiting the gardens of different members of the society and sending descriptions of them to the city papers. Among the gardens that have been described are those of Mr. Stanley Mills, on Queen St. South, Mr. J. M. Hulls, on Charlton Ave. West, and a number of others. These descriptions are being read with interest by the people of the city, and attention is thereby being drawn to the good work the horticultural society is accomplishing.

During the latter part of June the society held a flower show, which was well attended. The ladies of the Babies Dispensary Guild served refreshments, and music was provided. The show proved a success.

Peterboro

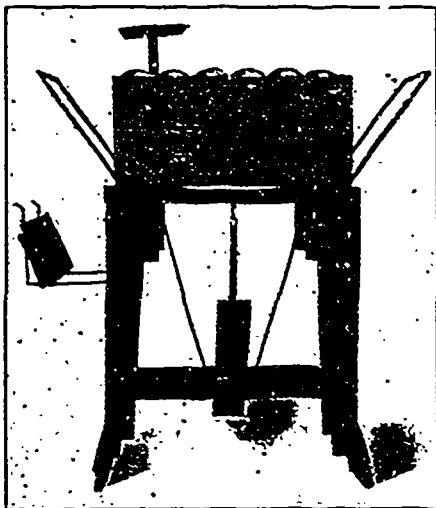
The officers of the Peterboro Horticultural Society, but more especially the secretary, Mr. C. H. Williamson, have been putting forth great efforts this year to extend the work of the society. As a result, over one hundred new members have been secured, which has brought the total membership up to over three hundred and fifty. This places the society among the leading societies in point of membership in the province.

Competitions are being held for lawns and gardens. Members of the society were given liberal options at the beginning of the season for both spring and fall delivery, and every member is supplied with THE CANADIAN HORTICULTURIST.

Have you read the advertisements in this issue? There may be something advertised that you particularly want just now.

Quick and Easy

That is the way the DAISY APPLE BOX PRESS works. A simple pressure of the foot brings the arms up over the ends of the box, automatically draws them down and holds them in place while being nailed. The fastest and only automatic press on the market.



Pat. No. 104,535

If you pack apples in boxes, this machine will be a great convenience to you and will save you time and money. Write for prices to

J. J. ROBLIN & SON
Manufacturers Brighton, Ontario
See adv. of Barrel Press, on page 196

Fruit Growing in Ontario---Its Possibilities*

W. H. Bunting, St. Catharines, Ont.

IN addition to the general and widespread interest that has been developed in better fruit-growing, the problem of more satisfactory methods of fruit-selling has been carefully considered by many of those in Ontario who are engaged in the distribution of the product. To accomplish this in a profitable and successful manner, various methods have been made use of, and some important agencies have been established in recent years. So long as the individual grower consigned his fruit in a haphazard way to the nearest market, regardless of its ability to absorb the supply, or to the first commission man who might solicit his shipments, without any knowledge of his standing or reliability, there was likely to be loss and disappointment. This lack of system is being rapidly replaced by more satisfactory methods of direct sale. For instance, the grower in many sections is disposing of his product at the shipping station for cash to buyers who are handling quantities of fruit every day, and are in close touch with the market. Or he may, by regular quotations, establish a trade with the retail merchants or consumers in more distant towns and cities. Better still, he can, through the medium of strong co-operative societies of neighboring fruit-growers, secure all the advantages of unity and systematic organization, keep well informed as to the present market and future prospects, obtain better and cheaper transportation and in many ways obviate a large percentage of the

losses and vexations of the old way of selling. This could never be accomplished by the individual working alone, and independent of his neighbors.

In the districts already referred to, there are a number of sections in which fruit growing has become an important specialty, and in which every means is being taken by the great majority of those engaged in the business to secure the latest information and adopt the most modern methods to achieve success. Unfortunately this class does not constitute a majority of the fruit-growers of Ontario,—possibly not more than twenty-five per cent of them. The other seventy-five per cent are scattered all over the province and have planted an orchard, or are engaged in growing fruit, as a secondary proposition, supplementary to general farming or some other line which is their principal occupation, and in consequence have neither time nor inclination to give their orchards proper care or attention. In sections of this character the "lump" orchard buyer of the past has found a profitable field for operations. As the primary object was to buy as cheaply as possible, and having secured the crop to put out—I will not say pack—as many barrels as by hook or crook could be managed, there could only be one result. Many of the complaints of the inferior packing and grading of Ontario fruits during late years have arisen largely from this state of affairs, and from lack of proper appreciation of the care necessary to handle and transport fruit in good order, by those through whose hands it must pass on the way to market.

*Extract from a paper read at the recent Dominion Fruit Conference in Ottawa.

Apple Trees

We are producing hardy varieties of Apples and other fruits for the North. Our Nurseries at Pointe Claire, extending over 170 acres, are devoted to the growing of Hardy Fruit Stocks and Ornaments, Roses, etc., etc. Our Apple Trees are budded on whole roots and grown under all the rigorous climatic conditions of this section. For this reason they are pronounced by experts to be best suited as stock for Northern planters, both in the Garden and Orchard.

Intending customers are urged to place their orders now while we have a full selection of the best standard varieties.

Catalogues and Lists cheerfully furnished
Free of Charge

Canadian Nursery Co., Ltd.

(Charles K. Baillie, General Manager)

10 Phillips Place - Montreal, P. Q.

Apple Boxes

WE make a good box at the right price. It is especially suited for the apple grower and shipper.

One of our large customers last year used thousands of our boxes for the export trade. Such trade demands a strong, durable box. Our boxes gave every satisfaction.

*Our Boxes are Right.
The Price is Right.
Let Us Quote You.*

Barchard & Company, Limited
135-151 Duke St. TORONTO

A strong public sentiment is now being created among the growers themselves which will not tolerate careless or indifferent or dishonest methods of packing and grading fruit for shipping purposes. This sentiment ought to do much towards raising the standard of Ontario fruits, so that the claim frequently made that Ontario can produce the best fruit grown on the continent may be amply justified.

THE NIAGARA PENINSULA

In the Niagara Peninsula, in the counties along the north shore of Lake Erie, in the districts bordering on Lake Huron, and also along the entire north shore of Lake Ontario, there has been a very considerable activity during the past few years in the increased planting of all kinds of fruit. This has been occasioned largely by the recent discovery of the valuable qualities found in lime, sulphur and arsenate of lead combined in a general spray mixture for the practical control of the majority of insect pests and fungous diseases which affect fruit trees. Although the proven efficacy of this spray has but recently been established, it is rapidly taking its place as the most important discovery of late years in the progress of horticultural knowledge. The insistent demand for all the fruit which can be produced has also done much to awaken this activity and accentuate it, until at present it is taxing the facilities of the nurseries to supply this country with trees and plants of the standard fruit.

I have referred to the cooperative movement among the fruit-growers of Ontario. I believe the first organization of this kind in the province was that known as the Niagara Peninsular Fruit-Growers' Stock Company, which was formed some twenty years ago by those veteran fruit-grow-

ers: Mr. A. H. Pettit and E. J. Wolverton and the late A. M. Smith, Murray Pettit and Dennis Van Duzer. The latter three, although no longer with us, are honoured and remembered as pioneers of the earlier days.

This company was formed under a Dominion Charter for the purpose of establishing reliable agencies to dispose of fruit to advantage, as well as to join in the assembling of car-loads of fruit for shipment to the north-west and the Maritime Provinces. It maintained a useful existence for many years, until it became superseded by local associations, in closer touch with the several districts covered.

The pioneer, however, of the present long list of cooperative associations in active operation may be said to be the St. Catharines Cold Storage and Forwarding Company. Organized in 1897, the outcome of a condition of affairs which was becoming intolerable, it has steadily grown in scope and importance until at the present time it is one of the largest, if not the largest and most successful company in the province handling fruits and produce in a cooperative way. The success of this company has led to the formation of many others modeled on the same or similar lines, in various parts of the province, the majority of which are securing excellent results. With careful, competent management and loyalty of the members to one another, these associations should be able to solve many of the problems of successful distribution.

A new feature of the association or company activity has been in evidence during the past season, the outcome of which is being watched with considerable interest. This movement consists in the organization of companies, with more or less capital, for

Douglas Gardens
Oakville, Ontario

The best time to plant Paeonies, German Irises, Japanese Irises, Delphiniums and Phloxes, is in the early fall. The best time to give an order for these is **NOW**.

We offer 67 varieties of Paeonias at prices from 30 cts. to \$3 per plant;

12 varieties of Irises at 15 cts. to 25 cts. per plant;

Delphiniums, Gold Medal Hybrids, a choice mixture, at 15 cts. per plant;

And 6 varieties of Phloxes at 15 cts to 20 cts. per plant.

("Miss Lingard" Phlox at 20 cts. should be in every garden.)

Daffodils must be planted in early fall. We offer 8 fine sorts at prices 2 cts. to 5 cts. each.

Our Fall Planting List, now ready for distribution, describes all of the above. Send name and address for a copy.

JOHN CAVERS

Announcement

The demand for Pedigreed Nursery Stock during the past season has been so heavy that we could not supply all our customers, and we have therefore very greatly extended our business.

Stock planted last fall has come through the severe winter in excellent condition and we feel warranted in again advising fall planting for most varieties of fruit.

We shall be glad to answer all enquiries and quote prices for October delivery.

AUBURN NURSERIES
QUEENSTON, ONT.

Winnipeg



We Want Your Fruit
and
Will Give You
A SQUARE DEAL

Dingle & Stewart
263-265 Stanley St. - Winnipeg

A Cherry Orchard Pays

Plant in Fall and Avoid Failures



CHERRY ORCHARDS PAY BIG DIVIDENDS

Toronto Wholesale Fruit Market Quotations, present season, quote—
Early Richmond and Montmorency, \$1.25 to \$1.50 per basket

*We offer Choice Trees for Fall Delivery at
Special Prices for Orchard Lots*

Send for Prices and our Cherry Circular

THE FONTHILL NURSERIES

Established 1837

STONE & WELLINGTON - TORONTO

the purpose of purchasing, or leasing for a number of years, orchards in various parts of the country, it being the intention to care for these orchards in accordance with the most approved methods. Should the companies prove successful, the several orchards so handled should prove splendid object-lessons to the surrounding country.

The Provincial Government has taken an active interest in horticulture in Ontario. A fruit branch has been formed, with Mr. P. W. Hodgetts as director; an Experimental Farm has been established in the terrace fruit area, the gift to the province of Mr. M. F. Rittenhouse, of Chicago, who, an Ontario Niagara district boy, has not forgotten the place of his birth. Some good results are expected in the course of time from the work conducted on this farm. The Ontario Horticultural Exhibition has grown from very small dimensions a few years ago to one of the largest annual displays of apples on the continent, second only to the National Apple Show.

If those of us who are engaged in the fruit industry in Ontario will rise to the dignity of the situation, and by every means in their power seek to put our product on the public market in such a manner as will remove every cause for complaint due to carelessness and indifferent packing and grading of what might otherwise be a high-class product, there is a bright future in store for the fruit-growers of the premier province in the Dominion.

Orchard Heating

Late spring and early fall frosts not only frequently prove disastrous to fruit and vegetable growers. It is encouraging, therefore, to note that orchard heating is considered to be a demonstrated success commercially in leading fruit sections of the United States.

Bulletins issued recently by the Nevada and Iowa Experiment Stations show that experiments conducted not only by the stations, but by private growers as well, prove that orchard heating is practical within the reach of the average grower who has any considerable quantity of fruit that he desires to save. Where winds are high, windbreaks are necessary. In Nevada it has been shown that even when the temperature falls as low as twenty-two degrees Fahrenheit and frosts occur persistently, the orchards can be protected during the season at an expense varying from seven to three to ninety-five cents a tree. The minimum cost for each heating should not exceed ten to twelve and a half cents a tree. In an orchard of two hundred and fifty trees the average expense for each of the fifteen heatings was a little over five cents a tree.

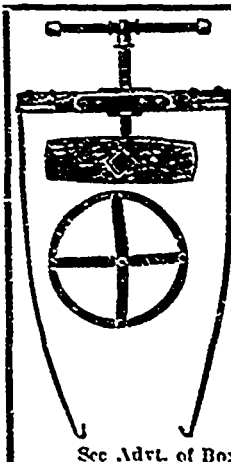
There are numerous styles of orchard heaters on the market in the United States. Their use is almost unknown in Canada. The cost of conducting experiments is very great. Profiting from the experience gained in the United States, some of our Canadian Experiment Stations might conduct similar experiments on a somewhat extensive scale in Canada to the advantage of the fruit industry.

I am glad to see the very great improvement made in THE CANADIAN HORTICULTURIST during the past year. The improvement in the quality and general tenor of the articles has been most marked. The illustrations used in recent numbers are also very much better.—J. H. BOWEN, Elmira, Ont.

CANADIAN NATIONAL EXHIBITION TORONTO

Aug. 24th—1912—Sept. 9th
\$55,000.00 IN PRIZES

For Products of the Farm, the Garden and the Home.
Liberal Premiums for all classes of Horticulture.
ALL ENTRIES CLOSE AUGUST 15th



Daisy Apple Press

Used by all leading apple packers in Canada, United States and England.

Write for prices and complete information to—

J. J. ROBLIN & SON
Manufacturers
BRIGHTON, ONT.
Canada

See Advt. of Box Press on Page 194

Mention The Canadian Horticulturist when writing

We Sell Fruit Farms

HAVING been for years engaged in the real estate business in and around St. Catharines and having a good connection through the Niagara District, we are in close touch with real estate movements in this territory.

At present we have listed for sale a number of valuable fruit growing properties which at the prices offered will prove excellent investments either for the fruit grower wishing to increase his holdings or for the investor looking for a safe and profitable investment.

We will be pleased to send you a list of desirable properties with descriptions, locations and prices, or to show them to you if you are in the city and will call on us.

Melvin Gayman & Co.

5 Queen Street, St. Catharines

Mention this ad, when writing

You Get
BETTER PRICES

For

APPLES

Packed in

BOXES

Up-to-date growers and shippers have demonstrated this fact. We make the boxes. Write us.

The Firstbrook Box Co., Ltd.
TORONTO

Are You Setting Out Your Trees as Economically as Possible and are the Trees when Planted Giving The Best Results Obtainable ?

Let Us Send You FREE OF CHARGE our Pamphlets on the use of

STUMPING POWDERS

USED FOR

Planting Trees
Cultivating and Rejuvenating Orchards
Breaking Hard Pan, Shale and Clay Sub-Soils

Removing Stumps and Boulders
Digging Wells and Ditches, Etc., Etc.

Write us in regard to arranging
FREE DEMONSTRATION

CANADIAN EXPLOSIVES, Limited
MONTREAL, P. Q.



"INTERNATIONAL FLY WAY"
Prevents the Tremendous
Loss from Flies

Flies cost the Farmers of Canada millions of dollars annually by retarding the growth or fattening of animals and by greatly reducing the production of milk by constantly annoying the animals all summer. Every farmer or stockraiser knows this statement to be true from his own experience.

Flies also cause a great loss of life by spreading diseases from farm to farm. "International Fly Way" will keep flies off your animals and give them perfect rest from these pestiferous insects, which will make you more money in a larger production of milk or much quicker growth of all animals.

SAVE YOUR STOCK

By Using

"INTERNATIONAL FLY WAY"

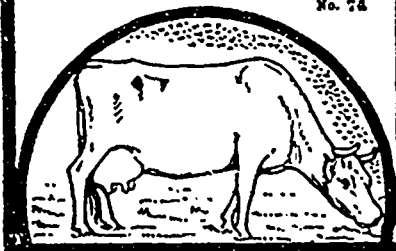
It is positively guaranteed to be effective in driving away Flies, Mosquitoes, and other insects which worry stock and reduce their earning capacity. It is harmless to the hair and skin and will be found perfectly satisfactory when used according to directions.

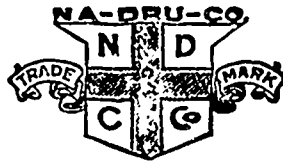
We place our twenty years of reputation back of "International Fly Way," and ask you to test it on our positive guarantee.

FOR SALE AT ALL DEALERS.

INTERNATIONAL STOCK FOOD CO. Limited, TORONTO

No. 74





NA-DRU-CO ROYAL ROSE TALCUM POWDER

NA-DRU-CO Royal Rose Talcum is as comforting to Baby's tender skin as it is to Mother's wind-chafed cheek or Father's chin smarting after a shave. Its remarkable fineness—its pronounced healing, antiseptic qualities—and its captivating odor of fine-cut roses—have won for Na-Dru-Co Royal Rose Talcum the favored place on the dressing tables and in the nurseries of the most discriminating people.

25c. a tin, at your Druggist's—
or write for free sample to the

**NATIONAL DRUG AND CHEMICAL CO.
OF CANADA, LIMITED, - MONTREAL.**

191

The Fight Against Insects*

Dr. C. Gordon Hewitt, Dominion Entomologist, Ottawa

The three methods in which the Department of Agriculture of the Federal Government is dealing with the serious problem of insect pests are by legislation, by investigation and by education. When it is realized that about fifty per cent of our most injurious insects have been introduced into Canada from other countries, the necessity of taking steps to prevent the introduction of further pests, and the spread of serious pests already within our borders into regions of Canada in which they do not occur, will be readily understood.

The discovery of winter nests of the Brown-tail Moth on nursery stock imported from France in 1909 was chiefly responsible for the passage of The Destructive Insect and Pest Act of 1910. During the first year of our work under the Act over two and a half million plants and trees in Eastern Canada alone were examined and three hundred and ten winter webs of the Brown-tail Moth were found. When you realize that each of these winter nests may contain two or three hundred caterpillars of the Brown-tail Moth the importance of this work is obvious. Last season nearly four million plants were inspected in Canada.

THE BROWN-TAIL MOTH

In addition to the fumigation and inspection of imported trees and vegetation classed as nursery stock, a campaign against the Brown-tail Moth, which was first discovered in Nova Scotia in 1907, is being carried on by the Federal Department of Agriculture, in cooperation with the Provincial Departments of Agriculture of Nova Scotia and New Brunswick. To those acquainted with the ravages of the Brown-tail and Gipsy Moths in the New England States, where these moths were allowed to spread, the necessity of taking all possible means to obtain the control of this insect in Canada needs no emphasising. In the State of Massachusetts alone over a million dollars a year are being spent in the attempts to control these two pests. The control will never be obtained by artificial means, and resource has now been made to the importation of the parasites of these insects from the countries in which they are native, in the hope that ultimately with the aid of man's assistance, nature will be able to obtain the control.

In Nova Scotia the insect is distributed through the four counties of Yarmouth, Digby, Annapolis and Kings, and the suitability of the country to the propagation of the insect is indicated by the fact that in one case a winter nest or web was found to contain over eighteen hundred caterpillars. The insect infests not only the apple but also wild thorn, rose, oak and other trees. Last spring, for the first time, the insect was found to have spread into New Brunswick from Maine, along the coast of which it is prevalent. We are now making attempts to anticipate its arrival in large numbers by introducing its parasites and establishing these on the native insect before it arrives in force. Its abundance in Nova Scotia and New Brunswick is such that, unless it spreads seriously into the wild bush and forest, we shall be able to venture to hope, if we leave no stones unturned, to keep it under control and to prevent it from attaining such dangerous proportions as it has obtained in the New England States.

*Extract from an address delivered at the 22nd annual convention of the Ontario Fruit Growers Association.

MONEY IN GINSENG

An acre of matured Ginseng worth from \$35,000 to \$40,000. Learn how to grow it and receive price list of seeds and roots, also full information from successful growers.

LANARK GINSENG GARDENS CO.
Lanark, Ont.

Cold Storage Fruit Warehouse

Finest Apple Rooms in the Dominion for
EXPORT AND LOCAL TRADE
Special Rooms for All Kinds of Perishable
Goods

THE CANADA COLD STORAGE CO.
LIMITED
53 WILLIAM STREET, MONTREAL

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 the ad. in The Canadian Horticulturist

DOMINION EXHIBITION

OTTAWA

Sept. 5 to 16, 1912

Jointly with

CENTRAL CANADA FAIR

All Cash Prizes increased 50 per cent. from
\$50,000 Federal grant. Growers of Fruit and Garden
Vegetables should not miss this opportunity of com-
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To 100 mile radius of Ottawa. Reduced passenger
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We manufacture a special line for
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which cannot be dispensed with for lap-
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Shall be pleased to quote prices on
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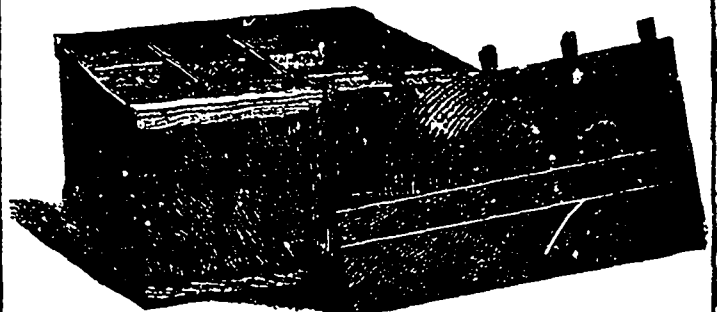
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Veneer supplied for the protection of trees from mice
during winter

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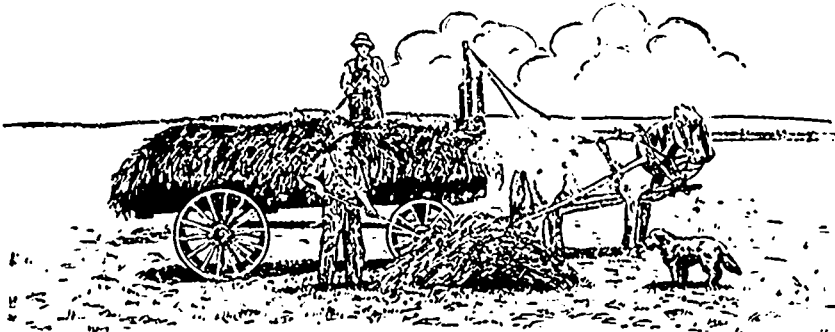
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Mention The Canadian Horticulturist when writing

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Import only the choicest quality. Write for price list at once. Prices lower than wholesale. C. Mortimer Bezzo - Berlin, Canada



Buy I H C Wagons for True Economy

YOU cannot farm without a wagon any more than you can keep house without a stove. It is something you need every day. You work it harder than anything else on the farm, and when the old one wears out you have to get a new one at once.

Figure out how many bushels of corn, wheat, or oats, or how many bales of cotton it takes to keep you in wagons, and then see how much you save when you buy a wagon that lasts longer than the average.

It is an easy thing to do, even though all wagons which are painted alike look alike. The difference in wagons is underneath the paint. It is the material and workmanship, as well as the paint of I H C wagons

Petrolia

Chatham

which make them the best wagon investment for any farmer.

We tell you plainly what material goes into every part of our wagons, and we want every purchaser to convince himself before buying, that when I H C wagons are advertised as having birch hubs, maple axles, and long leaf yellow pine box bottoms, these are the materials actually used.

Such care is taken in the construction of the I H C wagons, and in the culling of the materials which go into them, that when a wagon reaches a farmer's barn, that farmer has one of the best wearing, easiest running farm wagons that skilled labor can make or that money can buy. There is no need to speculate in buying a wagon. Wear and tear and length of service are the points to go by. I H C wagons are made for nation-wide uses, with special features adapted to local conditions. Wherever sold they are right, and ready for use in that locality. The I H C wagon agent in your town sells the wagon best suited to your neighborhood. Ask him to go over the wagons with you. Ask him for I H C wagon literature, or write the nearest branch house.

EASTERN CANADIAN BRANCHES

International Harvester Company of America
(Incorporated)

At Hamilton, Ont. London, Ont. Montreal, P. Q.
Ottawa, Ont. St. John, N. B. Quebec, P. Q.

IHC Service Bureau

The purpose of this Bureau is to furnish, free of charge to all, the best information obtainable on better farming. If you have any worthy questions concerning seeds, crops, land drainage, irrigation, fertilizers, etc., make your inquiries specific and send them to IHC Service Bureau, Harvester Building, Chicago, U.S.A.



In the carrying out of this legislation and work against the introduction and spread of introduced pests, the cooperation of all whom the successful carrying out of the work affects is absolutely necessary. If importers of nursery stock and other vegetation will comply with the regulations governing such importations the work of inspection will proceed as smoothly as if no regulations existed. Inconveniences are only introduced when the regulations are not complied with. Although fruitgrowers and others suffer very severely on account of the losses entailed by the work of such insects as have been introduced into Canada, such as the San Jose Scale, the Codling Moth and in many cases the Apple Maggot, they would suffer far more if other pests such as the Brown-tail Moth and the Gipsy Moth and other insects from foreign countries were introduced, and they cannot but realize that it is to their advantage to assist in every possible manner in the carrying out of the work which we are empowered to do by Statute against the further introduction and spread of serious and injurious insects.

New Fruits Increasing

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

The numbers of new fruits of merit which are introduced each year is small. This is fortunate as fruit growers are not tempted to grow a large number of varieties. Many of them grow too many already. The time is coming, however, when there will be many new fruits of merit available for introduction and there should be some plan worked out whereby the grower will be kept from planting any large number of trees or plants of a variety which has not been strongly recommended by some institution or society. The practice of cooperative societies buying fruit trees for their members is a good one. In this way the number of varieties grown in a district is limited, and only those most suitable for the district are planted.

The reason why a large number of varieties of merit will soon be available for introduction is that up to within recent years the development of new sorts by the experiment stations has been carried on in a very small way, and few things worthy of being grown in the best fruit districts had been originated. All this is changed, however, and fruit breeding is now an important part of the work of the horticultural departments of a large proportion of the fifty odd experiment stations in the United States, and Canada also, if not doing better.

Good Prices Always

For Your Fruit and Vegetables

OUR facilities enable us to realize top prices at all times for your fruit, vegetables or general produce. Aside from our large connection on the Toronto market, we have established branch warehouses with competent men in charge at **Sudbury, North Bay, Cobalt, Cochrane and Porcupine.** In time of congestion on the Toronto market we have a ready outlet through these branches. We never have to sacrifice your interests.

H. PETERS

88 Front St. East, Toronto

References: The Canadian Bank of Commerce, (Market Branch) and Commercial Agencies



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Branch Warehouses: Sudbury, North Bay, Cobalt, Cochrane and Porcupine



ere, is at least doing something. Two
ates which are breeding fruits on a large
ale are South Dakota and Minnesota.
rom South Dakota a number of new fruits
are already been sent out, and the Min-
nesota State Breeding Station, though or-
ganized but a few years ago, has originated
some good things already. The New York
Experiment Station is beginning to distri-
bute new fruits and have already sent out
some new apples, raspberries and straw-
berries.

The standard varieties we have to-day
are almost all of them chance seedlings from
the thousands of seedlings which have
sprung in America and Europe during the
last hundred years or more, and it is
scarcely to be expected that anything as
good will be obtained from the limited num-
ber grown by comparatively few institu-
tions and individuals for the especial pur-
pose of obtaining new varieties.

British Columbia

An order for 250,000 fruit boxes has just
been placed by the farmers' exchange, of
Kelowna, British Columbia. This is the
largest order for fruit boxes that has ever
been given in this district. Four years
ago 20,000 fruit boxes were sufficient to
handle the Kelowna fruit crop.

Pear blight has been discovered in some
orchards in the Summerland district.

As the orchards in the affected district
are irrigated it has been suggested that
excessive irrigation late in the fall and a
subsequent excess growth of wood may have
led something to do with the present out-
break. The provincial government officials
have been advising the growers in regard to
the best methods of treatment, and have
been giving public demonstrations.

For some time there has been a consider-
able agitation for the erection of a pre-
cooling plant at Summerland, it being
estimated that fruit could be shipped in a
super condition and carry further if cooled
before shipment. Mr. Edward Smith has
been appointed temporarily by the De-
partment of Agriculture at Victoria to
make investigations and experiments in the
pre-cooling and storage of fruit and its
transportation.

Arrangements are being made by the
apple growers of the Kootenay district and
the agents who handle the products of
the orchards to market the fruit on a con-
siderable scale this year in the cities and
towns of the prairie provinces. The assist-
ance of the railway companies is expected.

Twelve fig trees of six varieties have been
imported from England by W. J. Shep-
pard for experimental purposes in Nelson
district. Mr. Sheppard states that fig
trees grow out of doors in the open and
fruit ripens without any protection in Eng-
land as far north as the Midland counties,
and he believes that they should succeed in
this section.

Walnut culture is being attempted by H. H.
Smith, near Nelson. He has planted Eng-
lish filbert, cob nuts, English walnuts,
American black walnut, hickory, pecan and
American sweet chestnuts and the trees
and bushes are growing rapidly. Already
hickory trees, the seed of which was planted
in 1910, are three feet high, while hickory
bushes reached a height of eighteen inches.

THE CANADIAN HORTICULTURIST is admin-
istered and instructive. It possesses the art
of convincing its readers in regard to the
methods they should adopt to grow fruit
profitably. -Auguste Dupuis, Government
Fruit Station, Village des Aulnaies, Que.

The
Quality
OF THE
WARMED AIR
FROM THE
Good Cheer
CIRCLE WATERPAN
WARM AIR FURNACE
DIFFERS FROM THAT OF ALL OTHER HEATING SYSTEMS
WHY?
BECAUSE IT NATURES PURE AIR
IT IS PROPERLY HUMIDIFIED
FURNACE IS OIL BURNING ON REQUEST
JONES & CO. Manufacturing Company Limited
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The Western Fair || **September**
6th to 14th
LONDON, CANADA 1912
WESTERN ONTARIO'S POPULAR EXHIBITION

Good Classi- **Fruit and Flowers**
fication for
With Liberal Cash Prizes for same

SPECIAL RAILWAY RATES for Visitors and Ex-
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W. J. REID, President **A. M. HUNT, Secretary**

Exhibition Don't forget the big Exhibition and Fall Packing Number for
September. Circulation 13,000. Rate \$37.50 a page—\$1.25 an inch.
Your ad. should be in early for this issue. Send it by August 15th.

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Of Each—
Side By Side**

Take "St. Lawrence"
Granulated in one
scoop—and any other
sugar in the other.

Look at "St. Lawrence"
Sugar—its
perfect crystals—its
pure, white sparkle—
its even grain. Test it
point by point, and you
will see that



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65A

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and
Built to Last**

THERE are two features that make a separator a good investment: close skimming and durability. Easy cleaning and easy turning are important, but not as important as the power to get all the butter fat and keep on doing it for many years.

I H C Cream Separators will make good under the most severe skimming test. If you will compare their construction with that of any other separator you will see why. Extra strong shafts and spindles, spiral cut gears, phosphor bronze bushings, thorough protection against dirt or grit getting into the working parts, and perfect oiling facilities, are the features that make these separators good for long service.

**I H C Cream Separators
Dairymaid and Bluebell**

are close skimmers and built to last, and at the same time are easy to clean and turn. The reasons are these:

The interior of the bowl is entirely free from intricate forms of construction. Every part has a plain, smooth surface, to which dirt and milk do not adhere.

The dirt arrester chamber removes the undissolved impurities from the milk before separation begins.

Accurate designing and fitting of all moving parts, spiral cut gears, convenient crank, and thorough lubrication, make these separators easy to turn.

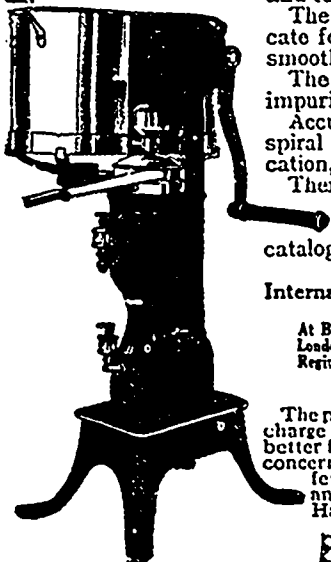
There are many other features worth your consideration. Ask the I H C agent handling these machines or write the nearest branch house for catalogue.

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I H C Service Bureau

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Fruit Prices and Markets

The prices for small fruits already marketed have been exceedingly high in eastern Canada. Strawberries have been selling the growers two dollars and two dollars fifty cents a crate of twenty-four boxes as a regular thing. Want of proper organization among the growers glutted the Toronto market for one day, resulting in a very serious loss to the growers without corresponding benefit to the consumer. The same day that berries were selling for five and six cents a box in Toronto, the Ottawa markets were bare at twelve and fifteen cents a box. There could be no better illustration of the absolute necessity for organization among the growers.

Cherries have been selling at from seventy-five cents to one dollar ten cents per eleven-quart basket, sweet cherries taking the higher price.

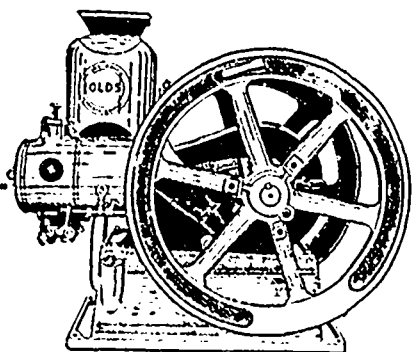
It is yet too early to offer any forecast as to the actual price of apples, but not too early to note the conditions of the market. The European markets, without exception, may be considered ready to receive the usual quantities exported from America. The industrial disputes have been settled and there is no immediate appearance of any disturbance that would lessen consumption.

The prospects in the United States are not quite so re-assuring. The crop for home consumption is above the average and evenly distributed, so that there will be no large demand from any particular section of the country. This is presaging a year with somewhat more than the usual tendency towards stagnation in business which will undoubtedly lessen consumption. It is possible that, if fair prices should be offered in the European markets, there will be a large surplus available for export from the United States.

Our own northwest is usually counted upon to take a large quantity of fruit, and conditions are such that more than the usual quantity will be taken this year. There will be strong competition, however, in selling. British Columbia will have a surplus for sale in the northwest territories. The northwest Pacific Coast growers are well organized to invade the Canadian markets. Indeed, authentic reports show that they have perhaps taken special pains to organize for sales in the Canadian northwest. Ontario will have a large surplus in the hands of those who habitually trade in the northwest and who are likely to desert that market this year. Though Nova Scotia will not have so large a crop as last year, there will still be a surplus of early fruit that will find its way to the northwest. The success of Nova Scotia early fruit in the northwest last year was encouraging to the Nova Scotian growers, and it is not at all improbable that several hundred carloads of Nova Scotia fruit will be distributed in these markets this season.

There is this to be said, though, in reference to the marketing of the apple crop, that the largest shippers this year will be the cooperative associations. Consequently, the danger of overloading the markets is greatly minimized. The prospect, therefore, in a general way looks favorable for a fair year for fruit growers, although the high prices obtained for small fruits will not compensate for the small crop, conditions are likely to be much better for all varieties of tree fruits.—Domestic Fruit Crop Bulletin.

Is there something you want but do not see advertised in THE CANADIAN HORTICULTURIST? If so, write us. We can probably give you the information you wish.



The "Olds"

IS A

Quality Engine

The call to-day is for "Quality."

The matter of price does not carry so much weight with the careful buyer as the "quality" of the goods.

The "OLDS" Trade Mark stands for "Quality"—efficiency and economy.

Every "OLDS" Engine bears this mark and it guarantees the purchaser full value for his money.

All "OLDS" Engines are thoroughly tested and tried out before leaving the factory,—each and every one must be in perfect running order before it is shipped.

"OLDS" Engines are built in the largest factory in the world devoted exclusively to the manufacture of gasoline engines, and are the result of thirty years' experience in engine building.

JUMP SPARK SYSTEM OF IGNITION—Simple, Effective, Reliable.

WATER JACKET, CYLINDER, VALVE CHAMBER and MAIN FRAME are four entirely separate castings.

CYLINDER HEAD is cast solid with the cylinder.

PISTONS and CYLINDERS are made of the very hardest iron and are ground to a perfect fit.

PATENT SEACER MIXER ensures a perfect mixture of gasoline and air, and works without a gasoline pump.

BEARINGS are large, well oiled and lined with genuine anti-friction babbit metal.

MASSEY-HARRIS CO., Ltd.

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MONTREAL
MONCTON
WINNIPEG



REGINA
SASKATOON
CALGARY
EDMONTON

Eastern Annapolis Valley

Eunice Watts Buchanan

Several years ago it was said that it was only a matter of time before the San Jose scale would establish itself in the Annapolis Valley.

Living scales have been found on young trees in Aylesford, which were imported from Ontario in 1911, and since then others have been discovered on nursery stock imported this spring. The Nova Scotia Fruit Growers' Association at once called a special meeting in order to find out the best method of fighting the pest, especially as from twenty to fifty per cent of the Ontario nursery stock is reported to be infested. At the conclusion of the meeting in Kentville the following resolutions were introduced and seconded:

That the N. S. F. G. A. recommend that the Provincial Government appoint inspectors to make a thorough inspection of trees likely to be infested with San Jose scale, and that they give their inspectors authority to destroy or superintend the destruction of all trees infested with living scale or likely to be the source of future infestation of San Jose scale.

That in future all nursery stock imported into the province be inspected and fumigated at a port of entry deemed best by the government.

Since the above meeting was held, the local government has appointed six inspectors, who will work under Mr. G. E. Saunders, B. S. A., of Ottawa. The young inspectors are former students of Truro Agricultural College, and will inspect all nursery stock which has been imported into the province during the last two years. Their instructions are to destroy infested trees immediately.

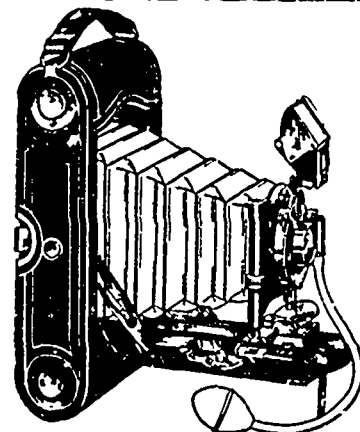
Brown Tail Moth has been found in orchards in Union Square and Lakesfield, King's County.

Nova Scotia

In order to study more thoroughly in Nova Scotia the more serious insect pests affecting orchards and measures for their control, the Dominion Department of Agriculture is establishing an entomological field station in the Annapolis Valley, and in cooperation with the fruit growers will carry on experiments in other sections. Mr. Ralph Eaton has placed several acres of young orchard at the disposal of the Division of Entomology, for experimental purposes. Dr. Gordon Hewitt, Dominion Entomologist, is now in Nova Scotia for the purpose of making arrangements for the carrying on of these investigations, and the location of the field laboratory. Mr. G. E. Saunders, B. S. A., field officer of the Division of Entomology, will have charge of the work.

This new development is part of a scheme which has been decided upon for the wider study of insect pests. A satisfactory study of these destructive agencies and measures for further control can be carried on only in the regions where they commonly occur, and for this reason a number of entomological field stations, each of which will consist of a small laboratory in charge of a trained entomologist, working under the direction of the Dominion Entomologist, are being established in those parts of Canada where they are most needed. Nova Scotia and New Brunswick are each to have such a station. In Nova Scotia, the Bud Moth and Brown Tail Moth will be studied more especially. It is also intended to very carefully investigate the San Jose scale situation.

If it isn't an Eastman, it isn't a Kodak



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means photography with the bother left out—means that the once difficult processes have been so simplified that you can readily take good pictures by following the perfectly simple directions that accompany each camera.

The Kodak Advantage

Kodaks load in daylight; plate cameras require plate holders which must be loaded in a dark room. Kodak films are light; glass plates are heavy; Kodak films are non-breakable; glass plates are fragile. Kodak films may be developed in a dark room but are preferably developed in the Kodak Film Tank in broad daylight. Glass plates must either be developed in a dark-room or loaded into a tank in the dark-room—the film cartridge system is the *only* practical means of *entirely eliminating the dark-room*. You may easily develop your own films or may send them by mail for development. Sending glass plates by mail is risky.

With a Kodak there are no extra attachments to buy; it is complete, ready for use. With a plate camera you must buy extra plate-holders or it is of no use to you—remember this in counting the cost.

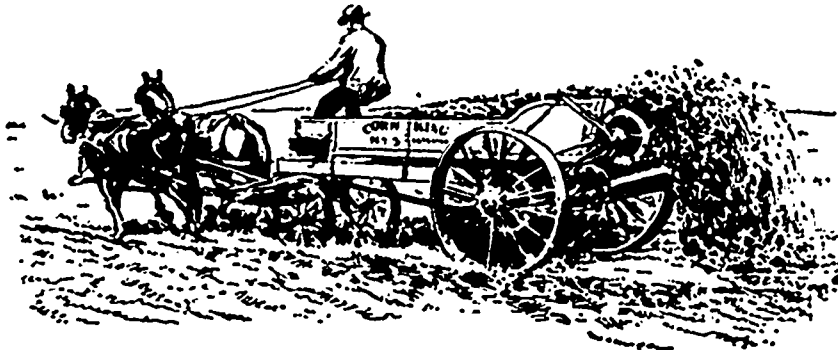
Kodak films give better results for the amateur than glass plates because they have the orthochromatic and non-halation qualities that help overcome the harsh lighting conditions that he encounters.

Plate-camera manufacturers advertise the fact that professional photographers use glass plates and that therefore you should. It's true that professional photographers use glass plates in their studios for their regular work because the dark room is only a few feet from the spot where their camera stands. For their vacation trips they use Kodaks instead, just the same as other folks.

Kodak photography means less trouble, better pictures.

Ask your dealer or write us for the illustrated Kodak catalogue. Kodaks, \$5.00 and up; Brownie cameras, they work like Kodaks, \$1.00 to \$12.00.

CANADIAN KODAK CO.
TORONTO, CAN. Limited



What Is Soil Fertility? How Does It Interest You?

WHAT is soil fertility? Why is its lack considered so serious a matter? Why is it that authorities on better farming agree in considering it one of the most important questions requiring solution by farmers today? The answer is found in the small average yield of farms in this country as compared with those of other countries where correct fertilizing is practiced, and in the rapidly decreasing quantity of available new land. There are two things that every farmer can do, both of which will make his farm more productive. One is to practice a proper rotation of crops; the other to buy and use an

IHC Manure Spreader Corn King or Cloverleaf

Every farm can be benefited by the use of an I H C manure spreader. It will distribute the manure in an even coat, light or heavy, as may be required. Manure spread in this manner does the most good to the soil at about half the expense and much less than half the work of hand spreading. An I H C manure spreader is a scientific machine, built to accomplish a definite purpose in the most economical manner. It is constructed according to a well-thought-out plan, which insures the best work in the field with the least strain on machine or horses. To take one example of the thoroughness in detail, all I H C spreaders are so constructed that a reach is unnecessary. This construction allows the spreader to be managed handily in small feed lots, backed up to barn doors opening into narrow yards, or turned completely in its own length. Yet the absence of a reach in no way interferes with the strength or field efficiency of the machines.

See the I H C local agent or write the nearest branch house for catalogues and information.

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Montreal

E. H. Wartman, Dominion Fruit Inspector

On May fifteenth we received our first consignment of California cherries, beautifully packed in ten-pound boxes. They sold as high as five dollars fifty cents by auction, or fifty-five cents a pound or thirty-seven dollars a bushel. How do these prices compare with our home grown cherries? Last season they sold at six cents a pound first quality, of course mostly in eleven quart baskets, or three dollars a bushel against thirty-seven dollars, a big difference and a big profit lies somewhere.

On June twelve we received our first California apricots, which auctioned at four dollars for four basket crates of about twelve quarts, or thirty-three cents a quart.

The season's business in United States strawberries has been large. I have never in the past ten years seen them land in better order. Prices to the consumer have been moderate. Lawton berries and packages were on our market in small quantities by June 12. Large quantities of Florida tomatoes arrived during May and June. The greatest failure in this fruit is the greenness. When picked some are so green as not to ripen under the best conditions after arrival here. Give us tomatoes grown at Macdonald College under glass this time of the year at double the price of Florida's for delicious flavor. The boxed fruits from California are so beautifully and attractively packed they cause general admiration and boom the trade. I have talked with our fruit men about this packing, and am afraid they too often say we can't do it, when I think if they would try hard they would find out that they can.

Fruit Crop Prospects

The prospects of the apple crop as reported last month, founded upon the tree bloom, are not borne out by the "set" of fruit. There has been an exceptional heavy "drop" even where the "set" appeared to be fairly good; but in many cases, especially in orchards that bore heavily last year, notwithstanding the full bloom, little fruit is expected. The damage by the Tree Caterpillar, over a wide area comprising the eastern part of Ontario and western and southern Quebec, has been serious. Nevertheless it should be noted that correspondents usually underestimate the quantity of fruit at this season of the year just as they are inclined to overestimate it on the appearance of bloom. It is not improbable, therefore, if conditions are favorable, that an improvement will be reported later in the season.

Taking one hundred as a standard for the crop, the percentages for the Dominion stand at sixty-seven per cent for fall apples, sixty-nine per cent for fall apples and sixty-five per cent for winter apples. The average for the Dominion, of a kind of apples, therefore, would be sixty-seven per cent.

PEARS

Pears have depreciated somewhat in the month. Blight has been worse than usual this season, but even apart from that the "drop" has been considerable, and the crop will be only moderate. The 'Crest' and Bartlett are showing best. In British Columbia pears will be somewhat better than was expected last month, but not a good crop.

PLUMS

The depreciation in plums has been somewhat marked. The prospects this year are for a crop somewhat below the

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Hanging Baskets, Ferns Pans, Etc.



We have a large stock of all sizes on hand, and can ship orders without delay.

Order Now Before the Rush

Our pots are smooth and well burnt. We have our reputation to keep up.

Send for Catalogue & Price List

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INTERNATIONAL CALL CURE
SOLD On A Spot Cash Guarantee
Cures Hives, Warts, The Work or Rest
PRICE 25¢ AT ALL DEALERS

PROBABLY the most successful growers in Illinois of cucumbers out of doors and under glass are W. B. Davis and Co., of Aurora, Ill. W. B. Lloyd has put their methods and management in booklet form. We will give this booklet if you will send 25 cents for a six months trial subscription to "The Vegetable Grower." This is the only paper published for the vegetable grower by vegetable growers. It prints scientific matter broad enough to interest and assist not only commercial vegetable growers but the farm gardeners as well. This paper is going to be the guide of every vegetable grower in America. Send 25 cents today, stamps or silver, for a six months trial.

THE VEGETABLE GROWER
1208 Boyce Bldg. Chicago, Ill.

GINSENG

Ginseng Roots and Seeds, also Golden Seal Roots for sale at low prices. If you have any Hay for sale see what we can do. Ask for prices.

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COVENT GARDEN
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who specialize in APPLES and PEARS during the Season. Personal attention, prompt account sales and remittance

Correspondence invited

especially in the heavy marketing varieties. On the whole the crop in British Columbia is good, although much better in the interior than on the coast.

PEACHES

Notwithstanding the hard winter a fairly good crop of peaches will be harvested in the chief commercial orchards. South-western Ontario will have very few and parts of the Niagara district were certainly injured by the severe winter, but the crop as a whole will be fair.

CHEERRIES

Cherries have not yielded as well as was expected. A fair crop of early cherries is being marketed. Many varieties of the sweet cherries are decidedly short. The Black Tartarian and Windsor show about half a full crop. Sour cherries are a heavy crop in British Columbia; sweets only medium.

GRAPES

Grapes are showing well everywhere. There will in all probability be nearly a full crop. Concords are reported at ninety-three per cent, Niagaras at eighty-six per cent and red grapes at eighty-five per cent.

SMALL FRUITS

The dry weather of the last two weeks materially shortened the strawberry crop and emphasized the unfavorable conditions generally. Raspberries are likely to be a short crop, partly on account of the unfavorable conditions last year and partly

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I have a large stock of all kinds of hardy perennial plants. Catalogue tells all about them. Send for a copy now and order early. Early orders have the best choice of stock and varieties.

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OWN a five acre fruit and poultry tract (or more, in British Columbia and be independent for life. \$20 down and \$10 a month pays for it. No interest and payments extended in case of sickness. From \$500 to \$1,500 per acre realized by ranchers in this famous prize-winning district, the Main Kootenay Lake. Ideal climatic conditions, no rainy seasons as on the coast; no dry seasons or irrigation needed as in the Okanagan and Cranbrook districts. See Government reports. The main lake never freezes over and boats run the year around—see reports of other districts. I spent years in finding this ideal spot; I live there myself. I call my fruit ranch—69 acres—"The Honeymoon Place." Send for my booklet entitled "Homeseeking." It tells you all you want to know about that great British Columbia country, and there are scores of questions answered.

The new booklet, "Harris' New Method of Apple Culture," tells you how apples can be made to come into commercial bearing the second year. The old way you had to wait five years. Where a farmer made \$1,500 he can now make \$3,000 per acre. It is free if you will send me the names of ten of your friends or relatives who may be interested in buying fruit lands. I have sold to over 400 people the last four months, and would be pleased to send you copies of some of the nice letters that they have written to me, which I received from those who have visited their holdings which I picked out for them.

I refund you your money if after seeing the tract I select for you you are not satisfied with it or with the rest I have to offer. If you cannot go on to your tract and wish to retain your present position for a few years and spend your vacation out there, I will agree to plant it, and take care of it for you for five years at a small additional cost and give you a share of the profits from crops. I allow you a discount of ten per cent. for cash and give you a good commission in case you can secure buyers for me.

My monthly price list for wild and improved tracts will interest the most careful buyer. My next excursion will be leaving Winni, on August 29, and I will be pleased to have you join me. Send for my famous "Kootenay Magazine," issued monthly, illustrated and full of good things about that wonderful country. \$2.50 per year, or 25c for sample copy. A year's subscription for 20 names and addresses (written plainly) of people interested in B.C. fruit lands.

Write me at once, giving name of a reliable reference, your nationality, amount you wish to invest, and I will forward booklet, map, etc. Address me personally at head office:

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owing to the dry weather of the present month. Currants, red and black, do not appear to suffer to the same extent on account of the weather. Blackberries will be decidedly short; the percentage for District

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CATALOGUE ON REQUEST

The Imperial Waste and Metal Co., 99 Queen St. Montreal

one stand at forty-nine. In British Columbia, small fruits have been a very heavy crop, but unfortunately the berries were soft and prices were extremely low in consequence of overloading the nearby market.

TOMATOES

Tomatoes started late but are growing well. The depredations of the cut worms appear to be serious in many districts, and it is quite probable that the crop will not be quite up to the average.—Dominion Fruit Crop Bulletin.

Items of Interest

Mr. James Parnell, of St. Catharines, has been appointed Western Market Commissioner by the Ontario Government, under the terms for the distribution of the grant for agriculture from the Dominion, and has already assumed his new duties. Mr. Parnell is a fruit grower of many years standing, and is familiar with all branches of the fruit trade. His period of employment will extend for four and one-half months. Mr. Parnell's headquarters will be at Winnipeg, but he will keep in touch with and visit all the important market centres throughout the west, advising where shipments might be sent, what prospect there is for either an increase or decrease in prices, the time and condition in which shipments are received, and will make suggestions in regard to packing. He will perform the same duties for Ontario as Mr. Metcalfe, the markets commissioner of British Columbia, has done for that province.

The annual meeting of the Ontario Ginseng Growers' Association will be held in the Amphitheatre of the Women's Building of the Canadian National Exhibition during Exhibition. An address will be given by Prof. J. E. Howett, of Guelph, on "The Ginseng Plant and Its Diseases." The secretary of the association is P. Wilson, 253 Evelyn Ave., Toronto.

The report of the proceedings of the third conference of fruit growers of the Dominion, held at Ottawa last February, has been printed, and is being distributed by the Dominion Department of Agriculture. The report is a complete one.

FOR SALE AND WANTED

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

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GINSENG—Pure Canadian Ginseng Seeds and Roots for sale. Order early for October delivery. Write—Huronias Ginseng Garden, Beth, Ont.

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

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LARGEST APPLE ORCHARD IN ONTARIO, adjoining the live town of Picton. 65 acres of apple orchard, youngest trees of which are 8 years old, others 11 and 30 years old, all in good condition large house with furnace, bath, waterworks, electric light. For further particulars write F. J. Watson, 127 Bay St., Toronto.

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.

SALMON ARM, Shuswap Lake, B.C., has the finest fruit and dairy land in B.C. No irrigation necessary; mild winters, moderate summers, no blizzards, or high winds; delightful climate; enormous yields of fruit, vegetables and hay; good fishing; fine boating amidst the most beautiful scenery, and the Salmon Arm fruit has realized 25 cents per box more than other fruit in B.C. Prices of land moderate, and terms to suit. Apply to F. O. Haydock, Salmon Arm, B.C.

I appreciate THE CANADIAN HORTICULTURIST very much. It is one of the best papers I ever read. It is astonishing what a lot of useful information can be put into so small a space.—J. Cameron, London, Ont.

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