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The Canadian Horticulturist

JULY, 1909

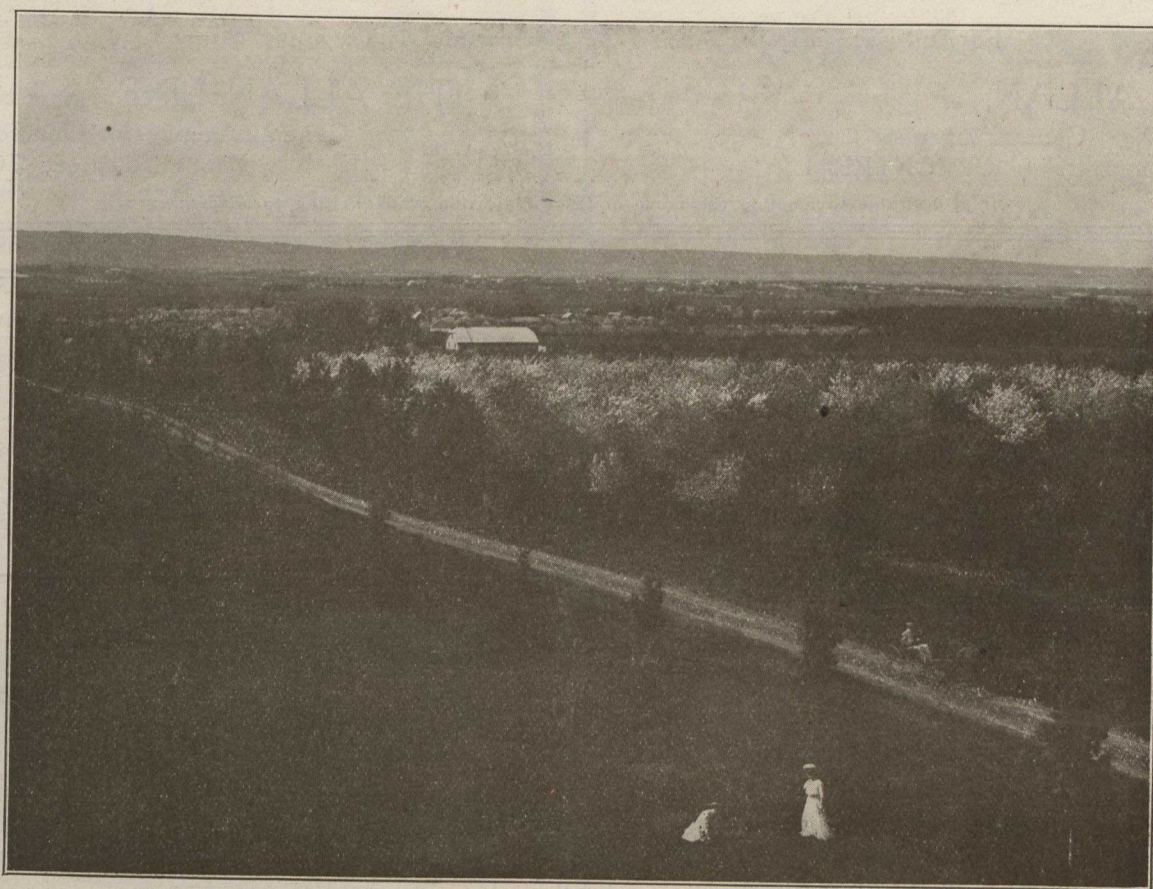
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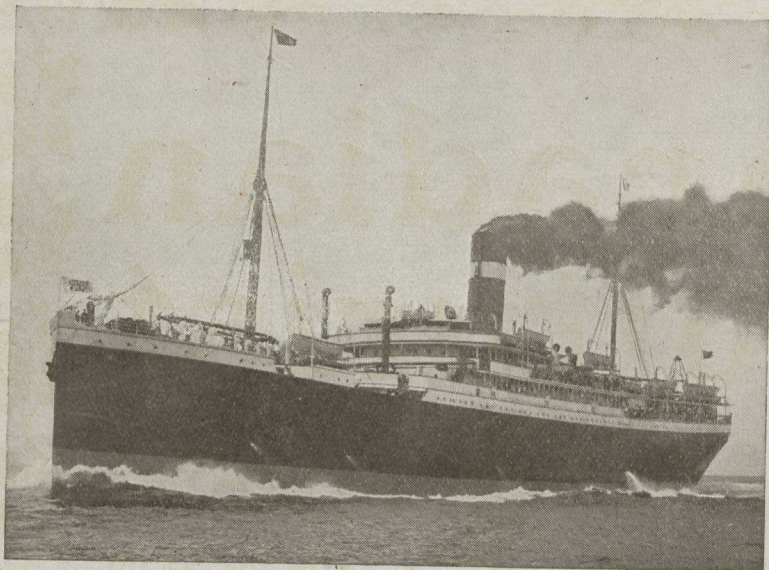
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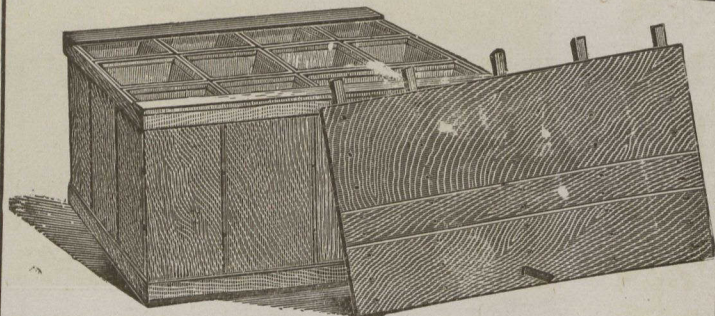
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The Canadian Horticulturist

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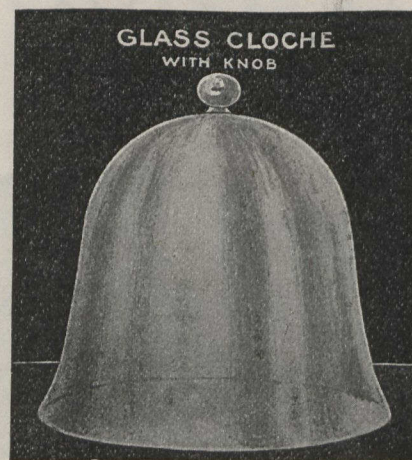
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Vol. XXXII

JULY, 1909

No. 7

A Decade of Nova Scotia Horticulture

R. J. Messenger, Bridgetown

THE last ten years covers almost all the history of *advanced* horticulture in the province, mainly commercial apple growing and marketing. All over the Annapolis Valley are trees that must be able to tell tales of two or three centuries. These are called "French" trees by the farmers now, and how much of truth attaches to the term it is impossible to say. Many of these trees still bear small, bitter-sweet or very acid fruit, that is made into cider, and many have been and are still being grafted to commercial varieties. Up to thirty years ago, very little fruit found its way out of the province. The opening of the English market gave the great incentive to commercial fruit growing, and the Annapolis Valley has always kept the lead of the maritime provinces in this industry. A great many orchards were giving a good yield of apples of good varieties. As a proof of the good judgment of these old orchardists, it may be said that a list of about a dozen of the most popular commercial varieties of twenty-five years ago, is almost identical with a list decided upon at a meeting of the Fruit Growers' Association of Nova Scotia only three years ago.

THE PIONEERS

Among the pioneers of successful orcharding may be mentioned the names of Starr, Archibald, DeWitt and others, in King's county. To such men as these we owe the opening of trade across the water. But while these old orchards gave crops of good apples that were barrelled and exported to a small extent, the real awakening of thoughtful care and practice of intelligent methods has its history in the last ten or fifteen years. Before that, the great majority of orchards were expected to raise a crop of apples as well as an inter-tilled crop of potatoes or turnips and it is a fact worthy of note that a measure of success attended this practice which is still kept up in many orchards, especially those of young bearing age. Now, however, the best orchardists practice only clean thorough cultivation with cover crops of nitrogen-gathering plants.

PRUNING

The pruning of years ago left long bare limbs with a limited bearing area at the top. Now, the younger men are producing a tree capable of bearing fruit

uniformly throughout its whole volume of top.

PROGRESS IN SPRAYING

Spraying came next, and it is safe to say that ninety per cent. of the spraying done to-day has been begun in the last decade. The spraying of a dozen years ago was almost too crude to be called by the name in comparison with that of to-day. You could wash wagons and windows with the nozzles of that time, while now we get a mist almost like fog.

The varieties of fungicides and insecticides are becoming legion, and farmers are found willing to try every new one that comes along. Bordeaux mixture is becoming old-fashioned but is still hold-

Is Deserving

I am glad to learn that it is the intention of the management of THE CANADIAN HORTICULTURIST to make the magazine of even more value and interest to its readers in the Maritime Provinces than it has been in the past. THE CANADIAN HORTICULTURIST deserves the best praise that has been bestowed upon it.—Prof. Percy J. Shaw, Agricultural College, Truro, N. S.

ing its own. An advance in the last few years is the application of winter sprays, of which the lime-sulphur wash promises to be a favorite. The prepared lime-sulphur is in use in some parts of the Valley.

PACKING AND MARKETTING

The packing and marketting of fruit is making great advances. The Fruit Marks Act has had the indirect effect of improving the quality by inciting the farmers to better methods, and the direct effect of making them pack better fruit. Box packing is a part of this decade's progress, is increasing every year, and bids fair in the next ten years to become an important factor in packing.

Under marketting, we have in common with other parts of the Dominion made progress in transportation facilities. The method of having fruit sold by commission merchants is much the same as at first but the organization of co-operative companies will, we hope, give direct buyers confidence to purchase

from these associations outright. This has been done already.

Educational advancement has also been rapid. The Nova Scotia Fruit Growers' Association is a live body conducted and attended by the most intelligent men in the business. Year after year experts from all over the continent are giving us the benefit of the latest discoveries and successful practice, while the Institute speakers carry up-to-date knowledge to those not reached by the associations. The introduction and supervision of "model orchards" by the government is doing a great work in teaching methods, while horticulture is given a prominent place in the teaching of the Agriculture College at Truro.

While space will only allow of this brief sketch, it is enough to show that the last decade has accomplished more for this branch of country work than the hundred years before, and *we are just beginning*.

Arsenate of Lead

"Arsenate of lead is a much better poison for spraying on fruit trees than Paris green," said Mr. W. H. French, of Oshawa, to a representative of THE CANADIAN HORTICULTURIST, who visited that district last month. "It gives much better results as it remains in suspension longer and will not injure the foliage in any way.

"I find that it will kill 95% of codling moth while Paris green at its best, will not kill more than 75%. Arsenate of lead will remain on the foliage much longer than Paris green and, therefore, is effective for a longer time. It is a little more expensive but the difference in results easily makes up for that. I use five pounds to 100 gallons of water. To spray 300 trees costs me about \$1.75 more than it would for Paris green."

As this issue is pressed for space by articles from horticulturists in the maritime provinces, it has been found necessary to leave until next time the continuation of Professor Lochhead's excellent article on "The Principles of Plant Breeding."

Dwarf apple trees are produced by working upon slow-growing stock and by subsequent heading-in.

The More Tender Fruits in Nova Scotia

Ralph S. Eaton, Hillcrest Orchards, Kentville

IN Nova Scotia, as in Ontario and most parts of the United States, the Japanese plums have not been the success anticipated when they were first sold freely to growers. Even the Burbank, undoubtedly the best of the Japanese with us, has been most disappointing during last three years, and some small blocks of Burbank of splendid growth,

plums after the more permanent trees begin to crowd them. The writer probably stands alone among orchardists in his faith in the practicability of this work but, after transplanting 200 plum trees, eight to twelve years old, two seasons ago, after they had borne their third or fourth heavy crop, and now have a prospect of from one to two bushels of plums

Tartarian and Black Eagle seem to be the best bearers among the sweet varieties. Yellow Spanish and some others have proved shy bearers. Schmidt's Bigarreau is a beautiful hardy cherry and fair bearer but the fruit will not stand up well for shipping. Amongst the sour cherries, the Early Richmonds, English Morello and Montmorency, are the best, the last standing away ahead as a commercial sort, and is the best money maker of all varieties grown here; it will stay on the trees a week after it might be thought ready to pick and then stand three to four days of shipment.



Packing Japanese Plums at Hillcrest Orchards, Nova Scotia

from seven to ten years old, have not borne a crop. The writer, who has about 4,000 "Japs," took the precaution to interplant fairly thoroughly the Red June and Abundance among the Burbank but though, with the exception of last three years, the crop of Burbank has been satisfactory, there is no proof of special virtue in the interplanting, as the Red June will usually bloom from three to six days ahead of Burbank. The cold, rainy weather during blossoming period has probably been the cause of failure for these seasons. At present, the prospects for this year are excellent.

The Red June is quite apt to drop its leaves in midsummer which causes the fruit to follow soon after. The wood of the Wickson variety will not stand our winters and the October Purple has so far not been a satisfactory bearer. The Chabot was liked by one or two who fruited it for two seasons. The Japans will not be planted much more in Nova Scotia unless this season's experience changes the feeling towards them. Such European varieties as Reine Claude, Monarch, Grand Duke, Coe's Golden Drop, and even Lombard, are more popular, and the old Magnum Bonum is still a great favorite.

It has never been considered practical to transplant fillers of apple, cherry or

per tree this year, bringing them nearly, if not quite, up even with those of same variety and position not transplanted, and this with but hardly one per cent. loss, he is confident that it is practicable. Equal success in transplanting large numbers of apple and cherry trees of same age, places this work beyond any question of experiment and in the writer's opinion settles the oft-discussed point of the advisability of planting fillers.

PEACHES AND APRICOTS

Quite an interest was taken in peaches six to ten years ago, the most popular varieties being Early Crawford, Alexander, Hynes' Surprise, Mountain Rose with some Elbertas, Fitzgeralds and Crosbys.

Alexander and Hyne's Surprise are apt to rot before ready to pick and are now discounted. Some fine specimens of Early Crawford, Fitzgerald and Crosby are frequently shown at exhibitions, but few orchardists have the desire to grow peaches on a commercial scale.

Some lovely specimens of apricots have occasionally been grown here and, though the trees usually blossom well, the fruit seems to drop soon after it forms.

CHERRIES

Nova Scotia is splendidly adapted to cherries. Gov. Wood, Windsor, Black

My Model Orchard Methods

Herman M. Rice, Bear River, N. S.

Being situated west of, and nearer the Atlantic Ocean fogs, than that great fruit district of Nova Scotia, the Cornwallis Valley, Digby county is but in its infancy as a fruit-producing territory; yet I notice each year at the provincial exhibitions that we are producing apples and pears that compare favorably with the rest of the province and plums and peaches unexcelled by any competitors.

My old orchard of three and one-half acres, set out twenty years ago, was made up of all kinds of apple trees, being a job lot which my father took as a little better than nothing for a bad debt. As I have had to graft many trees, the orchard is not in full bearing yet; however, some trees of the Spy variety have yielded as high as nine barrels per tree, with Ben Davis not far behind.

The younger trees shown in the illustration, are in the government model orchard and were set in May, 1903. This orchard covers two acres and the trees are set thirty-five feet each way, with plum, pear, cherry, or peach as fillers in the rows one way; these fillers are bearing considerable fruit already.

We spray with Bordeaux mixture three times each year and cultivate as follows: Early as the season permits, we plow and then harrow every week until July 1st, when we give a light top dressing of barnyard manure and wood ashes, and seed to clover a space four feet on each side of trees. The remainder is planted to roots and vegetables. The clover serves to check the new growth, and allows it to harden, as well as provides a protection for the roots in winter and supplies humus and nitrogen when turned under the following spring. We prune off one third of the new growth each April, thereby causing the trunk to develop and fruit spurs to form. The man in the picture is a six-footer, so the trees do not show up too badly for five years' growth.

Fruit Growing in Eastern Nova Scotia

Andrew MacPherson, Rocklin

EVERYONE who is interested in fruit growing has heard of and many have seen the Annapolis and Cornwallis Valleys in Nova Scotia and, when apples are mentioned in connection with the province, those districts are supposed to contain all that is worth mentioning in the shape of fruit and when the various institute speakers from this so-called "fruit belt" go ahead, they cannot disguise a sort of sympathetic pity for those that are trying to grow fruit under conditions more adverse than is to be met with in their own beloved valleys.

Up to a few years ago, no one ventured to dispute the theory that the Valleys were "it," as far as fruit and all that belongeth thereto was concerned, but when the late B. W. Chipman was appointed Secretary for Agriculture he conceived the idea of establishing model or experimental orchards in each county of the province outside of the fruit belt. Prof. F. C. Sears, who was then director of horticulture, and Mr. Chipman travelled over the province and observed that in many other localities fruit of equally high quality was grown. This was noticeable particularly in Pictou and Antigonish counties, which are in the eastern part of the province. Professor Sears told the writer that he never saw a better display of fruit, chiefly apples, than was to be seen at Pictou County Exhibition of 1905. But what contributed more than anything else to the idea of experimental orchards was the fact

that varieties that succeeded best in one district did not succeed so well in another, and instead of selecting and holding to the variety that does the best, too often the farmer allowed the tree agent

cut down the few trees that had not died already, saying that they were in the way of the mowing machine. To select the varieties that are likely to do best in a district under a ten year experiment, is



A Government Spraying Demonstration in a Nova Scotia Orchard

Photograph kindly furnished by Mr. G. H. Vroom, Dominion Fruit Inspector.

to select for him, and this was done without any regard for environment, and the result was confusion.

A farmer who had perhaps a half acre or, say, one acre in orchard had perhaps a dozen different varieties growing there. Great care would be taken of this orchard for a few years and when the time for fruit arrived and no fruit appeared or, if fruit, not the kind that was expected, the owner of the orchard got careless and allowed the grass to grow, with the result in a short time the owner

the idea of the model orchard. The experiment is carried on under Government supervision about as follows:

THE MODEL ORCHARD METHOD.

A plot of land of about two acres is selected. The trees are set out thirty-three feet apart each way and fillers in between, thus the trees are sixteen and a half feet by thirty-three feet apart. The fillers consist of plum, pear and cherry trees. A strip of land eight feet wide is left at every row of trees. This is cultivated until the middle of July when each strip is then seeded to a cover crop of clover, rape or vetches, to be plowed under the following spring and the same plan followed.

Now as to results. First.—Varieties that are succeeding best in the model orchard are the ones generally selected in that neighborhood with equally good results.

Second.—The idea is losing ground, that an apple orchard in order to be profitable must necessarily raise a crop of hay or grain. In the model orchard no such crop is permissible, but a cultivated crop, such as corn, potatoes, turnips or something similar, is allowed.

Third.—The value of a clean cultivated orchard is observed, if best results are to be obtained.

One of the maxims laid down by Professor Sears when setting out these orchards was, "Make haste slowly," and in some cases the advice was needed as the desire to have the best orchard led to an undue forcing, by heavy manuring, causing intense wood growth with the usual result of winter-killing during severe winters.

Judging from the experience of the



One of the Model Orchards in Nova Scotia that are Destined to Stimulate Fruit Growing in that Province
Orchard of Mr. H. M. Rice, Bear River, Digby County

past fifteen years, five of which was in connection with an experimental orchard in eastern Nova Scotia, and in answer to the oft-repeated question as to what varieties for the average farmer to plant for home use, and to sell the surplus in the local market, I have no hesitation in recommending the following as among the best: For early, Yellow Transparent, Red Astrachan and Duchess, in order named; fall and early winter, Wealthy, Longfield and Fameuse, with Wolf River sandwiched in; for winter, Golden Russet, Spy and King, all good quality ap-

ples, and if anyone is far sighted enough to provide for a continued supply until the new crop comes, let him plant Ben Davis.

As to the prospect for the future, eastern Nova Scotia has the best local market in the world; a market that is not nearly supplied with the home grown product; a market that is yearly growing and every year demanding better apples and more of them. Why do not our farmers rise to the occasion and endeavor to supply this market, and also provide for their own table that most healthful of all fruits, the Nova Scotia apple?

A Nova Scotian's Experience with Cultivation

Edwin J. Tucker, Middleton

THE article in the May number of THE CANADIAN HORTICULTURIST entitled "An Earth Mulch for Root protection," by Mr. J. A. Johnson, of Grimsby, Ontario, should be of special interest to orchardists in Nova Scotia, inasmuch as the methods of cultivation advocated therein have, in part, been followed for years by our farmer orchardists. Shallow fall plowing has for farmers the advantage of the cover crop in that it is done when the rush of work is over for the season. In my observations of the effect upon trees in this part of Nova Scotia where climatic conditions are different from Ontario, I have seen, so far as winter killing of trees is concerned, no material difference in the two methods.

Whether cover crops are sown in the orchard or not, I do not approve of a later cultivation than the middle of July. Having here an abundance of moisture in most soils, too late cultivation induces late growth which leaves tender wood not fully matured or ripened and, in almost every instance that has come under my notice of August or September cultivations followed by an ordinarily severe winter, there has been more or less winter killing of trees so that the matter of winter killing with us seems to be not so much a question of "earth mulch" or "cover crop" as it is of early or late cultivation.

In my own orchard I have followed two methods of early cultivation, being governed largely by soil conditions. Whether fall plowed or not, cultivation is always commenced as soon as the land permits in spring, usually early in May, and is continued at intervals of a week or ten days, using disk and spring tooth harrows until not later than the middle of July, having first plowed the portions sown to cover crops. If I intend to fall fall, I then seed to buckwheat which is mowed before ripening and left in the orchard. This serves the purpose of a cover crop during the fall months, name-

ly, the taking up of excess soil moisture and inducing early ripening of wood growth, thus preventing winter killing. In October or November, everything is



A Convenient Spraying Outfit

Planned and used by Mr. R. J. Messenger, Bridgetown, N. S. It can be placed as close to the trees as the horse can go. A platform around the barrel can be used for spraying high trees. This rig is a useful one for small orchards.

plowed under; and right here comes one of the chief claims of the advocates of fall plowing, that the leaves being plowed under, the black spot and other fungus; as well as numerous insect pests, are the more easily controlled or held in check.

In the part of the orchard in which I use cover crops, I sow clover or vetch in July and plow as early as possible the following spring, always putting them on land deficient in humus or subject to wash badly in winter and spring, which explains why I practice two systems of orchard cultivation.

I can also see no appreciable difference between the two methods, so far as winter killing is concerned, but I fall plow as much as is found practicable in order that the spring's work may be lessened

by just that amount. I would especially urge thorough cultivation from early spring until July, when all cultivation should cease as, in my experience, I have never lost a tree by winter killing when either of the methods outlined has been followed, while I have almost invariably had some dead trees when cultivated into August.

Reclaiming a Cranberry Bog

Would it be worth while to try and start a cranberry bog from a wild patch that appears to be well located?—R. M., Canning, N.S.

It is quite likely that the wild cranberry patch could be utilized, but to get the best results it would be necessary to clean out the sod, shrubs and anything else that is growing in the patch except the cranberries. The quantity of cranberries should determine whether it would be worth while doing the work suggested or not.

The Wonderberry

Of what value is the Wonderberry that is being introduced this season?—H. P., Sherbrooke, Que.

From its description, the Wonderberry appears to be very similar to the so-called garden huckleberry, which was introduced a few years ago. The garden huckleberry is a variety of the nightshade, *Solanum nigrum*, a garden weed. We have grown it at the Central Experimental Farm, and it is very productive. The fruit is not palatable when raw and was not relished when cooked, although we understand that when cooked according to other recipes the flavor is good. However, it is not a fruit which will be generally grown where other well-known fruits succeed. — W. T. Macoun, Central Experimental Farm, Ottawa.

Paying for Apple Trees

Am I obliged to pay for apple trees that were delivered at my home that are not first-class. They are inferior, crooked, scurfed and one is dead. There were two varieties ordered. One is McIntosh Red; the other is Wolf River. The Wolf River package was labelled, but from the other lot the labels had been torn off, all but the wires. My duplicate says "first-class" across the face.—H.B., Lovett, Ont.

The fact that all the trees are not labelled, will not relieve you from liability to pay, unless you can show that the trees are not of the kind ordered. You are, however, entitled to a good merchantable article, of such quality as dealers are accustomed to send out, and if the trees are of an inferior quality, you will not be liable to pay for them, unless (a) there is some special provision in your contract which relieves the vendor, or (b) you have actually accepted the trees.—Answered by our legal adviser.

Send articles on making and handling a cranberry bog.

Notes on Culture of Asters

C. M. Bezzo, Berlin, Ontario

TO grow asters successfully, there are, in addition to rich soil, two things absolutely necessary; they are, thorough tilling of the soil during the early stages of growth and frequent waterings during dry, hot weather, especially during the blooming period. As soon after each rain, or watering with the hose or watering pot, as can be done without the ground sticking, the surface soil should be loosened with a hoe or small rake to a depth of one and one-half to two inches. Care should be taken, however, not to hoe too closely to the plant at this depth as the aster throws out roots very close to the surface of the soil. This constant loosening of the surface soil not only prevents the formation of a crust which would exclude the air and smother the roots, but it enables the plants to draw up moisture from below. It also enables the roots to strike down deeper, reducing the danger of uprooting by wind; while cutworms, wireworms and other like enemies can find no abiding place in the ground that is constantly stirred.

Asters should never be allowed to suffer in the least from the want of water. Water in the evenings unless the nights are very cool, in which case, if the hose is used, the water had better be done in the morning. But water any time, morning, noon or night, in any kind of weather, rather than have them suffer from thirst. The plants when watered should never be merely sprinkled, but the ground should always be thoroughly soaked. During the blooming period the aster consumes a lot of water and it is almost safe to advise watering them every day.

If the plants are massed and have become so large as to render dangerous the operation of hoeing, a two inch mulch of straw, grass clippings or half rotted manure shaken up finely will be of great benefit in keeping the ground cool and moist.

To grow the finest bloom for exhibition purposes, pinch out the central bud when the plants begin to branch, and allow only about six of the side branches to grow, removing all the lateral buds and branches. The whole strength of the plant is thus given to the development of the half dozen flowers. See that the plants have an abundance of plant food in a soluble form. Sheep manure is a safe and convenient fertilizer and may be hoed in about the plants, or dissolved in water and poured about the roots. Nitrate of soda is a powerful stimulant, but the greatest care must be exercised in its use. Broadcast it evenly upon the ground, at the rate of one pound to the square rod, just previous to watering, being careful not to put any of the soda on the leaves. When used in above

quantity four or five applications may safely be made at intervals during the season.

Daphne Cneorum

Constance E. Hamilton, Lorne Park, Ont.

It may interest some of the readers of THE CANADIAN HORTICULTURIST to hear of my *Daphne cneorum* which is now (June 6) in full bloom. I secured the plant from a florist in Pennsylvania and he almost assured me it could not survive our winters here. I have grown the *Daphne* now for four years with excellent results. The plant is an Alpine and of low-growing habit. The blossoms are in small clusters, bright pink and very sweet scented, and when in bloom the effect is of a carpet of pink emitting a



The Flowering Plum (*Prunus triloba*) in Bloom
On lawn of Mr. Robt. Chambers, Lindsay, Ontario

delicious perfume. Our soil is very sandy and the plant is on quite an exposed position. Last winter it had no covering and seems to be none the worse.

I would strongly recommend this plant to amateur gardeners. My early recollection of it is in a large circular bed about five feet in diameter in a Warwickshire garden. I should be interested to hear of any of the readers of THE CANADIAN HORTICULTURIST who may know of or who have tried the *Daphne cneorum*.

Propagating by Cuttings

When should I take cuttings for propagating spiraeas, honeysuckles and rambler roses?—T.J.O., Shelbourne, Ont.

The climbers and shrubs that you mention in your letter usually are propagated from dormant cuttings, which, of course, should be taken in the fall or winter and stored to induce callousing of the butt

ends. As it is too late now, we would suggest that you try propagating them by means of cuttings of the growing wood. It will not be any trouble in the case of the spiraea but the honeysuckle and the rambler roses may not take so readily. When the new wood is large enough take cuttings and plant them at once in good soil in the open or in a cold frame.

The Care of Peonies

Rev. Andrew B. Baird, Winnipeg

There is nothing particularly delicate or sensitive about the peony. It likes a strong, well enriched soil and plenty of water in dry weather. It is a heavy feeder and responds to good treatment, but there are some things that it will not stand for. If it is planted in a low location where the ice freezes over it in winter, it will die. If in the anxiety to treat it well, manure is applied so as to come in contact with the roots the plant becomes dyspeptic and its vitality is seriously impaired; but if the ground has been thoroughly enriched a couple of years before planting and if the manure is applied in the form of top dressing or by an occasional watering with manure water, nothing but good will result.

Peonies look well almost anywhere in a garden if they have room. They look well in a border with other flowers beside them, but probably they make the best showing when planted in groups or beds by themselves. If not set too

closely together, annuals which bloom later in the year may be planted between and the beds will wear a different kind of beauty in the late summer.

If possible, the plants should have a location where they will be partially protected from the blazing sun and from high winds. The blooms last longer if they have some shade and they are apt, since they grow on long slender stems, to be battered by strong winds; in such a case, the plant should be supported by a hoop or by a circle of string tied to stakes.

In the matter of planting one can scarcely go wrong. The roots ought to be put down so deep that the tops will be a couple of inches below the surface. They look very much like rhubarb roots, and may be treated in the same way.

Keep the soil stirred in hot weather.

A Plea for Wild Flowers

M. E. Blacklock, Toronto

When you go to the woods and fields for wild flowers, do not root up everything you see; only take one or two roots of each variety—just what you can really care for. There are some things, like the lupins, wild asters, ox-eye daisies, golden rod, wild roses, etc., that are so deeply rooted, or such immense seed producers, that they can scarcely be exterminated, so gather all of these that you want; but there are other precious things which are becoming extinct through the thoughtless greed of their so-called lovers. The trailing arbutus, the fringed gentian and countless other treasures have been so freely gathered and so ruthlessly uprooted that soon their favorite haunts will know them no more. I am sorry to say that botanists are no better than other people in this respect, though they ought to set the example.

Now-a-days, when everyone is taking up nature study as a hobby (and a most delightful one it is), one cannot help wondering when all these people have each secured a specimen of each flower to study, whether there will be any left to propagate the species.

Slugs and Millipedes

What is the best method of controlling the slugs and millipedes that injure garden products?—A.P., New Glasgow, N.S.

Little damage is done by slugs if poultry are allowed the run of the garden, as they are dainty morsels to the ordinary fowl. Frogs, too, are very fond of slugs, and should be protected for their many kind offices to the garden.

There are, however, many other ways of dealing with slugs. If quicklime, ground tobacco or salt is dusted about the vegetables after dusk when the slugs emerge from their hiding quarters in the day-time, especially in rainy weather, many of them will be killed. The poisoned bran-mash, so effective against cutworms, is also a protection from slugs. This is made by mixing thoroughly half a pound of Paris green with fifty pounds of bran, and sweetening the mixture with molasses. Sufficient water should be added to give a firmness to the handfuls of baits distributed about the plants in the rows. Slugs sometimes climb apple trees to eat holes in the fruit, but they can be readily checked by the use of the poisoned bran-mash, or by burlap placed about the trunks.

Millipedes often do much damage to the roots of plants. They also eat holes in potatoes, strawberries and other plants. In some soils they are extremely abundant, and under such conditions it is almost impossible to grow plants from seed. A good plan is to mix thoroughly with the soil some tobacco dust or gas lime, to give the soil a good soaking

with kerosene oil, or to give two or three light dressings with nitrate of soda. As millipedes usually move about at night, they can be trapped by leaving slices of mangel, potato, etc., lying about. They can be collected in the morning and destroyed. The value of poisoned baits in their case has not yet been clearly shown.

Millipedes or myriapods are often mis-called blackworms or wireworms, but the latter are the young of click-beetles and have only three pairs of legs. The millipedes have many legs, often several hundred.—Prof. W. Lochhead, Macdonald College.



Sweet Peas Twelve Feet High
At Victoria, B.C.

Make Dahlias Grow Quickly

C. M. Bezzo, Berlin, Ont.

During the early part of the season, the dahlia needs to be encouraged into a rapid growth. By this I do not mean to force it by too frequent use of the hose or watering pot, which induces a rapid but soft growth, and one that the roots are unable to sustain when the trying season of hot, dry midsummer arrives. In the early stages of its development, the ground should be worked often and deep, and the top surface thoroughly pulverized. This not only keeps the ground from drying out by sealing those natural capillary tubes by which moisture is evaporated, but by the process of capillary attraction draws up moisture from depths far below. Thorough cultivation also keeps down weeds which are the robbers of the soil, stealing the fertilizer, the rain and the dew.

Among the many benefits to be derived from deep and frequent cultivation—and this applies to all classes of soil—is to make the plants root deeply. But deep cultivation must not be continued after

the plants begin to bloom. At this time they change their manner of underground growth throwing out roots nearer the surface of the soil. From this time on, stir only the surface soil to a depth of one or two inches. Do this after each rain or watering, being careful to pulverize the surface the next day.

The question of watering is a debatable one and presents another of the many opportunities afforded by cultivation of this plant for the exercise of sound judgment. Light, gravelly or very sandy soils may be watered every evening during the blooming period, as all surplus water drains away. But remember that in the process of draining a percentage of the fertilizer is carried away also. Heavier soils will very often receive more benefit from a thorough stirring of the surface soil which allows the air to penetrate to the roots and enables the plant to draw up moisture from below.

The Freesia

The cultivation of this beautiful South African bulb is quite easy. It can be grown successfully in the house. There are three varieties,—*Leichtlinii*, *refracta* and var. *alba*. The two latter are most usually grown. The edge of the flower being turned back, hence its name of *refracta*. *Alba* is the white form of *refracta*, with yellow stripes in the tube.

A compost of good light turfy loam, and a little leaf soil is most suitable. Drain the pots. Place seven to nine first size bulbs in a four-inch pot, putting them two inches below the soil. Give a good watering to settle the soil, and careful watering afterwards. A start can be made in August and these under proper care should be in bloom by Christmas, and successions right on until June.

When the plants are in bloom, they commence to make their new bulbs, or, more properly, corms, on the top of the old one. At this stage, if a plant is examined the corm can easily be seen (this applies to the gladiolus also). It also makes cormels at the side of the old corm.

When the plant begins to go out of bloom, water once a week with weak cow manure and keep them green and growing as long as they will, until the foliage shows signs of turning yellow, then gradually withhold water, and dry them dust dry by laying them on their side. This is the whole secret of bulb culture, making up the bulb again for next year's flowering. In shaking them out, grade them and pot the bulbs of equal size. The cormels may give a little flower the next year, but grow them on with generous treatment, and your flowering stock will increase. I have always found that freesias, treated in this way, give better results than bought bulbs.—G. B.

Send photos of Nova Scotia gardens.

Lawn and Garden Hints for July

DURING the hot days of July, the garden will require large quantities of water. Many amateurs make the mistake of merely sprinkling the surface of the soil. Unless the



Cut-leaved Weeping Birch

On lawn of Hon. J. R. Stratton, Peterboro, Ont.

ground is thoroughly soaked, watering will not be of much use. If watering is done at night or in the early morning, too much can scarcely be given. It is always best to do this work in the evening. Next morning the surface soil should be stirred with a rake. Watering and constant cultivation must not be neglected in hot weather if good crops or plants are desired.

Celery requires plenty of water and fertilizing. Apply some liquid manure or commercial fertilizer. Celery may be planted this month for late fall use.

Sow some dwarf beans and some corn for late use. Sow varieties that mature quickly. Late cabbage and cauliflower may be planted.

As fast as vegetable crops mature, put in others. Among the seeds that may be sown now are radishes, lettuce, early peas, early beets, cucumbers for pickles, carrots, cress and parsley.

If you have not yet sprayed your potatoes do so at once. Paris green and water, or Paris green and flour, will control the potato beetle. Bordeaux mixture is necessary for the prevention of leaf blights.

Towards the end of the month sow winter radishes. They will be appreciated during the winter.

Do not allow the greenhouses to lie

idle all summer. Grow peppers, egg plants, cucumbers, and other crops in them. Whatever the outside weather conditions, these crops, at least, will be assured.

AMONG THE FRUITS

Keep the strawberry patch well cultivated. Do not allow the plants to suffer for water.

Keep the soil stirred around the small fruit bushes. Do not cultivate the raspberries and blackberries too deeply, as they are shallow-rooted.

To get best quality and size in tree fruits, thin them this month on the limbs. Remove injured and deformed specimens and then the smallest that are left. Do not allow any of the remaining fruits to touch each other.

THE FLOWER GARDEN

Stake and tie all plants in the flower garden that require support. Tie with soft twine and use neat stakes.

Remove the flowers as soon as withered from plants that are blooming. Pinch back dahlias, cosmos and the central buds of branching asters. Many kinds of annuals may still be sown. Use nasturtiums and portulaca for sunny locations. The latter makes a brilliant edging plant for dry and hot situations.

Keep the pansy bed well watered. Pick the flowers frequently, so that no seed will form and to insure a constant supply of bloom throughout the season.

To keep cut flowers fresh, cut the ends of the stems with a sharp knife every morning, and give fresh water. Do not place the flowers in direct sunshine.

The flower garden should be kept as clean and free of weeds as the vegetable garden. Flowers will respond to good attention. Neatness in edging the beds, and in cultivating adds much to the general effect.

Dahlia Grafting

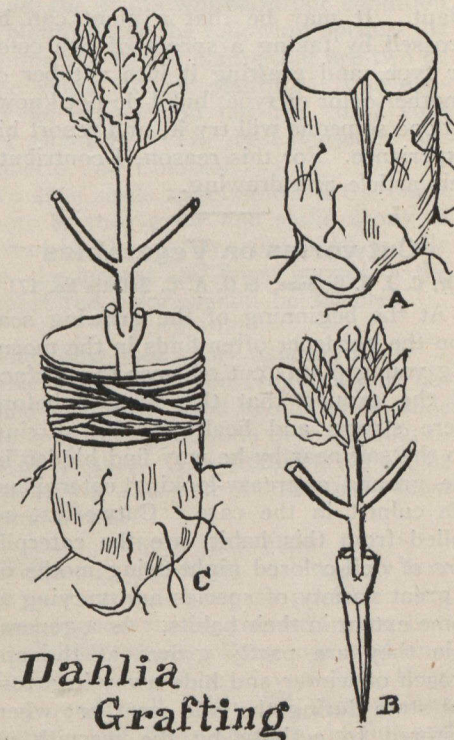
Translated from the French by Max Moineau, Toronto

IN a little work on the dahlia, written and published by Messrs. Riviere and Son of Lyons, France, I find the following article on dahlia grafting, which may be of interest to many Canadian growers:

"Grafting the dahlia is not sufficiently practiced, and we do not hesitate to recommend it. However difficult pot culture may seem, it is, nevertheless, the most practical. Grafting the dahlia gives a dwarfed plant, with a bloom superior to that of ordinary culture. Pot culture will be highly appreciated, when one takes into consideration its important services. For decorating the terraces and avenues, the beautifying of apartments, churches, and so forth, small plants make a greater effect than full grown dahlias. If this method is not employed to advantage, it is through lack of knowledge of the practice of grafting, and the belief that a good culture in pots is almost impossible. In view of exhibitions, this culture should be particularly appreciated. It is important also to add that the culture in pots of grafted plants permits them to be taken into the greenhouse in autumn, and thus prolong their superb bloom, which in the open would be killed by the first frost. One understands, without further urging, how important this advantage is, since the grafted dahlia in pots never becomes too large. The only precaution necessary to maintain the plants for a longer period is to air the place well, whenever the temperature is above freezing. The manner of procedure is as follows:

"Good tubers should be sprouted early, but instead of cutting for slips,

cut the young sprout for the graft. The tubers used for this purpose must be preserved from the growth of the previous year, and should not grow large enough to develop eyes. These are cut across horizontally, as in object A, in the diagram, in order to prevent the possibility of stem growth, and afterwards, on one side of this section, a V-shaped



Dahlia Grafting

incision is made, to which the graft is to be perfectly adapted. Then take one of the young sprouts mentioned above and shape the base into the form of a wedge, or the blade of a knife, as in ob-

ject B. Introduce the prepared graft into the cut on the face of the tuber, so that it fits perfectly the incision, after which wrap with raffia, as in object C, and carefully cover the margins of the cut with cold grafting wax. This process finished, place the graft in earth in a pot of a sufficient size for the tuber, and carefully cover to the depth of about one-third of an inch. The pot is afterwards placed in a hotbed, if one operates before the month of April, and later, in May or June, the cold frame will be sufficient. But in each case the graft must be strongly shaded until the wound has completely healed, and covered each evening after sunset.

"The plants thus obtained grow perfectly, but make roots instead of tubers. This is why the culture in pots is so satisfactory. The ordinary culture would form such large tubers that the pots would fill up and prevent the growth of the plants. But you cannot count on the grafted plants preserving the varieties for the following year. To stop the growth of the grafted plant, you have only to permit the earth to dry out, and the tubers will have no further value. This also occurs if the graft takes root. If side tubers should form, they could not be utilized for multiplication, if one wishes to keep his collection true to type."

I have tried the method and find it successful. Blind tubers are the best suited for this purpose. I have not tried crossing the dahlia in this manner, but have used sprout and tuber of the same plant. It may be that a plant can be crossed by taking a sprout of one color or type, and grafting it into a tuber of another color or type, but I do not know. I hope someone will try it, and report his experience. For this reason, I contribute this article and drawing.

Cutworms on Vegetables

Dr. C. J. S. Bethune, in O. A. C. Bulletin No. 171

At the beginning of the growing season the gardener often finds in the morning young plants cut off near the surface of the ground that the evening before were strong and healthy. On stirring up the soil near by he may find hidden in the ground a greasy-looking caterpillar, the culprit in the case. Cutworms, so called from this habit, are the caterpillars of dull-colored night-flying moths of a great variety of species and varying to some extent in their habits. As a general rule they are partly grown at the approach of winter and hide away in a torpid state during the cold weather; when restored to activity by the warmth of spring, which causes the buds to open and the growth of plants to begin, these worms come out in search of food and attack any kind of tender vegetation that they meet with. They are nocturnal in

their habits and hide away during the hours of daylight under any shelter they can obtain or just below the surface in the loose soil of newly made beds. Owing to their destructive practice of cutting off a whole plant in order to devour a portion of its foliage, they do a great deal of apparently needless damage.

After they have become fully grown they change to the chrysalis stage in the ground and in early summer the moths appear, many of them making their presence known in our houses by their attraction to light. Before very long another brood of caterpillars comes upon the scene, often more numerous and more destructive than the first. Some of them climb up into fruit trees and destroy the foliage, others attack farm crops, vegetables, grape vines, the plants in flower gardens, etc., while occasionally a single species appears suddenly in enormous numbers and sweeps like an army over the land devouring everything that comes in its way.

Happily a very simple and completely effective remedy has been found for these destructive creatures. It is called the "poisoned bran-mash" and is made in the following manner: Mix half a pound of Paris green in fifty pounds of bran (the proportion for larger or smaller quantities is one to 100); the poison should be added to the dry bran little by little and stirred all the time till the whole is tinged with the green color, then add water sweetened with sugar, or molasses, till the mixture is sufficiently moistened to crumble nicely through the fingers. If bran cannot be procured, shorts or flour may be used, and for field work may be distributed dry by means of a seed drill. The mash should be scattered about the plants that are liable to attack in the evening, and strange to say the worms will devour it in preference to their ordinary vegetable food. When they begin to feel the effects of the poison they wander off to find a hiding place or burrow in the ground and there die. Their dead bodies will be readily found in the morning just below the surface of the ground, often in surprising numbers. Young plants, such as cauliflowers, tomatoes, etc., may be protected when set out by wrapping a bit of newspaper around the stem between the root and the leaves and reaching a little below the surface of the ground. The worms will not attempt to bite through or climb over it.

In reply to "R.T.W." 's question in the June issue regarding broad beans, I have successfully grown them by (a) sowing the seed early in spring (before April 20) in upturned sod in a cold frame; and (b) pinching off the top of each plant when over twelve inches high as soon as it is in blossom.—Rev. J. Fisher, Port Elmley, Ont.

Pointers on Celery

John N. Watts, Portsmouth, Ont.

In planting out celery plants many growers put manure in the trench (which calls for a large amount of extra work) instead of manuring all the land. This plan I have tried but find it only works well in certain seasons; that is, if the summer should be showery.

There is no better system than to plant about three feet apart and have a shallow furrow or what some may term surface planting. The plants should be carefully lifted with a fork out of the bed from which they have been transplanted, so as to insure a good supply of new roots which, when well moistened, are ready to set in the trench.

The trench is much improved by making a return trip in the furrow with a one-horse fine-toothed cultivator, which gives plenty of fine soil to pack around the plants. If the weather is dry, a little water should be given to insure success.

After the celery has started a good growth, it should have a good hoeing with the common hoe, after which the cultivator should be kept moving through it once a week until it has reached the size for market.

My plan for blanching is with boards which always gives a fine clear head of white celery and is quickly applied. The celery is kept in position either by the use of a small stake driven down outside the boards, or by tacking on a small strip of lath which answers the purpose.

In harvesting, I aim to secure my crop before it gets a hard frost as this destroys its keeping quality. I always guard against having any wilted heads when digging them out as they sometimes get too much sun before they are put in the root house. In trimming the green celery, I usually strip off all the leaves from all the stalks but a few of the centre ones, as they rot and drop down in the heart of the plant and necessitate the crop being overhauled.

To Kill Spiders

I am anxious to hear of some mixture which is sure death to, or which would drive away, spiders and which could be sprayed on the eaves of the house and into the gables and crevices. It would not do for the mixture to injure paint. This question may not be in your line, but I cannot think of a better authority to write to as you are well up on sprays for destroying insects on trees and plants.—N.L.P., Midland, Ont.

We know of no experiments that have ever been tried to kill these beneficial animals. Their food consists largely of noxious insects and can do harm only by spinning unsightly webs. If pyrethrum powder is dusted about the affected places the insects and spiders will be reduced to a minimum.

Insects Injurious to Vegetables*

Arthur Gibson, Chief Assistant, Division of Entomology, Central Experimental Farm

It is unfortunately true that every kind of vegetable crop grown is attacked and liable to be much reduced in value by various insect enemies. At the Central Experimental Farm hundreds and hundreds of letters are received every year from farmers, fruit growers, market gardeners and others, asking for advice concerning injurious insects. It has been estimated that from ten per cent. to twenty-five per cent. of every crop grown is destroyed by insects.

It is important that the grower should know something concerning the life-history of the insects he has to fight. Most insects have four distinct stages, the egg, the larvæ (caterpillar, grub or maggot), the pupa or chrysalis, and the perfect insect. A little close observation will soon enable one to distinguish between these stages and such knowledge gained will be valuable when a certain kind appears in destructive numbers.

It is important too that we should be able to tell whether the insect when feeding bites its food, or whether it simply inserts its beak or tube into the plant and takes up its food in a liquid form. As soon as an insect is noticed injuring a crop, this point should be decided upon at once, because it can be easily realized that with insects that bite and swallow their food, something of a poisonous nature must be put on to the plant which will be eaten with it and thus kill the insect. If such a remedy was supplied for an insect that sucks up its food, it would of course be without any results, because the insect would simply insert its beak through the poison and take from within the juice which it required for its nourishment.

WHITE CABBAGE BUTTERFLY

Every year the small white cabbage butterfly, known generally as the cabbage worm, destroys large numbers of cabbages, cauliflowers, etc. In eastern Ontario it was much complained of during 1908. There are at least two broods of this insect in a year and in some seasons an additional late supplementary one.

The well known green caterpillars, which when full grown are about an inch long, at first eat the outside leaves, and it is at this time that they can be best destroyed. Gardeners should, therefore, watch for the first appearance of the caterpillars and apply a mixture of pyrethrum insect powder and cheap flour, in the proportion of one pound of the insect powder to four of cheap flour. Before using, the whole should be thoroughly mixed together and allowed to stand in a tightly closed vessel for twenty-four hours. It is easily and quickly applied

to the plants by means of one of the dusts, or other such contrivances now sold by seedsmen. No danger whatever attends the use of insect powder on such plants as cabbages. The rather prevalent custom of using Paris green and other arsenicals on such vegetables was always condemned by the late Dominion Entomologist, Dr. Fletcher.

THE ZEBRA BUTTERFLY

The zebra caterpillar which attacks turnips, cabbages, peas, clover and potatoes is probably known to every market gardener. The moths emerge in spring and lay their eggs in clusters on the undersides of the leaves. For a little time after hatching the young caterpillars feed together, but as they get larger they wander off by themselves. There are two broods in the year. The caterpillar when mature is about two inches long of a velvety black color with two bright yellow stripes along each side.

If cabbages or cauliflowers are attacked the pyrethrum insect powder as recommended for the cabbage worm, should be used to destroy these caterpillars. When other plants are being injured, Paris green, in the proportion of one pound to 160 gallons of water, may be applied with a spray pump.

COLORADO POTATO BEETLE

The potato beetle is responsible for far too much damage. There is absolutely no reason for the widespread loss caused by this insect. The mature beetles, usually called by farmers "the potato bug," pass the winter in the ground. Towards the end of May, they come out again and the females soon deposit the bright orange eggs on the underside of the leaves. These hatch in about a week and the larvae at once attack the foliage. There are three broods in the year, the last brood emerging in September.

The poisoned Bordeaux mixture, now so widely used for fungous diseases and leaf-eating insects, will not only protect potatoes from the attack of the Colorado potato beetle but will also prevent injury by early rot and the more destructive potato rot. The first spraying should be done early in June, the second early in July, and the others about the 1st, 15th and 31st of August.

TURNIP AND CABBAGE APHIS

Much damage has been done of recent years, particularly to Swede turnips, by this well known grayish plant-louse. At the time the turnips are being hoed and thinned, the colonies of these insects should be searched for and any plants found to be infested should be cut out and the plant lice crushed under foot. When the insects are too numerous for this treatment much good may be done by spraying the restricted areas in time, with the ordinary kerosene emulsion, or

whale oil soap, one pound in six gallons of water.

This plant louse spreads very quickly, especially during dry autumns, and much can be done to prevent widespread infestations if the plants are watched and the remedies applied early. The cabbage and turnip aphids deposit their eggs on the leaves of cabbages and turnips in autumn. Therefore, all remnants of these plants should be gathered up and burned, or plowed down, as soon as the crops are harvested.

The Asparagus Bed

James F. Nicholson, Ottawa

No asparagus should be cut after the first of July. During the cutting season, give a good dressing of salt during showery weather. A good idea is to give the beds a good dressing of some fertilizer after the cutting season is over to promote growth of crowns for the following year. Fertilizing in spring has little effect on the crowns the same season.

PROPAGATION

Asparagus is propagated by seed sown in the spring. To get good one-year-old plants, sow thinly and then thin the plants to three or four inches apart, taking care to select only the strongest plants to stand. Plants with many small shoots should not be planted. By keeping the seed bed hoed and free from weeds, the plants will be in fine condition for planting out the following spring. It is a mistake to use plants that are two or three years old for planting. Use one-year-old plants and cut the third year after planting. The best varieties are Palmetto and Colossal.

To save seeds select some of the finest shoots as they grow and stake firmly to prevent breakages, by wind. When fully ripe, the largest and finest berries of the deepest red color should be selected.

SOIL

The best soil for asparagus is a friable loam, but good crops may be obtained from any good sandy loam made porous by the application of large quantities of manure. The situation should be open to the sun and yet sheltered from strong winds.

MAKING THE BEDS

Strike out your rows with a plow four feet apart and as deep as possible. Put in some good rotten manure in the bottom of the trench. Plant one and one-half feet apart and cover with hoe. Keep the ground well cultivated through the summer. Cut down the tops in fall and give a good dressing of rotten manure and work in with a cultivator.

Produce those vegetable crops that are in greatest demand in the home market.

* Extracts from a paper read at a meeting of the Ottawa branch of the Ontario Vegetable Growers' Association. Other insects will be referred to in later issues.

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February, 1908.....	7,824	February, 1909.....	9,310
March, 1908.....	8,056	March, 1909.....	9,405
April, 1908.....	8,250	April, 1909.....	9,482
May, 1908.....	8,573	May, 1909.....	9,172
June, 1908.....	8,840	June, 1909.....	8,891
July, 1908.....	9,015		
August, 1908.....	9,070		
September, 1908.....	9,121		
October, 1908.....	9,215		
November, 1908.....	9,323		
December, 1908.....	9,400		

Total for the year..104,337

Average each issue in 1907, 6,627

Average each issue in 1908, 8,695

(Increased circulation in one year 2,068)

Sworn detailed statements will be mailed upon application.

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THE CANADIAN HORTICULTURIST,
PETERBORO, ONTARIO.

EDITORIAL

PROGRESS IN NOVA SCOTIA

For many years, the Annapolis Valley in Nova Scotia has been famous for its apples. To that district, Canada owes much for pioneer work done in advertising our fruit growing capabilities in the British markets. Many excellent displays of fruit have been made by the province at exhibitions in London, most important among which was the magnificent exhibit made at the Indian and Intercolonial Exhibition in 1886. Since then, at Royal Horticultural Shows, the province has effectively advertised its capabilities and won many honors. The export of apples to Great Britain began about 1875 and the quantity each year has increased from a few hundred barrels at that time to over 700,000 last season. Nova Scotia apples command top prices and are always in demand.

In the days of the Acadian French, two centuries ago, apples were grown successfully. Some of the trees still exist as aged relics of a historic past that has been immortalized in romance and song by a host of poets from Longfellow to Roberts. Aside from the commercial, there is a sentiment about blossoming time and the apple harvest in the Annapolis Valley that attaches itself to few other fruit districts. The people of the Valley are proud of their heritage and well they should be. It must not be supposed, however, that the growing of apples in Nova Scotia is restricted to the Annapolis Valley. The contiguous fertile valleys of the Cornwallis and Gaspareaux rivers are equally favored. In these and in a few other localities also, the apple and other fruits are extensively grown.

While the province has long been in the business and is up-to-date in most methods connected with orchard practise, there is room for development and progress. There are several other localities there that give promise of becoming good fruit growing centres and trees and fruits should be planted for home use on many farms all over the province that now do not have them. The educational work that is being done by the provincial fruit growers' association will do much to bring this about and the lessons that may be learned from the thirty or more "model orchards" that have been established by the government are many. Expert instruction is offered also by the horticultural department of the Agricultural College at Truro. The opportunities for acquiring knowledge and for mutual benefit are readily available.

Growers with established orchards would do well to investigate the value of co-operation in the handling and selling of their fruit. Three or four co-operative associations already have been organized. Others should follow. This point was emphasized by Chief McNeill at fruit meetings held last month as reported elsewhere in this issue. The co-operative plan is the best plan. Nova Scotia growers should take advantage of it and thereby make the fruit industry of the province still more important and more profitable.

CRANBERRY EXPERIMENTS

Cranberry culture is becoming an important factor in the fruit industry of Nova Scotia. In 1890, the output from cultivated bogs amounted to 400 barrels; in 1898, it reached nearly 4,000 barrels; in 1908, about 8,000 barrels. A barrel holds 80 quarts, and a well managed bog should

yield at least 150 barrels. At five or six dollars a barrel the yield per acre sells for \$750 to \$900. The crop is a profitable one, but the growers are constantly meeting with discouragement and disappointment. Insects and frosts are the worst enemies and were particularly aggressive during the years 1902 to 1906. In view of the constant damage done by these enemies and of the fact that a well made cranberry bog entails a comparatively large initial expense, we would suggest that the provincial government establish a cranberry experiment station. A proper location in a cranberry district, could be purchased outright or arrangements, similar to the "model orchard" plan, could be made with an established grower. The cranberry growers of Massachusetts are working to secure a station of this nature in that state, as they are planting larger areas each year and have to contend with the usual difficulties. As the United States growers are competing more each year with Canadian growers, it is time that the industry here was put on a firmer basis.

A cranberry experiment station would investigate insects and diseases and how best to spray and otherwise control them. It would determine the best methods of flooding and other means of preventing injury from frosts. Systematic experiments with fertilizers could be carried on with relation to their effect on the color, quantity, size and keeping qualities of the fruit and to determine their retentive values in the soil. The propagation, development and origination of varieties, the destruction of weeds and mosses and the study of climatic conditions could all be included in the work. There are many problems to work out and much to learn in this industry. The establishment of such a station should be considered favorably by the Nova Scotia Department of Agriculture.

THE STORAGE OF FRUIT

The change made in the Cold Storage Act at the last session of the Dominion Parliament will help materially to encourage the building of warehouses for the storing of apples. As originally drafted the Act provided for the bonusing of warehouses for the cold storing of all kinds of food products. To take advantage of the bonus, the builder or builders was compelled to accept any class of food products that might be offered for storage. This was not satisfactory to our fruit men. The change makes it possible to erect warehouses for the storage of fruit only. Our co-operative associations, that have not erected warehouses, should avail themselves of the opportunity that is now presented.

In order to gain further information on the value of cold storage for fruit, Parliament voted at the last session \$7,000 for experimental work in this matter. While some of the benefits of cold storage are known already, there are many factors that require further investigation. These experiments will be followed with interest by our fruit growers.

Four years will soon have passed since the last Dominion Fruit Conference. Is that too short a time in which to expect another? At the March, 1906, conference the Minister of Agriculture at Ottawa practically promised to hold a similar congress at the expiration of two years and now it is nearly four. In this time the fruit industry of all the provinces has been assuming a larger magnitude and the problems of national concern have been increasing proportionately. Our growers will expect another conference to be held next winter.



PUBLISHERS' DESK

As announced in our June issue, a number of articles are published this month that are of special interest to horticulturists in Nova Scotia. As is customary at this season of the year, the size of *THE CANADIAN HORTICULTURIST* is considerably reduced. For this reason, we have deemed it just to leave New Brunswick and Prince Edward Island until next month. This will give the three provinces more news and more articles than they could be given in one number. Our friends in New Brunswick and Prince Edward Island are requested to send photographs of fruit, garden and lawn scenes and to contribute short letters of articles on anything that has to do with horticulture for publication in our August issue.

Our cover illustration this month shows the street passing Hillcrest Orchards, Kentville, N.S., a small corner of a young orchard of 20 acres, a corner of a 10-acre block of Gravensteins, the packing house and other orchards of Hillcrest beyond. The photograph was taken from the residence of Mr. Ralph S. Eaton, the manager of this large concern, which harvested 3500 barrels of apples last season and which expects to produce and harvest three times that number each season from these orchards when all the trees come into bearing.

We are pleased with the interest that is being taken in our question and answer department. Enquiries on any phase of horticulture will be carefully answered by us or by experts to whom the question will be submitted. It must be distinctly understood, however, that anonymous communications and letters must be accompanied by name and address of the senders so that we may know that they are from bona-fide subscribers. Only the initials of enquirers will appear in print.

Toronto Vegetable Growers

The regular monthly meeting of the Toronto branch of the Ontario Vegetable Growers' Association was held on June 5. A large number of members were present and the meeting was a success.

The exhibit of asparagus was very fine. Each exhibitor was required to show three bunches, with six sticks in each or 18 sticks in all. The first prize went to Jos. Allen, second to John Brown and third to John Tizzard, all of Humber Bay. The lot that won first prize was very fine, the 18 stalks weighing just one ounce short of three pounds.

It was decided to hold the annual excursion of the association to Niagara Falls, on the first Thursday in August. From present appearances, this will be the big thing of the year and a big crowd is looked for. The Ontario Seed Co. sent an invitation for the members of the association to visit their trial grounds at Waterloo, some time in July. The matter was left over until the July meeting.

Every fruit grower in the Annapolis Valley should take *THE CANADIAN HORTICULTURIST*. Each issue is worth more than the price of a year's subscription.—C. A. McGregor, Hants Co., N.S.

If you learn from others, they may learn from you. Send an article for publication.

Nova Scotia Fruit Meetings

Eunice Watts, Waterville, N. S.

The Dominion Fruit Division is organizing meetings in the Annapolis Valley to take up the subject of co-operation in the selling of fruit. Mr. A. McNeill, Chief of the Fruit Division, addressed the meetings at Berwick, Lawrencetown, Bridgetown and Bear River early last month.

At the meeting in Berwick, the Rev. G. P. Raymond was elected chairman. In an address on co-operation, Mr. McNeill, referring to our apple industry, said that if Nova Scotians did not look to their laurels they would be distanced in the race. Continuing, he said that the elevating tendencies of the orchard ought to appeal to us all. A friend once said to the speaker, that he did not believe that children raised in an orchard could go far wrong, and if we studied the prison statistics, they would bear him out, for fruit growers were scarce in the penitentiaries. (A Voice)—“The fruit inspectors don't do their duty!” Mr. McNeill again justified the fruit grower by putting the blame on the dealers.

In a few words of self defence, Mr. McNeill said that the people of Ontario called him a crank, and the editors said that he appeared to think that his sole mission in life was to recommend early apples for southern Ontario. What he really wished to do was to point out the particular needs of each locality. In southern Ontario, some apples were fit to harvest by the 25th of July, and Red Astrachan and Duchess were ripe by the third week in August. Why should they glut the market with late fruits when other parts of Canada could grow better?

In the Annapolis Valley growers need a better system of marketing their apples. No part of the Dominion, except British Columbia, is so forward with its culture, and in no part of Canada are there so many apples grown in small areas. Last year the output from Nova Scotia was 710,000 barrels. Considering that Nova Scotia has so many advantages, such as proximity to the sea, with railroads, and a province situated nearer to the British markets, the orchardists are not as forward as they should be. They get too small returns and pay too much for appliances used in the apple culture. If these growers could be organized into associations, the next step would be the co-operation of sub-ordinate societies into one solid community which would speak as one voice.

LESSONS FROM CALIFORNIA.

As an object lesson, the chief gave a sketch of the co-operation of the orange and lemon growers of California. From time to time the growers of citrus fruits had formed local societies which did good work by encouraging growers, but they met with big obstacles which they could not tackle, as when the fruit went through private concerns, such as transports, commission men and the like, who took toll and profit. At times these local societies would get discouraged and drop out. Then they tried putting all their produce into the hands of one firm which proved disastrous.

Four years ago the orange growers combined so that sixty to seventy-five per cent. of their fruit is handled by co-operative associations who send delegates that take over the whole fruit and sell it. Their great success is due to the public spirit of the manager. When he became interested in the organization he owned large orange groves, but when he accepted the management he sold his property, disposing of his

own interests in order to be above suspicion and to become a servant of the orange growers. The result is that citrus fruits are being sold in every possible place at a market price.

Omaha and Chicago are the two orange centres from whence the standard cars are sent. There is a good system of inspection and, like in the apple districts of Hood River, Oregon, no grower is allowed to pack his own fruit; this gives rise to a uniform grade of produce.

Before sending a car of oranges to a city like Ottawa, enquiries would be made. If the price is below others quoted, Ottawa would have to come up, or receive no more oranges. This trust in fruit is for good; it makes the largest consumption of oranges possible. If oranges are scarce, the price is higher, but the orange combines make no effort to play tricks like those who try to corner the wheat.

NOVA SCOTIANS SHOULD ORGANIZE.

The apple growers should look upon the orange associations as an object lesson. Every box of oranges consumed means one less of apples which have keen competitors in oranges and bananas, but peaches and small fruits do not interfere. We are not increasing the apple business as the banana growers are increasing theirs. The dealers in England are not anxious to help the apple grower and there are difficulties over there with which the individual cannot cope. If we wish to get proper value for our apples we must co-operate and organize into local associations, and then get others to co-operate also.

In London No. 1 apples are sold for fourpence and sixpence a pound, good and bad years the price is the same, but the middleman absorbs the difference. To benefit ourselves we must unite and thus save on rebate, freight and insurance—a gain of about 40 cents on the barrel. We ought to be missionaries in this propaganda and put by half a cent from every barrel in order to start new societies. Through this co-operation, men will strive to grow better fruit and save 25 per cent. on spray pumps and fertilizers. Ontario associations have saved on their baskets and what Ontario growers can do with their baskets, Nova Scotians ought to do with their barrels. As an instance of the advantages of buying through the co-operation, Mr. McNeill said that he had paid one cent and a third for a pound of sulphur for which the druggist asked him five.

The associations need honest and loyal leaders, unselfish men of public spirit. There are various kinds of patriotism and the easiest kind of a hero is he who goes to battle and bloodshed. A much different and honorable way of being a hero is to do the daily duty at home by being hard-working and honest. A man who does the common things of life well, with no brass bands to herald him is a true hero and patriot. Such are the leaders of several associations who have sacrificed their own interests and bettered the general public.

At St. Catharines, Ont., the association has doubled the price of land in five years and men who work in factories have bought their little fruit farms, and by following the others' examples, have developed themselves from mechanics to good fruit growers.

Mr. Vroom, when called upon to speak said that the co-operation has his heartiest sympathy and that he had been assisting the farmers of Prince Edward Island to

co-operate in all kinds of things for their farms. Mr. Raymond in closing the meeting, said that co-operation was a mark of civilization. In pre-historic times, every

man was for himself. In years gone by, there was no co-operative educational system; the rich man could hire a tutor but the poor man's children had to go without.

ry is greater than the supply and should encourage further plantings of this fruit.

Owing to frequent winter killing of Cuthbert raspberry, it is likely to be replaced by the Herbert and King, two kinds that have proved hardier than the Cuthbert, and are also good bearers of fine berries. Present appearances indicate about a half of a crop from Cuthbert and other half hardy kinds, with the hardier varieties promising a full yield. Blackberries will be about an average crop.

NOTES FROM THE PROVINCES

Western Annapolis Valley

R. J. Messenger

We have this spring what very rarely happens—a full bloom almost everywhere; well-kept orchards, ill-kept orchards, pastures and fence corners, all show a full bloom and this after a year of good yield of clean fruit. More than this, the weather has been ideal for pollination. From the time the earliest blossoms opened, till the present writing (June 15), when the bloom is about off, there has been no rain and fresh winds.

Apples are setting well and giving promise of a large crop. Very dry weather for some time may destroy this promise and several other contingencies may arise but just now prospects are good.

Looking over the past year, we are struck with the fact that the canker worm and the brown-tail moth have proved blessings to the Annapolis Valley. Someone has said in effect that weeds are the best friends of the farmer and it is safe to say that insect pests are the best friends of the average orchardist. Never before have we had such an awakening in spraying and general orchard management as during the past two years, and its effect was not only shown in the crop of last year in quantity, but also in quality, while this year bids fair to prove the value of the intelligent work aroused. Canker worms are not as numerous as last year and those that still remain are meeting with a "Waterloo" that will practically exterminate them. Not so many brown tails have been found as last year.

The farmers are beginning to see the value of right methods in raising fruit and are practising them. Better than this, they are improving every year in packing and handling methods. Several successful co-operative companies are running, packing and disposing of their fruit to such good advantage that other companies are bound to be formed shortly.

Our success at the Royal Horticultural Show last year in comparison with other provinces of the Dominion has given the feeling that we can raise as good apples as anywhere under the sun. The future is bright, with promise for Nova Scotia fruit.

Eastern Annapolis Valley

Eunice Watts

At the time of writing the most striking things are the apple blossoms and their perfumes, particularly those of the Gravenstein, which look like elevated snow drifts; the writer never remembers seeing such a show of blossom before. The Dominion Atlantic Railway is running an excursion train through the Annapolis Valley, so that the outsiders will have a chance of seeing miles of beautiful bloom.

The apple trees, particularly those in nursery, have been attacked by the bud moth (*Tmetocera ocellana*). In young trees they are very injurious, destroying buds which will determine the future shape of the tree; however, Paris green is a match for them.

Special fruit meetings under the auspices of the Dominion Fruit Division, were ad-

dressed by Mr. A. McNeill, chief of the Fruit Division, at Berwick, Lawrencetown, Bridgetown and Bear River, in order to interest orchardists in the co-operation of the selling of fruit. Mr. McNeill handled the subject in a masterly manner, and gave as examples of the benefit to be derived from co-operation, the associations of the Southern California citrus fruit growers and of St. Catharines, Ont.

Fewer potatoes are being planted, but many thousands of tomato plants, bought at \$12 and \$13 per 1,000, are taking their place. A few cut worms are in evidence around the plants.

Cape Breton, N. S.

Rev. D. Macpherson, Glendale

The model orchard has been set for four years only and as yet its influence is not perceptible. Were a good salesman to come into the locality I believe that the people would respond and place orders much more readily than they would have done heretofore. When the orchard bears an appreciable burden of fruit I feel sure that a lesson will be taught and that many will invest in a few trees and look after them properly.

No one would as yet try to incite any man to go into orcharding on anything like a large scale but I think all will soon learn that everyone can do a little on the side; a little that will help to keep the pot boiling, the housewife cheery, the children attached to home; a little that will beautify the homestead and give it a touch of color that is entirely absent from the treeless farm house.

New Brunswick

J. C. Gilman

The New Brunswick Fruit Growers' Association held orchard meetings at different points in the St. John Valley last month to give practical lessons in preparing and applying Bordeaux mixture and other preparations that give good results. Many growers are still backward about investing in this form of insurance to get good fruit, but the increasing demand for the best, with corresponding high prices, is the best kind of an argument to convince the intelligent man that he must adopt good methods to get good fruit. Good results are looked for from the meetings. The need of lessening insect injury to our orchards is very apparent.

Many apple trees have been planted this season. The McIntosh Red, Bethel, Dudley Winter and Wolfe River are varieties much called for by planters. Top-grafting with Yellow Bellflower (Bishop Pippin) is also being practised with good results.

The apple crop for 1909 is promising. The January thaw that left our fields covered with ice, gave rise to fears for the safety of the strawberry beds. The damage, while bad enough, is not so great as at first feared and the plants are setting fruit nicely.

Gooseberries and currants are also very promising. The demand for the gooseber-

Quebec

Auguste Dupuis

Apple trees are in full and abundant bloom north-east of Quebec city. Cherries and plums are setting and promise a fair crop. The Damson and Canadian Reine Claude plums, largely grown in Monmagny and Kamouraska districts on the shores of the St. Lawrence, have not bloomed so heavily as the European varieties. Pears, cultivated only by a few amateurs, have bloomed abundantly, especially Clapp's Favorite, Flemish Beauty and Beurre Baltet. Currants, gooseberries, strawberries and raspberries will give fine crops if no accidents happen.

The season is backward, the bloom being two weeks later than usual, but trees and plants did not suffer any damage by the winter and cold spring. Numerous orchard plantations have been made this spring and are doing very well.

Manitoba

Geo. Batho, Winnipeg

This has been a season of wonderfully rapid growth. When I wrote a month ago, the trees were just opening their buds. To-day many of them show 18 inches of growth, and by June 17th the writer had gathered from his own garden both irises and peonies in full bloom. It will be seen by this that, although the opening of spring was very retarded, vegetation has been pushed well forward. About the beginning of June we had a few very liberal rains, but the centre of the month has been very hot with a growing need at time of writing of more frequent showers. June, which is usually our month of liberal rainfall, has not been quite as wet as could have been desired. However, everything seems so far to be going along well.

If we get sufficient rain to develop it, the promise is for a very heavy fruit crop on the prairies. Everything in the shape of an apple or crab tree was loaded with bloom, many trees only five or six feet high being a perfect snowbank of blossom. The season of apple bloom was during the first week of June, and Mr. A. P. Stevenson, of Dunston, who is the veteran apple grower of Manitoba, told the writer that he counted in his orchard 506 apple and crab trees in bloom at the same time. About one-third of these were crabs and two-thirds of them standard apples. Besides this, he had blossom on about 350 plum trees, and a good showing of bloom on his Compass cherry and several trees of the Morello type, which have been bearing in the past. At the Buchanan Nursery, near this city, there was also a wonderfully fine showing of blossoms, and, in fact, well throughout the country, so far as I have been able to ascertain. Small fruits and wild fruits promise to yield well. Of the latter, it may be remarked, we have quite a selection, and some of our wild fruit is quite acceptable.

The prairie market demands great quantities of fruit from Ontario and British Columbia. We hope that the crop in the other provinces will be a liberal one.

Alberta

Wm. R. Reader

The Russian poplar, as an ornamental tree for town planting, is a species that seems to do remarkably well in Calgary whilst in a young state. It grows rapidly, seems to be almost or quite immune from pests and diseases, withstands the rigors of the winter well and last, but perhaps not least, retains its foliage longer in the fall than most other trees, at which season it assumes some very pretty tints. These are all very strong recommendations, and the citizens of Calgary are very enthusiastic over the Russian poplar and are planting it quite extensively.

Recently, however, an eminent forestry expert, who is a government employee, was through here, and whilst in Calgary gave a most interesting and instructive lecture on trees. During the course of this lecture, he emphatically condemned the Russian poplar, saying that it would prove very unsatisfactory as it approached maturity. It is impossible to prove his statements here, as the oldest specimens of this species that we have are not more than 10 or 15 years of age, and, as previously stated, they seem to be our best trees whilst in a young state. It seems to me that it would be utter folly to continue to plant these trees, if it is as the lecturer stated; for, just as they would be approaching the most useful period of their existence for shade and ornamental purposes, they would be destroyed, and a start would have to be again from the beginning. I should be glad of information from any of the readers of *THE CANADIAN HORTICULTURIST* in the Northwest, who may have been able to observe this particular species for a longer period than we have had the opportunity of doing in Calgary.

NOTE.—The foregoing letter was sub-

mitted to Prof. E. J. Zavitz, Forester at the Ontario Agricultural College, Guelph, who replied as follows: "Our experience in this country with this tree has been very limited, but I take it for granted that the Russian poplar would be much the same as the others of this genus; that is, all the populus group are rapid growers during their early period, but deteriorate very early in life. I think it is likely that the views of the forestry expert are correct."

Readers of *THE CANADIAN HORTICULTURIST* in the Northwest who have observed the behaviour of this tree, are requested to tell their experiences through these columns.—*Editor*.

Co-operation in Nova Scotia

Editor, *THE CANADIAN HORTICULTURIST*.—I would like to make a few observations in reference to co-operation in the province of Nova Scotia along the line of packing and marketing fruit. During the past fruit season there were four co-operative fruit packing companies operating in the Annapolis Valley. Two of these companies own their packing houses; the other two rent them as yet. Fruit growers who are members of these co-operative companies gather their fruit carefully (at least, it should be gathered carefully) and take it to the packing house, which is located beside the railway track. Here the grading and packing is done under the supervision of a competent man and a uniform grade is maintained throughout. If Mr. A. has fruit that will pack 70 per cent. No. 1, he has advantage over Mr. B., whose fruit will pack only 40 per cent. No. 1. Every member gets credit for the class or grade of fruit that he can produce; in this way, a spirit of rivalry is created to see who can grow the best quality and have packed the

largest percentage of No. 1 fruit. Further, while one man is endeavoring to outclass his neighbor he is improving his property, adding to its cash valuations and doing much to beautify his section of the province.

Fruit, carefully handled and properly graded and packed in a co-operative packing house, is in the same position with regard to a market as creamery-made butter, inasmuch as one or two packages is a fair sample of the whole output, and it is only necessary for a dealer to see a small quantity to judge the quality of the entire pack.

That co-operation among fruit growers is the proper way to handle and dispose of fruit can be proven by the results and experiences of last season. The price was from 50 to 75 cents a barrel higher and the demand for co-operative packing companies' fruit was away beyond the supply. When a reputation has been established, it is not a question of going out to search for a market, but just the opposite. The dealer, who is desirous of handling reliable fruit, will come to the company and purchase the entire output at the packing house. The culls are taken to the vinegar factory. In this way, the whole crop is converted into cash and at a good price. Further than this, fruit growers can co-operate in the purchase of packages and thereby secure a first class article at the minimum of cost.

Co-operation is the solution, and the only solution of the fruit industry or problem in the province of Nova Scotia. Agriculturists co-operate through the farmers' institutes and purchase such things as pure bred stock, fence wire, grass seed, binder twine, etc. Why should not horticulturists be wise and do likewise?—G. H. Vroom, Dominion Fruit Inspector, Middleton, N.S.



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Department of Agriculture, Experimental Farm of B.C.,
Messrs. Stone & Wellington, Agassiz, May 29th, 1906.
Toronto, Ontario.

Gentlemen:—Yours of the 21st to hand. I know that you will be pleased to learn that I have had splendid success with the scions I received from you. Your trade in the Kootenays should increase very rapidly, as your trees are good and being grown in a limestone soil are better constituted than those grown on this coast, where there is no lime in the soil. Yours faithfully,

(Signed) THOS. A. SHARPE

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FRUIT CROP PROSPECTS

Present indications point to a good crop of fruit in most fruit districts. In British Columbia the peach crop will be almost a failure and probably cherries, but apples and other fruits promise well. Heavy blossoming on the prairie provinces gave promise of a good harvest. The prospects in Ontario seem to be good. A full bloom is reported on most varieties of apples, Baldwins being most shy. Favorable weather conditions during the past month, made the June drop lighter than usual in localities where it has taken place, lateness of season delaying the drop in some districts. Other fruits look well, except peaches, which have been badly injured by leaf-curl. Quebec expects the apple crop to be below the average. In the maritime provinces, an abundant crop is anticipated. Professor P. J. Shaw, of the Agricultural College, Truro, N. S., who spent considerable time last month travelling over the province, writes: "Present indication is that this season's crop will be the largest in the history of apple growing in Nova Scotia." The situation in local districts is given by crop correspondents of THE CANADIAN HORTICULTURIST as follows:

KING'S COUNTY, P.E.I.

Aitkin's Ferry.—Every kind of fruit tree carried an exceptionally heavy load of bloom. Small fruits look well.—D.J.S.

QUEEN'S CO., P.E.I.

Charlottetown.—Apple trees had abundant bloom. Appearances on plums and

pears are for a fair crop. Hardy varieties of cherries were loaded with blossoms.—W.C.W.

PRINCE CO., P.E.I.

Bedeque.—Blossoms were abundant and prospects are good for large and small fruit.—C.N.B.

LUNENBURG CO., N.S.

Bridgewater.—Fruit trees show prospects of a heavy fruit crop. Not many tree pests are in evidence and the weather conditions are favorable.—H. S.

DIGBY CO., N.S.

Digby.—Judging from the blossoms, the crop is going to be exceptionally good in this locality.—J.E.S.

KING'S CO., N.S.

Cambridge Station.—The blossom season was ideal and the apples appear to be setting full. The trees never looked better. All the enemies have been held under control by thorough spraying. Good weather conditions, together with good careful spraying and cultivation will ensure an average crop at least. Many growers are using lime-sulphur instead of Bordeaux as formerly, apparently with good results so far.—J.H.C.

HANTS CO., N.S.

Falmouth.—There will be an average crop of apples or more. Pears, plums and small fruits promise a full crop.—E.R.L.

COLCHESTER CO., N.S.

Truro.—Apples and plums, fairly good;

cherries, good. Currants and gooseberries are fine. Raspberries and blackberries were injured by winter-killing. Strawberries came through fairly well where protected, and are setting fruit well.—J.C.B.

PICTOU CO., N.S.

Welsford.—The prospect for fruit crop is good. Blossom season was favorable.—C. H.P.

CUMBERLAND CO., N.S.

Wentworth.—Prospects for both small and large fruits are good.—A.B.

WESTMORLAND CO., N.B.

Shediac.—All kinds of fruit, especially currants and raspberries, made a good display of blossoms. Winter varieties of apples promise well; in some orchards, fall varieties, such as Duchess and Fameuse, are not so promising. Everything considered, prospects are good.—H.B.S.

KING'S COUNTY, N.B.

Sussex.—Fruit trees wintered well and apple crop promises to be large. Trees are in good condition, but are being attacked in some localities by a green grub, which feeds on the leaves and does the trees much harm. Spraying is much neglected.—J.C.H.B.

YORK CO., N.B.

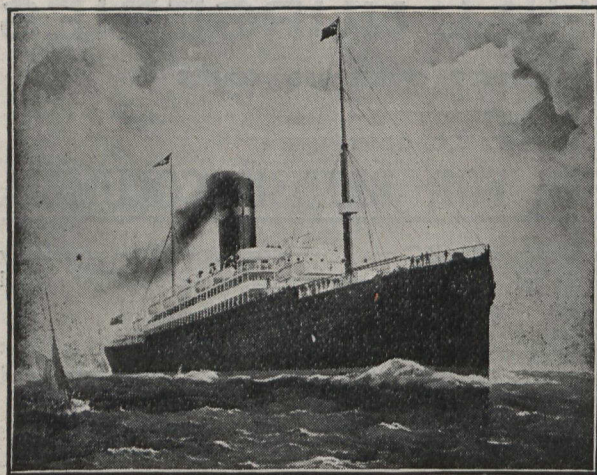
St. Mary's Ferry.—Apples give promise of an abundant crop.—W.B.D.

TWO MOUNTAINS CO., QUE.

La Trappe.—The apple crop will be a very good one, especially Duchess, Alexander, Wealthy, McIntosh, Bethel and Ben Davis. The Flemish Beauty crop is very good but plums and cherries will be very scarce. Small fruits are good.—G.R.

ROUVILLE CO., QUE.

Abbotsford.—The outlook for apple crop is: Summer varieties, average; winter,



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light; Flemish Beauty pear, average; European plums, light; Japan, failure; strawberries, currants and other small fruits a good crop.—J.M.F.

IBERVILLE CO., QUE.

Henrysburg Centre.—Prospects for apple crop are discouraging. The blossoms were light, but the set is very good. We are not looking for a heavy crop like last year. Strawberries, blackberries and that class of fruit are very fine.—J.S.

ISLAND OF MONTREAL, QUE.

Westmount.—Good prospect for apples and pears, the fruit being well set; cherries and plums, poor except the American plums, which are well laden; strawberries, late but a good crop; other small fruits, good.—R.B.

GRENVILLE CO., ONT.

Maitland.—The bloom on all varieties, except late winter apples, was fairly heavy and fruit has set well, with very few insects, except bud moth. Cherries of the sour class are heavily loaded. A medium crop of Americana plums is expected. Small fruits of all kinds promise a full crop. Apples are all growing fast and there is no indication of much June drop.—H.J.

HASTINGS CO., ONT.

Belleville.—The early and fall apples promise a full crop, also the majority of the winter varieties. We had beautiful weath-

er during blossoming time and for the setting of the fruit.—F.S.W.

PRINCE EDWARD CO., ONT.

Rednersville.—Pears, plums and cherries will be very plentiful. Apples blossomed well and, allowing for a heavy June drop, I believe the yield will be from 75 to 100 per cent. of a full crop.—H.D.

NORTHUMBERLAND CO., ONT.

Colborne.—The prospect for fruit in this section is good; Greenings and Russets, heavy bloom; Spys and Baldwins, not so good; all kinds are setting well.—W.E.

PEEL CO., ONT.

Clarkson.—Outlook for fruit is of the best, with possible exception of crab apples. The blossoms were profuse. The berry crop promises an abundance, but the bulk of crop will be late. Snow apples will not be so plentiful as last year, but the Spy will be much more in evidence.—W.G.H.

HALTON CO., ONT.

Georgetown.—The apple crop promises to be large. Percentage of full crop.—Spys, 60 per cent.; Colvert, 70; Balwin, 30; King and Russet, 90; Greenings, Mann, Ben Davis, 75; other kinds, 65 to 80. Plums and cherries, medium; pears, very light; small fruits, heavy.—F.J.B.

WENTWORTH CO., ONT.

Bartonville.—Strawberries, an abundant

crop; raspberries promise well. Cherries seem to be going back, a great many of them blasting. Plums and pears will be a fair crop. Peaches of some kinds will be a good crop, but others poor. Apples from orchards bearing this year promise well.—H.F.B.

Winona.—Apples, plenty of bloom, fair prospects; early pears, light; later pears, fair. In plums, Japan, light; Lombards, full; Reine Claude, set full but have dropped until thin; other varieties, medium. Peaches, Crawfords, very full; other varieties, good, except Elberta. Sour cherries full crop; sweet, medium; grapes, fair.—M.P.

LINCOLN CO., ONT.

Jordan Station.—Small fruits and apples, plums and pears, fair to average; cherries quite light. Grapes promise well. Peach crop will be seriously diminished when the results of curl leaf fully develop. Where peaches were sprayed thoroughly, and early, with effective mixtures, little damage from curl leaf is found.—W.H.B.

NORFOLK CO., ONT.

Simcoe.—Spys and Kings, very full; Baldwin, fair; Greenings, good; Russets, Ben Davis and fall varieties, light; strawberries, heavy.—J.E.J.

ESSEX CO., ONT.

Ruthven.—Strawberries, good crop; peaches and plums, good. In apples, Kings, Greenings and Ben Davis are heavily load-

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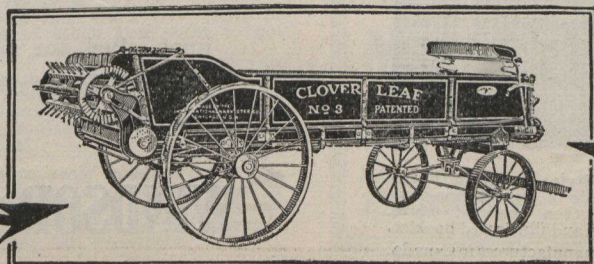
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ed; very few Baldwins or Spys. Pears promise a good crop.—J.O.D.

SIMCOE CO., ONT.

Craighurst.—Early apples will be light on account of the large crop last year; fall apples, medium. Winter varieties are setting a large crop. Pears are better than ever known here. Small fruits will be above average.—G.C.C.

BRUCE CO., ONT.

Walkerton.—Strawberries will give half a crop; raspberries, currants and gooseberries, full; cherries, good; plums, medium; early apples, light; winter apples promise a full crop, especially Spys, Fameuse, Greenings, Ben Davis and Mann.—A.E.S.

BRITISH COLUMBIA.

In his report after a tour through the province, early in June, Mr. Maxwell Smith, Dominion fruit inspector, sums up the conditions as follows: The apple crop will be good all through the province; pears will be light; plums and prunes promise well; peaches will be very light owing to the severe weather; strawberries will be about half a crop; cherries are in doubt; while raspberries and blackberries promise a full crop.

A Visit to Fruit Growers

An editorial representative of THE CANADIAN HORTICULTURIST visited a number of fruit growers in Oshawa, Bowmanville, and Newcastle last month. Some excellent orchards were seen. Most of the bearing orchards of the locality appeared to be well cared for, and many new ones have been set out.

The Oshawa Fruit Growers Limited is an organization that is progressing and that has been of great benefit to the growers of that district during the four or five years of its existence. Mr. W. H. Stainton, of Oshawa, gave an illustration of the value of co-operation. From an orchard, mostly Spys, he took 260 barrels last season. His net returns for this was \$565, or an average of \$2.17 a barrel. As buyers were paying only \$1 to \$1.25 a barrel, Mr. Stainton's profit due to co-operation can easily be calculated.

The value of thinning apples was referred to by many of the growers. Mr. Elmer Lick, of Oshawa, stated that it is particularly necessary with heavy bearing varieties, particularly on Wageners. Mr. W. H. French, of the same place, said that the saving of labor at harvest time will more

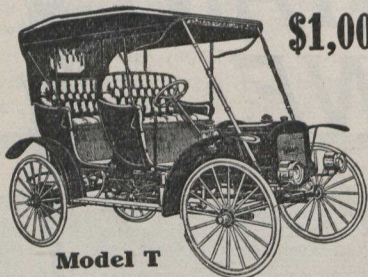
than pay for the cost of thinning and that the work gives big profits in increased size, quality and color of fruit.

Some valuable information was given by Mr. E. C. Beman, of Bowmanville, on the culture of pears. Other pointers of interest were picked up from various growers and will be referred to in later issues of THE CANADIAN HORTICULTURIST. The prospects for fruit in the district seem to be good with the exception of Baldwin apples, which are bearing well in some orchards and a failure in others. The blister leaf-mite is causing some damage on apple and pear trees.

Fruit growers will be interested in an article on "Thinning Fruits" that appears in the July 1st issue of *Farm and Dairy*, one of the companion papers of THE CANADIAN HORTICULTURIST. The article gives the experiences of men who have practised thinning and it shows that the work brings profitable results. Being a general farm paper, *Farm and Dairy* publishes in each issue a number of practical articles on fruit growing and gardening, in addition to information and discussions on all questions that have to do with the farm, dairy, live stock, poultry and the home.

I am much pleased with THE CANADIAN HORTICULTURIST, and find in it many useful hints that have helped me considerably. The paper is all that could be desired and I consider it well worth the money.—T. M. Gavaza, Truro, N.S.

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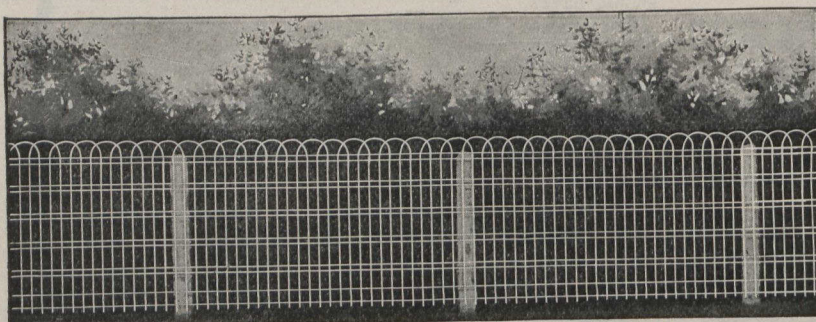
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Arsenate of Lead

Editor, THE CANADIAN HORTICULTURIST: I have noticed with considerable interest the articles in the June issue of your valuable paper in reference to spraying, and we wish to compliment THE CANADIAN HORTICULTURIST on the excellent campaign it is conducting to actively bring the attention of growers to thorough and effective spraying.

There have naturally been many conflicting opinions with regard to the proper poisons to use for the destruction of leaf-eating insects. Each poison has its strong supporters, but the majority of experts and authorities throughout Canada and the United States have adopted arsenate of lead as a safe and sane spray.

The writer has noted an article in your recent issue advising the essential specifications for arsenate of lead. It may be of interest to your readers to know that we have been conducting an active campaign in the United States for the past two years for a National Pure Insecticide and Fungicide Act along the lines of the Pure Food and Drug Act. This bill was drawn and fathered by the Association of Economic Entomologists, assisted by the Official Association of Agricultural Chemists. The more representative manufacturers of the various insecticides and fungicides have given this agitation their strongest support, although naturally there has been considerable opposition from some quarters. A section from the bill with regard to arsenate of lead is quoted herewith:—

"Section 7. That for, the purpose of the Act an article shall be deemed to be adulterated—in the case of arsenate of lead:

"1. If it contains more than 50 per cent. of water;

"2. If it contains total arsenic equivalent to less than 12½ per cent. of arsenic oxide (As 2 O₅);

"3. If it contains arsenic in water soluble forms equivalent to more than 0.75 per cent. or arsenic oxide (As 2 O₅);

"4. If any substances have been mixed and packed with it as to reduce, lower or injuriously affect its quality or strength, provided however, that extra water can be added to lead arsenate (as described in this paragraph), if the resulting mixture is labelled "Lead Arsenate and Water," the percentage of extra water being plainly and correctly stated on the label."

The above is lowest form of lead arsenate which will be permitted to be sold as such under the meaning of this Act.

In the gypsy and brown tail moth infested area tributary to Boston the Government and state departments, who have supervision of the work for the suppression of these

moths, after very careful investigations are demanding the following specifications:

"1. Not less than 50 per cent. actual lead arsenate;

"2. Total arsenic equivalent to not less than 15 per cent. arsenic oxide (As 2 O₅);

"3. The material must not contain arsenic in water soluble forms equivalent to more than 0.75 per cent. arsenic oxide (As 2 O₅);

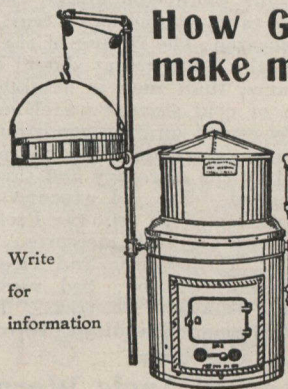
"4. The arsenate of lead to contain no injurious or inert ingredients."

These latter specifications as required in the biggest consuming field in the country have been found to be essential and were drawn by the best experts in the work. Only a few of the manufacturers this season have been able to furnish a product that will uniformly conform to the above specifications.

I note that in a recent article in your paper it was advised not to buy any arsenate of lead, unless it had a guaranteed analysis of at least 16 per cent. poison. We presume that by this the party meant at

least 16 per cent. arsenic oxide. This is a very well-taken point, but is not wholly necessary as 15 per cent. arsenic oxide will destroy any leaf-eating insect if properly applied. Therefore, if a brand of arsenate of lead is offered which is guaranteed to contain at least 15 per cent. arsenic oxide, then the essential specifications which should be required are that the material be properly combined with lead oxide, so that it may have sufficient carrying and adhesive qualities, and still more important that it have less than 0.75 per cent. of soluble arsenic.

Such a guarantee is offered by The Grasselli Chemical Co., on Grasselli brand, which not only covers the actual arsenic oxide contents, but also covers every essential point which is necessary to make up a uniform product of the highest quality. A good motto to always have before one is: For effective spraying, obtain the best material, beat the bugs to the foliage, and above all, be thorough."—R. G. Harris, Cleveland, Ohio.



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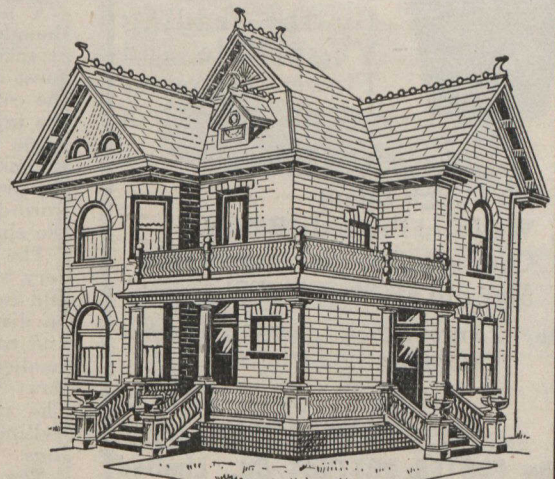


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Co-operative Growers Meet

At the annual meeting of the Co-operative Fruit Growers of Ontario, held in Toronto June 15, the question of securing incorporation for the central organization was discussed. It has been felt by this body that this step is necessary in order to do the best

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work for the local associations. Incorporation would enable the organization to act as buying and selling agent for affiliated associations. It is not probable that the central body will do much in the way of selling for a while, but it can render valuable service in purchasing supplies and, thereby, saving a considerable sum for the local associations. The executive was instructed to proceed in this matter as soon as possible.

In his report, which was read by the secretary, Inspector Backus pointed out that one man can not satisfactorily do all the work in this connection that is required by him and that other instructors should be appointed this season. He reported that outside buyers are constantly endeavouring to break up the co-operative movement and that the associations should, therefore, stick together and work harmoniously. He pointed out also that the associations that are practising up-to-date methods in spraying, pruning, cultivation and thinning and so forth, are the ones that are producing the most No. 1 fruit.

The need for more cold storage facilities for storing and shipping fruit was strongly advocated. The feeling of the meeting was that the Government should render more assistance than now is available for the erection of cold storage warehouses.

The weekly report on crop conditions and prospects with information on prices will be continued by the secretary and this work will be extended. The old executive committee was re-elected as follows: President, D. Johnson, Forest; 1st vice-pres., Robt. Thompson, St. Catharines; 2nd vice-pres., Jas. E. Johnson, Simcoe; 3rd vice-pres., Elmer Lick, Oshawa; sec.-treas., P. W. Hodgetts, Parliament Buildings, Toronto.

The Lesser Apple Worm

L. Caesar, Ontario Agricultural College

The publication of a bulletin on the "Lesser Apple Worm" by Professor Quaintance of Washington, D. C., in Jan. 1908, aroused no small alarm last summer among apple growers lest a new pest with similar habits to the codling worm might be in our midst.

The lesser apple worm received its present English name from Dr. Fletcher and was reported by him as present in Ontario several years ago, so that it is not a new insect. Its native food is apparently the fruit of the hawthorn. It will, however, also attack the apple and more rarely the plum. Dr. Fletcher seemed to think that the insect, although doing some injury in several provinces of Canada and especially in British Columbia, was not destined to become very destructive.

A number of fruit-growers last year thought that their apples were severely attacked by this pest, but when, at the request of the writer, specimens were sent to the college, not more than five per cent. of the injury could be attributed to the lesser apple worm. In our own observations last summer and autumn in different parts of the province, only a small percentage of the worm-injured apples in any orchard showed the characteristic work of the insect.

The lesser apple worm has a life history very similar to that of the codling worm, and in the worm or larval stage it can only be distinguished from the latter by a close and careful study. It is, however, slightly smaller, never becoming more than about three-eighths of an inch long when full grown. The moth is about the same size as the codling moth but quite different in markings.

The injury done to the fruit differs from that of the codling worm in that the worms feed near the surface of the apple, seldom going to the core. Most of the injury takes

the form of shallow cavities around the calyx end, often accompanied by blotch mines eaten in an irregular manner under the adjoining skin. A considerable proportion of ugly, irregular, blotch mines are also made on the sides of the apple, especially where a leaf or another apple touches it. These shallow surface injuries greatly disfigure the fruit and render it unsaleable. Although no definite experiments have, so far as we know, been conducted, yet it is believed with good reason that the same spraying as controls the codling moth will also control this pest.

The Cabbage Root Maggot

Prof. W. Lochhead, Macdonald College

In a recent report issued by the State Entomologist of Minnesota on the results of two years' experimentation with many substances for the control of the cabbage root maggot, Professor Washburn states that the best results were obtained by the use of a decoction of hellebore. The mode of treatment is as follows:—

"Steep two ounces of white hellebore in one quart of water for an hour, then dilute with water to make one gallon of the decoction. Apply with watering can, from which the rose has been removed, a few days after plants are set out; five days later apply again, and a third application five days after the second. Use the solution five or six times more, at weekly intervals. It takes approximately between two and three hours to treat 1,000 plants, and the material required for this number costs 50 cents at retail. About a teacupful is poured around each plant." The following experiments were tried:—

1. Dipping plants in arsenate of lead solution (10 different experiments with this substance); not satisfactory.
2. Surrounding the base of the plants with bran and glue, with sawdust and glue, and with bran, paris green and glue; not satisfactory.
3. Sprinkling a thin paste of carbolic acid and lime about the base of each plant; not satisfactory.
4. Spraying the plants three times at intervals of five days with carbolic acid emulsion; not satisfactory.
5. Spraying the plants with a decoction of hellebore.
6. Fitting tarred paper and tarred felt cards tightly around the bases of the plants.

Satisfactory results were obtained with the tarred felt cards, but not with the tarred paper cards. These results are interesting, for they explain the failure of many growers to grow cabbages successfully when tarred paper cards were used to prevent the young maggots from crawling down to the roots. It makes a big difference whether felt or paper is employed. Our cabbage growers should try again the tarred felt cards and determine if they have better results than they had when they tried the tarred paper.

A Colonial Training School has been established at Waterville, N.S., with Miss Eunice Watts as principal. The object of the school is "to give women with capital who desire to buy land, a thorough knowledge of the country and its customs before settling in Canada." The course will include horticulture in all its branches, poultry, agriculture, dairying, forestry and many other subjects, a knowledge of which is necessary on the farm. For further information write to Miss Watts.

I like THE CANADIAN HORTICULTURIST very much and would not be without it as long as I am engaged in fruit growing.—E. F. Robbins, Kings Co., N.S.

A Valuable Bulletin

Reviewed by Prof. W. Lochhead

The Ontario Department of Agriculture has published a valuable Bulletin, No. 171, on "Insects and Fungous Diseases Affecting Vegetables," prepared by Dr. Bethune and Messrs. Eastham and Howitt of the Ontario Agricultural College.

The chief injurious insects and fungous diseases of the various vegetable crops are described at some length, so that the reader may understand the history and mode of life of each pest discussed. The illustrations that accompany the text aid very materially in the identification and understanding of the forms described.

Considerable trouble has evidently been taken to give clear and explicit directions for the control of the insects and fungi under consideration. In some cases it will be claimed that there is need for more effective and practicable remedies, but it can be said that the remedies advocated are the best that have as yet been discussed. Formulas are given for the preparation of the main insecticides and fungicides that the vegetable grower will have occasion to use.

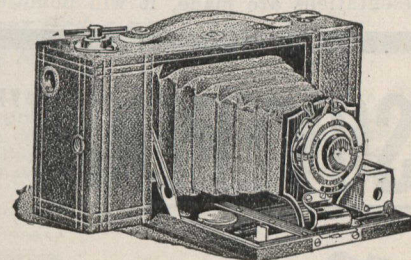
The appearance of this bulletin within three years of the publication of Bulletin No. 150, by Messrs. Lochhead and Jarvis, dealing with the same subject, indicates a widespread interest, and a need for more information on an important phase of work. The bulletin is one that should be in the hands of every vegetable grower.

A Motor Car For \$550.—In view of the prices charged for the conventional type of automobile, it seems hardly possible for a thoroughly satisfactory automobile to be sold at \$550; yet, the Tudhope-McIntyre Co., of Orillia, Ont., have succeeded in doing it, by making a new type of machine. Discarding altogether the low wheels with their costly and troublesome pneumatic tires, and the heavy construction of the ordinary auto, they have followed the lines of the universally popular buggy, with its smooth riding high wheels, puncture and trouble-proof solid rubber tires, resilient full elliptical springs and light weight. With its air-cooled, two-cylinder engine, the Tudhope-McIntyre Motor Carriage weighs less than 1,000 pounds, while the average auto weighs a ton. It has speed of from 5 to 25 miles an hour, and will easily cover 25 miles on one gallon of gasoline. The total cost of running it, including gasoline, oil and repairs, averages very little over one cent a mile, while the ordinary auto costs five cents a mile or more for tires alone. For the doctor, the merchant, the lawyer, the salesman, the real estate man or the farmer the Tudhope-McIntyre Motor Carriage costs rather less than a horse and buggy, and is much more convenient and serviceable.

The St. Catharines Cold Storage and Forwarding Co., St. Catharines, Ont., is experimenting with shipments of strawberries to Winnipeg and other points in the West. Should the attempt prove successful all that stands between the growers and the Western markets is excessive express

rates. The growers of the Niagara district want a through rate to the West and are waiting for the Dominion Railway Commission to adjust this and other matters that have to do with express rates on fruit.

Anybody Can Kodak



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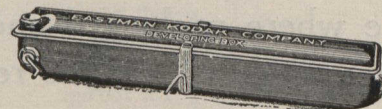
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The Kodak simplicity and the Kodak daylight loading features are all embodied in the Pocket Brownies. Made in the same factory and by the same skilled workmen who manufacture the Kodaks they have in them a quality that would not be possible under any other conditions.

They are not made of the most expensive material but they are carefully made by perfect machinery in large quantities and each one must undergo the regular Kodak inspection. They are not expensive but they stand the one and all important test, they work. Their equipment is such that they are perfectly adapted to snap-shots or time exposures and the amateur may, by providing a Dollar Brownie Developing box, do his own developing without a darkroom; or may leave it to another—just as he chooses.

The No. 2 Folding Pocket Brownie makes pictures $2\frac{1}{4} \times 3\frac{1}{4}$ inches, loads in daylight with Eastman N. O. Kodak film for 6 exposures, has a meniscus lens of $\frac{1}{2}$ inch focus. Has our improved Pocket Automatic Shutter with iris diaphragm stops, has a reversible finder and two tripod sockets. By means of the automatic focusing lock it may be used either as a fixed focus or a focusing camera as desired. Measuring but $1\frac{1}{2} \times 3\frac{1}{2} \times 5\frac{1}{2}$ inches and weighing but 16 ounces it is in every sense a pocket camera. Handsomely finished and covered with the finest imitation leather. Durable, sensible, practical, inexpensive to operate. PRICE, \$6.00.



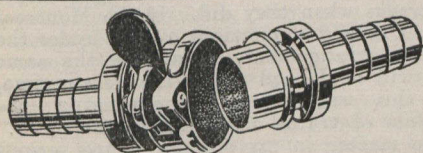
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This little box has made the developing of negatives as simple as "pressing the button." Any amateur can now develop his own film with the certainty of getting the best possible results from every exposure. No dark room for any part of the work. Every step is easy with a Brownie Developing Box. PRICE, \$1.00. Ask your Dealer to show you, or write us for the 1909 Kodak Catalogue

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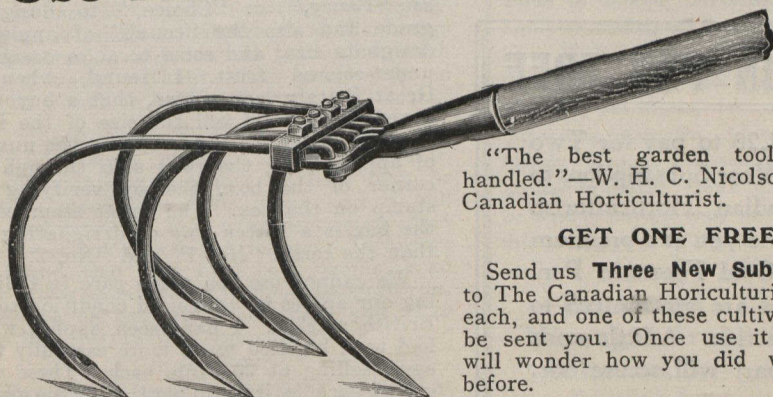
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THE CANADIAN HORTICULTURIST, Peterboro, Ont.

The Daylight Saving Bill

Editor, THE CANADIAN HORTICULTURIST,—The measure which was brought before the House of Commons during the past session and which is commonly known as the "Daylight Saving Bill," has been referred to a select committee to obtain evidence, and will no doubt be brought before the House again next session, and, unless strong representations are made, it will doubtless

become law. This bill will vitally affect fruit growers and farmers generally, particularly those branches of agriculture which have anything to do with the catching of trains.

In the first place, it seems to me that the measure is intended to benefit a class of people who already have too much consideration at the hands of our Legislatures. It is proposed to put the clock back 80 minutes so that the city man will get up an hour and twenty minutes earlier than is his usual wont and that there will be that length of time for recreation after the close of business. If the measure becomes law, it means that the railway time tables will be made to conform to the new state of affairs, and the farmers who have to ship their milk to the city on the early morning trains, and who are obliged to

start milking anywhere between half past four and five in order to accomplish this, will virtually have to start their operations an hour earlier. I feel quite confident that the majority of farmers do not realize what this means. The farmer does not need to have the clock put back, as his business calls him early in the morning, and in the busy season such as haying and harvest, very often necessitates his working quite late in the evening. An hour and twenty minutes tacked on to the beginning of his day to suit city men who are too lazy to get up in the morning, is asking too much when one considers the very large proportion which the farmers form of our total population. With the fruit growers, especially in the Niagara district, the change of time will affect them at the latter part of the day, especially during the summer and fall, during the picking season. All those engaged in this business will remember that it is a very common thing to have to wait until the dew has become dried up on the bushes and trees before one can pick. This is particularly so in connection with berries, and if the trains are scheduled to start one hour and twenty minutes earlier than they are at the present time, it simply cuts that much time off the picking day.

A committee was formed last winter to confer with the representatives of the Canadian and Dominion Express Companies, to induce them if possible to rearrange our service, so that the growers would have a longer time to pick, but their great excuse was that they must be into Montreal in time for the early morning market, and in order to do this, it was necessary to start the trains when they did. If the Montreal market is held about eight o'clock under the present arrangement, I suppose the same time will hold good under the new regime, and this will necessitate arranging the schedule of trains according to the clock.

The matter in my opinion is too serious to be allowed to pass without some protest, and I therefore take the liberty of bringing the matter before you, and if the city men want to save the daylight, let the manufacturers open their factories at half past five a.m. and close at half-past four; they will then accomplish the same thing without adopting the childish method of putting the clock back.—A. E. Kimmins, Winona, Ont.

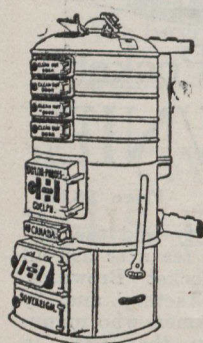
Export Apples in Boxes

J. A. Webster, Sparta, Ont.

On apple boxes there is no use for the terms, "No. 1," "No. 2," or "No. 3," all boxed apples being clear of defects. I would advocate the use of some term, such as "Fancy," or "Choice," to designate grade and also the "count" of apples to designate size, and some term to designate under-colored fruit. I found, when in Great Britain last winter, that a buyer of boxed fruit could tell the size of the fruit that he was getting by counting the number of apples along the rows seen through the corner of the box, thereby verifying the stamp on the box. The count stamped on the box is a better way of designating size than the terms "No. 1" and "No. 2."

We cannot use too much care in delivering our apples in unbruised condition to the British market. I have seen apples, which had been handled much more carefully than eggs, selling at 20 cents each. These were stored each in its own nest of tissue paper, ranged on shelving about the wall. They were of varieties no better than our Canadian best varieties, but without a flaw or bruise.

"SOVEREIGN"



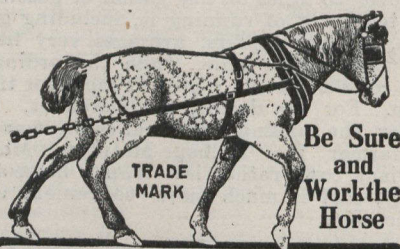
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If you use Bickmore's Gall Cure your teams can work right along and be cured of Saddle and Harness Galls, Chafes, Rope Burns, Cuts, Scratches, Grease Heel, etc. while in harness. The more work the quicker the cure.

BICKMORE'S GALL CURE

is the standard Remedy for all these and similar troubles. Is excellent for Mange and Sore Teats in cows. Above trade mark is on every box. For sale by dealers. Money refunded if it fails. Sample and Horse Book every farmer should read.

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Send us \$1.20 to pay for Two New One Year Subscriptions to The Canadian Horticulturist. We will send you as a premium a 14 kt. Gold Fountain Pen. These pens are guaranteed to give satisfaction. A little work on your part will secure one.

The Canadian Horticulturist
PETERBORO, ONT.

COMING EVENTS

Under this heading, notices of forthcoming exhibitions and meetings of horticultural importance will be published. Send the information as long in advance as possible.

CONVENTIONS.

Oka, Quebec Pomological Society, Aug 24-25
Toronto, Ontario Fruit Growers' AssociationNov. 10-11.
St. Catharines, American Pomological SocietySept. 14-16.

EXHIBITIONS.

Calgary, Alberta ProvincialJuly 5-10.
Fredericton,Sept. 14-23.
Halifax, Nova Scotia Provincial, Sept. 2-10.
London, Ont., Western Fair..Sept. 10-18.
New WestminsterOct. 12-16.
Ottawa, Central CanadaSept. 10-18.
St. Catharines, Niagara Dist., Sept. 15-17.
Toronto, Canadian National, Aug. 26-.....Sept. 10.
Toronto, Ontario Horticultural, Nov. 9-13.
VictoriaSept. 20-25.
Winnipeg IndustrialJuly 11-17.

Farm 'Phone Solves' Problems.—That much-vexed question of keeping the boy on the farm is no longer a real problem. The farmer's telephone is the solution. With one installed in the home, the young folk can keep in constant touch with their preferred associates, they gain that social atmosphere so necessary to their contentment, and they find little charm in the thought of getting away from the farm-life or in crowding into the swarming centers of population. With a telephone at his service, every farmer can so regulate his purchase and his sales as to buy at the bottom of the market and sell at the top of it. The telephone makes him independent of the hearsay, often untrustworthy, assertions of the city man's daily newspaper; for the 'phone gives him ready communication with first-hand sources of information as to prices, demand and prospects, and, as well, is the surety he has of the readiest aid in an emergency like fire, illness, or need. The educative literature distributed so widely cannot fail to show the farming community as a whole the tremendous advantage the farmer who is enterprising enough to instal a telephone possesses over his less progressive neighbor. Moreover, the extension of the use of this invaluable invention must have, also, a wide and worthy effect upon the social conditions of the time, inasmuch as it does such yeoman service in supplying an irresistible inducement to the younger generation to follow the trade of the elder—a trade without which every city on earth would be bankrupt.

Use Arsenate of Lead:—To poison Bordeaux mixture, arsenate of lead may be used instead of Paris green and it will do better work. It is more certain in effect and will not injure the foliage. To secure a brand that will give best results, read the advertisement of Chemical Laboratories, Toronto, on page iii of this issue and write to them for further information.

The horticultural experiment station at Jordan Harbor, Ont., was visited on June 23 by a party of cabinet ministers, departmental officials and newspaper men. Mr. H.

S. Peart, the director of the station, conducted the party over the farm and explain-

ed the work that has been done and the plans for the future.

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Houses, Barns and Implement Sheds

Whether you are building an implement shed, a granary or a house or barn, the most economical and durable building material is "Metallic"

For Barns: Corrugated Steel Siding and "Eastlake" Metallic Shingles make a barn absolutely fire, lightning and weatherproof.

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Send measurements for our estimates of cost.

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FOR FALL PLANTING

To Arrive in September and October

Full line of Fruit and Ornamental Trees, grown in the only section of the American Continent free from San Jose Scale. Bee supplies. Spray pumps. Iron Age and Planet Jr. goods.

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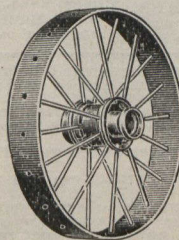
Branches of the Bank have recently been opened at **Cochrane**, the junction of the Transcontinental and T. & N. O. Railways and also at **Gowanda**.

Savings Department—Interest allowed on deposits at current rate from date of deposit.

Just Write for This Catalogue

Don't imagine this is the ordinary dull-reading catalogue, for it isn't. It is very interesting, very practical, and contains information of real value to anyone interested in reducing his hours of loading labor. It tells all about our Low Wide-tire Steel Wheels. Tells about their lightness, strength and durability. Tells why they are so easy on horses. Tells about our strong guarantee. Our different styles of Handy Wagons are also displayed and described in detail. Don't you think it would be wise to have a copy of this catalogue by return mail.

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That you know how to pronounce the names of plants correctly?

IF NOT

we will send to you, free of charge, a book that is

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Send One New Subscription at 60c a year and receive this valuable premium. This offer is good only for the month of July. **SEND NOW**

THE CANADIAN HORTICULTURIST
PETERBORO - ONT.

POULTRY DEPT.

Conducted by S. Short, Ottawa

At this time of the year, the poultry should prove more interesting than at any other. The hens should all be laying well and the chickens growing. The main care should be to provide clean sleeping quarters. If convenient, an outdoor roosting place should be provided, one with sufficient roof to shed the rain. A sharp outlook should be kept to see that vermin, that live in the crevices of the roosts, do not get an opportunity to increase to such numbers that they injure the fowl. Apply weekly a lice destroyer or kerosene to the joints of the roosts. Prevention is better than cure.

See that the young chicks get sufficient to eat. Rations that were ample a week ago, are too small now. With warm weather chick development takes place rapidly. It is wise, therefore, to nourish and stimulate that development and so bring the young stock to early maturity that the pull-ets will be ready to lay before winter.

Keep a sharp outlook too, that rats, cats and other depredations are not, in the night time, preying on the young stock. If there are a large number of chicks, the simplest way to count them is when they have gone to roost for the night. It is recommended that this be done at least once a week for great ravages may take place in a night or two and a large number of the chickens may be destroyed before it is known that some enemy is at work.

For our August issue, photographs and articles are wanted from New Brunswick and Prince Edward Island.

I find THE CANADIAN HORTICULTURIST very helpful in many ways. I am sending you two new subscriptions, and hope to send some more at an early date.—R. E. Caldwell, Annapolis Co., N.S.

2^{IN}1

SHOE POLISH

Stays Shined. Dust won't dull it. Rain won't spot it. Dampproof and waterproof. Keeps out moisture. Softens and preserves the leather. Just put it on, rub two or three times with a brush or cloth and a brilliant and lasting shine results. No substitutes even half as good.



10c.
and
25c
Tins

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IF YOU HAVE APPLES OR POULTRY TO CONSIGN

we can handle them for you to advantage. If apples are in car lots, write us and we can sell them for you f.o.b. your station.

THE DAWSON COMMISSION CO., Ltd.,

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Man-Power Potato & Orchard Sprayer.

Sprays "anything"—potatoes or truck, 4 rows at a time. Also first-class tree sprayer. Vapor spray prevents blight, bugs, scab and rot from cutting your crop in half. High pressure from big wheel. Pushes easy. Spray arms adjust to any width or height of row. Cheap in price, light, strong and durable. **GUARANTEED FOR 5 FULL YEARS.** Needn't send a cent to get it "on trial." You can get one free if you are first in your locality. Write now.

Horse-Power Potato & Orchard Sprayer.

For big growers. Most powerful machine made. 60 to 100 gallon tank for one or two horses. Steel axle. One-piece-heavy-angle-iron frame, cypress wood tank with adjustable round iron hoops. Metal wheels. "Adjustable" spray arms and nozzles. Brass ball-valves, plunger, strainer, etc. Big pump gives vapor spray. **Warranted for 5 years.** Try this machine at our expense with "your money in your pocket." See free offer below. Write today.

Fitz-All Barrel Sprayer.

Fits any barrel or tank. High pressure, perfect agitation, easy to operate. Brass ball-valves, plunger, strainer, etc. Automatic strainer. No "cup leathers or rubber" about any of our sprayers. Furnished plain, mount on barrel, or on wheels as shown. 1 year guarantee. It don't cost you "a cent" to try it in your orchard. Get one free. See below. Write today.

FREE

—Get a sprayer FREE.—After you have tried the sprayer and are satisfied that it is just as we recommend it, send us a list of the names of your Neighbors and we will write them and quote them price and have them call and see your machine work, and for every Fitz-ALL Sprayer we sell from your list we will credit you with \$2.00 or send you check if you have paid cash.
For every Man-Power Potato & Orchard Sprayer we sell we will credit you with \$3.50 or send check.
For every Horse-Power Potato & Orchard Sprayer we sell will credit you \$8.50 or send check.

We do all corresponding and selling. All you need do is show the sprayer. Many have paid for their sprayers in this way. This offer is good for only the first order in each locality. Don't delay. Send the coupon or post card NOW.
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COUPON—Fill out and send today. This Coupon will not appear again.

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Send me your Catalog, Spraying Guide, and "special offer" on the sprayer marked with an X below.
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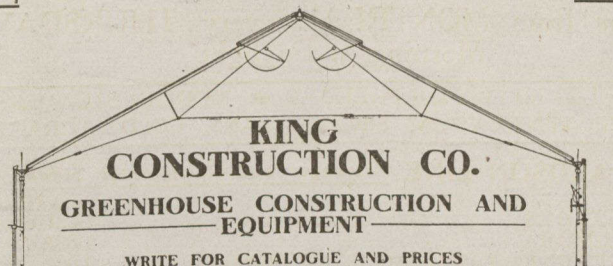
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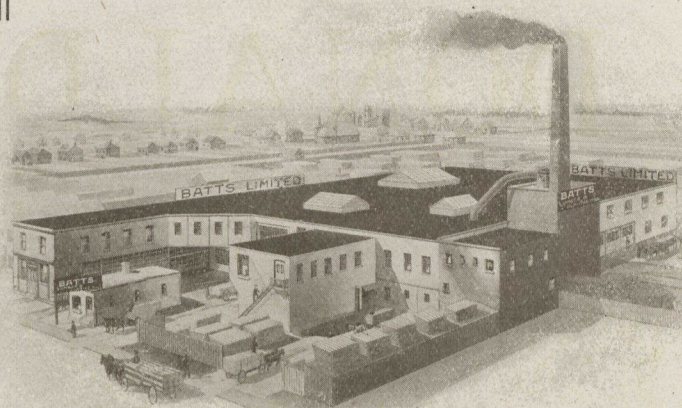
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Write and tell us the kind of houses you desire to erect or ask for question blank and we will mail you our descriptive bulletin by return of mail.

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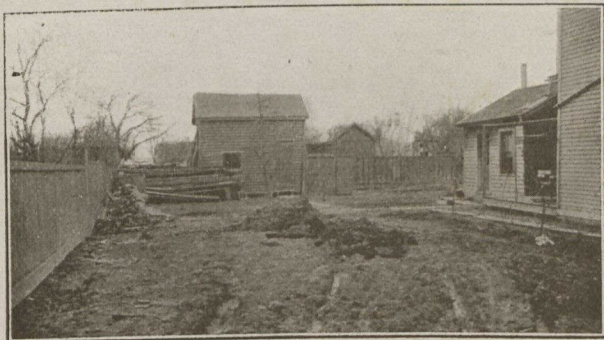
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town lot too small for us to develop according to your desires. We want you to feel free to use this department at any time. Call upon us if you desire a re-arrangement of your place. We are glad to undertake any work along this line. If our plans please you we shall be glad to supply you with stock necessary to carry out the scheme.

Beautiful 200-page Catalogue

The New VIOLET BLUE ROSE

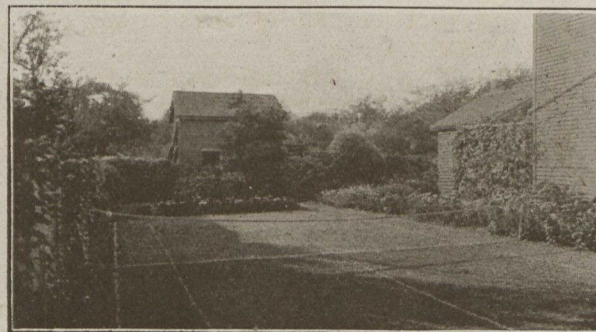
The New Rambler (Violet Blue), hailed by the German rose growers as the forerunner of a genuinely corn-flower blue rose, is a seedling of Crimson Rambler, very vigorous and hardy.

ROSE TAUSENDSCHON

This is a very beautiful New German Rose. In English "Tausendschon" means Thousand Beauties. The most sensational Climbing Rose yet introduced, not barring the great Crimson Rambler.

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WE are pleased to furnish planting plans, designs for formal, old-fashioned and rose gardens. We have practical and artistic experts on landscape development in every branch and are glad to advise on every detail. No estate too large—no city or



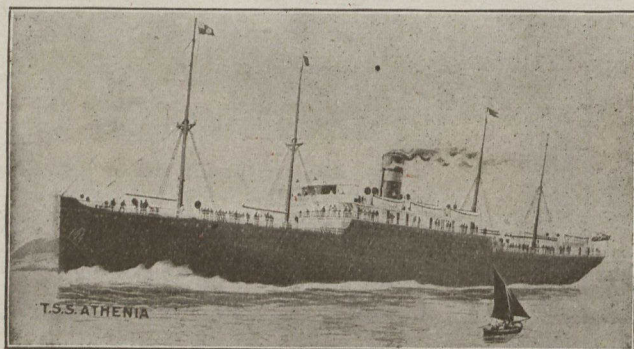
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The Twin Screw Steamers "ATHENIA" and "CASSANDRA" have splendid one class cabin accommodation, which enables passengers to travel in comfort at second cabin rates, from \$42.50 to \$60.00; Third class, \$26.50 to \$31.00. Other steamers of the line carry cabin passengers only at \$42.50.

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S. S. ALMORA	4,385 "
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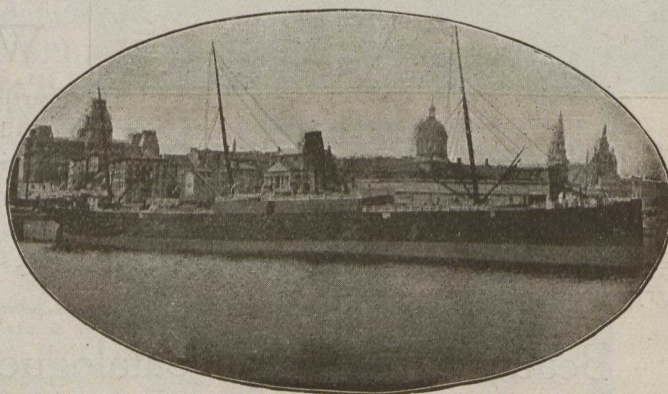
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SAILINGS FROM MONTREAL EVERY SATURDAY MORNING AT DAYLIGHT

The Pioneer Steamship Line in the Montreal-London service, running vessels fully equipped with modern Cold Storage and Cool Air Compartments for the proper carriage of APPLES, CHEESE, BUTTER, BACON and all other perishable cargo.

THOMSON LINE Atlantic Refrigerator Service

S. S. BELLONA	4,050 tons
S. S. CERVONA (Cold Storage and Cool Air)	6,000 "
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