

THE CANADIAN HORTICULTURIST

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PETERBORO, ONTARIO

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FOR FRUITGROWERS, MARKET GARDENERS & AMATEUR HORTICULTURISTS
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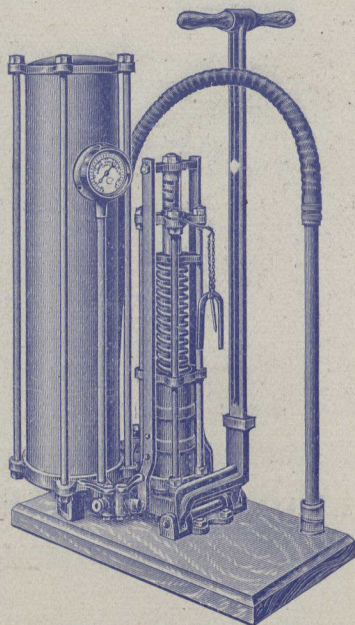
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WITH the general development of the country, the increasing amount of travel and unprecedented prosperity, the many thousands of acres of public parks and innumerable private estates developed into beautiful landscapes, has come a general love for the beautiful in nature. This has been increased and intensified by the introduction of hundreds of valuable species and varieties of trees, shrubs and plants from various parts of this country and from foreign lands, so that we may now say, there is a tree or plant for every purpose.

All this has produced a widespread demand for expert advice on the subject of the improvement of public and private estates and city back yards, for the lack of which in many cases large sums are being expended that bring very little satisfaction. Plants and trees are sometimes selected that are entirely unsuited to the soil and conditions that prevail, or some "stock" design may have been obtained without consideration of the fact that it cannot possibly meet the requirements of different places wholly unlike in the character of soil, contour and exposure. The result is that the trees and plants placed among conditions foreign to their natures are unable to extract from the soil and atmosphere a proper nutriment to sustain life, to say nothing of making a vigorous, healthy growth, and in consequence they soon sicken and die, leaving their places vacant. Often it is well they do, for, at best, some of them would only make a conglomeration of disconnected specimens entirely out of harmony with one another.

A home is better planned and constructed for having the advice of an experienced architect, and the same is true of the landscape work required about a home. Even though the expenditure of but a small sum is contemplated it is better to spend this judiciously than at random. Well planned and planted grounds surrounding a house, make the whole an attractive home and bespeak the culture found within.



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Thorough tests at the Ontario Agricultural College and by expert fruit growers have proven the uniform high efficiency of VANCO Sprays. They are superior to other commercial brands and far handier and more reliable than home-made preparations.

VANCO

Lime Sulphur Solution

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contains more sulphur in solution in an active form than does any other preparation.

It is a clear liquid, with no sediment—all active material—and uniform in strength.

Being entirely free from small particles in suspension VANCO Lime Sulphur Solution sprays easily and does not clog the nozzles.

VANCO Lime Sulphur Solution is very easily prepared for use. Simply add 11 times its volume of water for winter or spring, and 50 times its volume for summer spray.

\$8.00 per bbl. f. o. b. Toronto.

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contains 15% to 16% Arsenic Oxide and not over 40% moisture average.

It is rapidly replacing Paris Green, as it is always the same strength, sticks far better, destroys insects more thoroughly and **never burns the foliage.**

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100 " kegs	11c	" "
50 " "	11½c	" "
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CANADIAN EVIDENCE, 1909

Clarkson, Ont., Nov. 17th, 1909.
MESSRS. WM. COOPER & NEPHEWS,
Toronto, Ont.

Dear Sirs:—I have pleasure in reporting to you the results of this year's spraying with your V1, V2 and V3 Spray Fluids, upon my orchard at Clarkson.

I sprayed in the spring very thoroughly with V1 at the dilution recommended, and before the calyx cups of the apples closed with V3 for codling moth. I am very pleased to report that my apples this year are free from scab than they have been for many years past. I have grown the best Flemish Beauty Pears that I have grown for a considerable period, and they are practically free from spot and blemish of any kind. A larger proportion of my apples graded No. 1 this year than last year.

I beg to inform you that I sprayed two rows of grapes with your V2 Fluid, and the result was most marked in the yield of fruit.

I am of opinion that your articles are much superior to any spray that I have before used. I have always in the past used Bordeaux, Paris Green and the Arsenates, and have not had such good results as from yours.

Yours truly,
(Sgd.) D. M. SHOOK.

Hespeler, Ont., Oct. 9th, 1909.
MESSRS. WM. COOPER & NEPHEWS,
Toronto, Ont.

Gentlemen:—In reply to yours of recent date re your Spray Fluids, I sprayed my fruit trees and bushes, and rose trees and shade trees, etc., with V1 in the spring of the year before the buds opened for the purpose of killing anything that might be on them. Then I sprayed with V2 just as the apple bloom was falling off, and I never had as clean a lot of fruit before. You ask how it compares with other spray mixtures. I say the V Fluids are A1, at the very top. The V1 as a spray before the buds open, I consider cannot be beaten. I had oyster shell bark louse on apple trees, and I tried whale oil soap, then kerosene, then Bordeaux, but they did not kill the louse, and they got all over the trees. They looked like scales all over, and I had almost decided to cut them out when I saw your advertisement in The Horticulturist. I sent to you at once and decided to try your Fluids, that is two years ago. Well, I got your V1, and the first spraying seemed to kill nearly all the scales (lice) and last year I had about 100 apples on the trees, and they were pretty clean. Now, this year the trees are quite clean and thrifty and as full of fruit as they can be. In fact, I have had to both thin them and prop them.

I have sold a pint each to two friends who have a few trees and they report excellent results on their trees. I shall continue to use your Fluids, and shall require some in the early spring or this winter.

Yours respectfully,
(Sgd.) R. DAVIS.

St. George, Ont., Oct. 11th, 1909.
MESSRS. WM. COOPER & NEPHEWS,
Toronto.

Gentlemen:—It is with much pleasure I reply to yours of recent date regarding the use of your V1 Fluid last spring. I used it on a young orchard that was literally covered with oyster shell bark louse. The trees were looking badly and fruit small. This season the fruit is excellent and foliage healthy looking, and bark is thoroughly cleaned off the bark louse. I intend using it next spring on all my apple trees.

Truly yours,
(Sgd.) H. R. NIXON.

Orono, 17-3-09.
MESSRS. WM. COOPER & NEPHEWS,
Toronto.

Dear Sirs:—Your Sprays, V1 and V2 were used on trees in my orchard badly affected with bark lice, especially on Ben Davis apples. The bark lice has been quite eradicated. My cherry trees are this year free from rot, and my orchard generally is greatly improved. I can strongly recommend your articles.

Yours truly,
(Sgd.) ALFRED A. ROLPHE.
Bowmanville, March 27th, 1909.

Dominion of Canada,
Department of Agriculture,
Middleton, N.S., Oct. 30th, 1909.
WILLIAM COOPER & NEPHEWS,
Toronto, Ont.

Dear Sirs:—Now, that the season is over, and the apples gathered in, I will fulfill my promise to give you my opinion of the V1 and V2 Spray Fluids. I used the winter spray, also the summer spray, and found that while the winter spray did not destroy all the canker worm eggs, these trees were not nearly so badly eaten, in fact not eaten enough to hurt the crop. As for the summer spray; I can also say there was some spot on the fruit, but the trees never looked so well and the fruit never grew so large as it did this season.

I believe the Fluids are really good and effective against fungus and insects.

Yours truly,
(Sgd.) G. H. VROOM.

Extract from letter from Mr. Maxwell Smith, late Dominion Fruit Inspector for British Columbia, dated September 3rd, 1909.

"I have sufficient evidence now to justify me in saying that I can conscientiously recommend your Spray material, and have personally demonstrated to my satisfaction the value of your Apterite."



REGISTRY OFFICE, County of Ontario.
Geo. W. Dryden, Registrar.
Whitby, Ont., July 31st, 1909.
MESSRS. WM. COOPER & NEPHEWS,
Toronto, Ont.

Dear Sirs:—Replying to your favor of recent date, would say I sprayed my orchard with V1 Fluid just before the buds opened. The result has been very satisfactory indeed. The Orchard-Shell Scale had made serious work, but your Spray has put a decided check upon its workings, and I am pleased to tell you that I like it better than any spray I have yet tried.

Yours sincerely,
(Sgd.) GEO. W. DRYDEN.

Falmouth, N. S. April 2nd, 1909.
MESSRS. WM. COOPER & NEPHEWS,
Toronto, Ont.

Dear Sirs:—Your V1 Fluid used on my orchard in 1908, was an undoubted success. My apples were clean and free from scab and were about the finest fruit I have picked. I used only your Fluids in spraying.

(Sgd.) H. O. DUNCANSON.

Bowmanville, Ont., 17-3-09.
TO WM. COOPER & NEPHEWS,
Toronto.

Dear Sirs:—Your Spray Fluids used on my orchard for two seasons have greatly benefited my trees and done much towards wiping out the oyster shell louse with which some trees were very bad indeed. My apples are practically free from scab and spot.

(Sgd.) S. J. HONEY.

Brighton, Ont., Oct. 15th, 1909.
MESSRS. COOPER & NEPHEWS,
Toronto.

Gentlemen:—No doubt by this time you are wondering why I am so slow in replying to your courteous letter of the 1st inst., this being the very day I commenced packing the fruit on a lot of the same trees sprayed with V1 and V2, also on some trees where Lime-Sulphur was used, and I took advantage of this opportunity to fully investigate the relative merits of two kinds of Spray, being side by side with each other for the whole length of the orchard (20 acres). You may be sure my inspection and observations were thorough, with glass in hand, and from tree to tree on either side of me—this tree sprayed with V1 and V2—that tree sprayed with Lime-Sulphur. After I had finished my job, I sat down on a barrel and rested, fully convinced that the bark louse that had threatened my entire orchard with destruction within two years, was now entirely free from the awful pest. Their shells were there in great numbers in many places, but their inhabitants were all dead, and the branches were now making a fine and very satisfactory growth, showing most conclusively that the sap had free course to the very tips of the branches, and was not being sucked up during its passage by millions upon millions of hungry insects, like a destroying army, thickly encamped on every part of the tree.

I think so far as the sale of the different Sprays is concerned in and around this locality, cost and ease of handling and application will have a lot to do in the matter. For instance, your Spray costs little or no more than Lime-Sulphur and can be handled with ten times the ease of Lime-Sulphur, but with Lime-Sulphur hard or well water can be freely used, while with V1 and V2 soft water must be used or the spray pump will not work more than about a barrel and a half before choking with the precipitation from hard water. All these things are being talked up from time to time, and occasionally create considerable controversy when about to use the sprayer in the spring.

Now, after all my observations, I am utterly at a loss to say which is the better spray of the two so far as effectiveness is concerned, as in my opinion both kinds have done their work nobly in my orchard, and done it in a much shorter time than I expected, for all of which I am very thankful, and wish hereby to acknowledge and give ample credit at all times and under all circumstances.

Yours very sincerely,
(Sgd.) J. E. SOLOMON.

Bowmanville, July 10th, 1908.
TO MESSRS. WM. COOPER & NEPHEWS,
Toronto, Ont.

Dear Sirs:—Having used a quantity of your V1 Fluid on my orchard, I find that the foliage is simply grand, could not be better, and I am satisfied that the Fluid has done extra good work in destroying the oyster bark louse, and other insects as well. There are simply no pests left on my trees.

(Sgd.) R. H. CALLACUTT.

Whitby, Ont., Sept. 1st, 1909.
TO WM. COOPER & NEPHEWS,

Dear Sirs:—I have pleasure in stating that I have used Cooper's V1, V2 and V3 Fluids this year with great success to control apple scab, oyster shell bark louse, etc.

My trees were in bad shape, but now, thanks to your Fluids, the fruit is quite clean and free from scab, and the oyster shell scale quite dead. I can also say that my trees never looked so clean and healthy as they do at the present time.

Having picked my "Duchess" apples, I am able to say that they are of good uniform size, a good color, and nearly all perfectly free from spots or blemishes; 98 per cent. will grade No. 1.

I am greatly pleased with the results and shall continue to use your Spray Fluids.

Yours faithfully,
(Sgd.) E. EDMUND STARR,
President, Whitby Horticultural Society.

The Canadian Horticulturist

Contents for February

Scene in Jackson Park, Peterboro Cover

Fruits and Fruit Growing

Lime-Sulphur vs. Bordeaux *L. Caesar* 25
 Raising Poultry Among Fruits *E. G. Cooper* 26
 Spraying the Vineyard *D. K. Falway* 26
 Spraying Ten Acres of Apples *M. C. Smith* 27
 Controlling Gooseberry Mildew 27
 Pruning Apple Trees *Wm. Rickard* 28
 Growing Dwarf Apple Trees *W. F. W. Fisher* 28
 Planting in Annapolis Valley *R. J. Messenger* 28

Flower Garden and Lawn

How to Grow Azaleas *C. M. Bezzo* 29
 Prize-Winning Lawn and Garden in Guelph 29
 Protection of Roses 30
 Street Planting in Winnipeg *G. Champion* 31
 Hints for Amateurs 32
 Sure Bloomers for Winter *L. W. Berclay* 33

Vegetables and Market Gardening

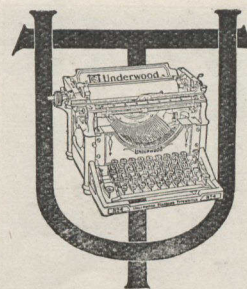
Melon Culture *Dr. J. Od. Beaudry* 34
 Facts About Potatoes *W. J. L. Hamilton* 35
 Fertilizer for Lettuce *F. T. Shutt* 35

General

Editorials 36
 Niagara Man in Okanagan Valley 37
 Tree Planting in Charlottetown *A. B. Warburton* 38
 What is a Crab Apple? 42
 Peaches in South-Western Ontario *J. L. Hilborn* 43
 Notes from the Provinces 47
 Poultry Department *S. Short* ix

INDEX TO ADVERTISEMENTS.

Bank 48
 Beverages 50
 Boxes and Baskets 40
 Cameras xi
 Commission Merchants 40
 Fencing ix, xii, xiv
 Fertilizers 46, 48, 49
 Flower Pots ix
 Furnaces and Stoves xi
 Gasoline Engines xii
 Greenhouse Material xviii
 Growers' Supplies 41
 Implements and Tools 46, 49, 52, xi, xii, xiii, xiv
 Incubators x
 Insecticides and Fungicides ii, v, vi, 41, 43, 47, 49, ix
 Nursery Stock iii, vii, viii, 39, 48, 49, 50, 51, 52, xiii, xiv
 Phonographs 44
 Pianos x
 Poultry ix
 Roofing Material 51, xvi
 Seeds and Bulbs iv, 46, 51, 52, xiii, xiv
 Spray Pumps ii, 47, 50, x, xii, xiii
 Steamship Companies xv
 Stove Polish 52
 Tea xii
 Telephones 45
 Typewriters vii



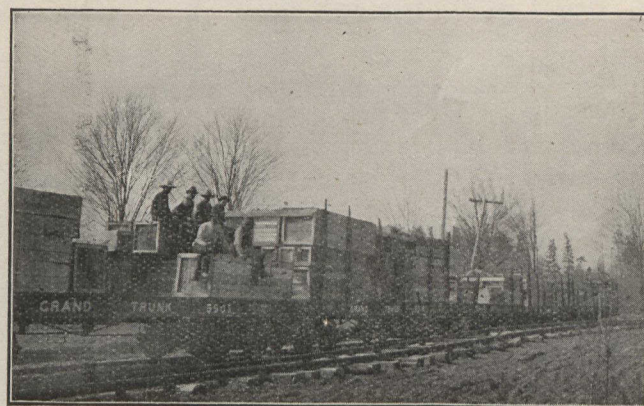
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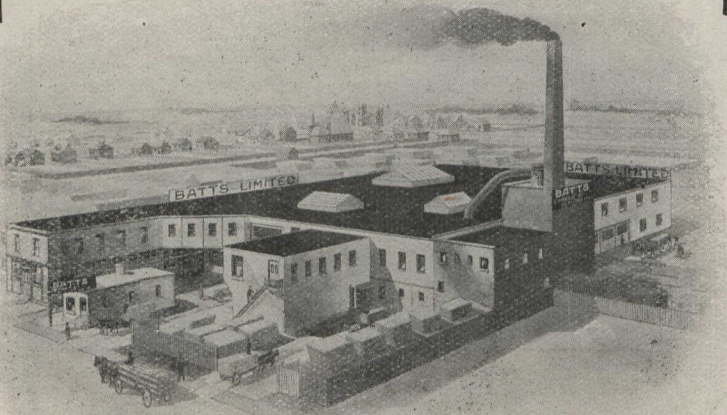
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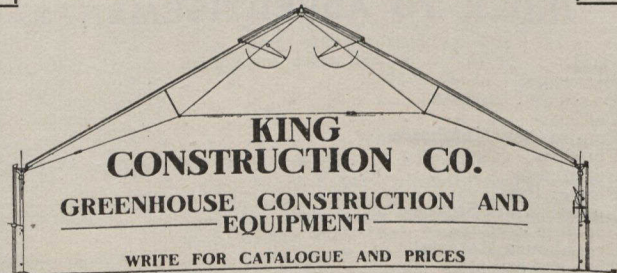
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The Canadian Horticulturist

Vol. XXXIII

FEBRUARY, 1910

No. 2

Lime-Sulphur vs. Bordeaux for Summer Spraying*

L. Caesar, Ontario Agricultural College, Guelph

BEFORE proceeding to the discussion of the value of lime-sulphur as a summer spray for apple and pear orchards let us first briefly call to mind the main fungous diseases of apple and pear orchards that require a summer treatment. In apple orchards the main one is clearly apple scab or black spot, as it is sometimes called. Less important diseases are the leaf spot and Baldwin spot. Black rot canker is a very serious disease attacking the trunk and branches but its main treatment must be before the buds burst; yet, as the summer treatment is also important we shall include it in our list. In pear orchards we shall only deal with pear scab, omitting the different kinds of leaf spot, because these are not often serious and lime-sulphur has not been tested on them. Pear blight, twig blight or fire blight, which are all the same disease, is not caused by a fungus and apparently cannot be controlled to any appreciable extent by spraying, so it is omitted.

In spraying for any of the above mentioned diseases it is clear that no mixture can be given a fair chance unless it is applied at the right time and in a thorough manner. Hence a word or two about these points.

To prevent most fungous diseases the spray mixture must be applied before the disease gets any chance to make headway; in short, it should be applied early enough to prevent the spores getting a chance to germinate. Hence the date of the first application is usually of special importance. For apple scab the first spraying should be shortly before the blossoms open. If left until the blossoms fall the disease gets a great start for the first signs of it are on the leaves about the time of the opening of the first blossoms. The second spraying should be just after most of the blossoms have fallen, which is the proper time to spray for codling moth; the third, either two or three weeks later. Of these three applications the first and second are by far the most important and should never be omitted.

Leaf-spot and canker are controlled by the same sprayings as the scab, except that canker requires a special spring ap-

plication in addition to these. It should be noted that leaf-spot is usually caused by the same fungus that causes the canker, namely, the black rot.

Baldwin spot appears much later in the season and so requires separate treatment. The first spraying for it should be about July 1st and the second about two weeks later. It is seldom, however, that it is so severe in Ontario as to make spraying necessary.

Pear scab begins earlier than apple scab and so requires that the first spraying should be made just as the buds are ready to burst. The second application should be just before the blossoms open, the third at once after the blossoms have fallen and the fourth about three weeks later. The early first application seems to be necessary for even fair results.

We all know that it is not only necessary to spray at the right dates but

Constantly Improving

Congratulations on the steadily increasing value of THE CANADIAN HORTICULTURIST.—W. A. MacKinnon, Canadian Trade Commissioner, Birmingham, England.

also to do it thoroughly. Most of us who have done much spraying know that it is very seldom that a really thorough job is done. The trees are often only half sprayed. Perhaps this in a number of cases is due to the old motto: "Stop spraying just before the leaves begin to drip." This is not a safe motto and our first rule should be: "Make sure that every leaf and fruit is thoroughly covered;" and second, "try to do this with as little waste as possible." One cannot emphasize this thoroughness too much. No man deserves real good results without it nor indeed is he likely to get them.

BORDEAUX VS. LIME-SULPHUR

Now let us pass to the mixture and the results. Bordeaux has for so long been the standard fungicide for all the above-named diseases of the orchard that it sounds almost startling to us at first to hear that it has a close rival in lime-sulphur. This wash either in the commercial or self-boiled form has been considerably experimented with in apple or-

chards as a summer wash especially the last two years. The results given are sufficiently good to show that it has much merit as a fungicide for apple diseases. They do not, however, show that it is a better fungicide than Bordeaux, so that those who "swear by Bordeaux" may still continue to do so.

SPRAYING FOR APPLE SCAB

Taking up first the results upon apple scab: Prof. W. M. Scott, of Washington, D.C., and Dr. Brooks of New Hampshire Experiment Station have each made a good many careful tests of both the self-boiled and commercial lime-sulphur upon this disease. Each report the commercial wash as giving almost as good results as Bordeaux. The self-boiled in last year's experiments, (1908) did not give quite so good results although it showed a fair degree of merit. It was, however, made with cold water instead of hot, which would almost certainly have given better results. I have not seen the reports of this year's work (1909) but from Dr. Waite's remarks at the American Pomological Society convention held at St. Catharines, I infer that Professor Scott has been much pleased with the way the self-boiled mixture has also controlled the scab.

In experiments conducted by myself at Guelph this summer I sprayed eight fairly large Snow apple trees with the Vanco brand of commercial lime-sulphur. The west side received the three applications at the times mentioned above, the east side owing to my enforced absence had to go without the middle spraying. For the first application a strength of one to twenty-five was used. This burned the leaves slightly so one to forty was used for the other sprayings and no injury resulted. The spraying was very thoroughly done. In September the fruit was examined and on the west side where three sprayings were given less than one per cent. of it was scabby; on the east, where the important spraying just after the blossoms fell had to be omitted, nearly fifteen per cent of the apples were scabby. The fruit moreover was free from russetting and the surface smooth and glossy. Similar results have been reported to me by correspondents. So that there is practically no doubt that

(Continued on page 39)

* A portion of a paper read at the last Convention of the Ontario Fruit Growers' Association. It will be continued in next issue.

A Plan for Raising Poultry Among Fruits

E. G. Cooper, Oakville, Ontario

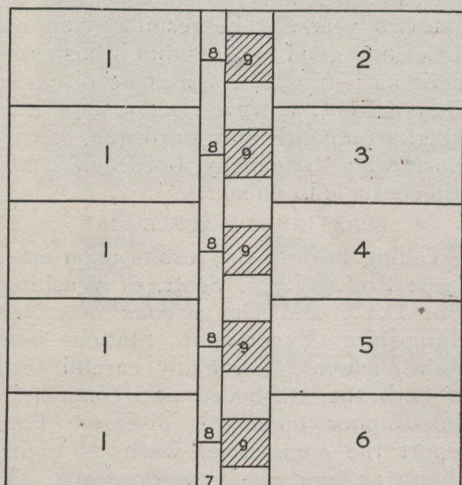
A COMBINED system of poultry and fruit raising may be outlined as follows. Take ten acres of good land. Sandy loam is most desirable. Run a division thirty feet wide through centre. Divide each half into five equal parts. (See the diagram). In the space opposite each division build a poultry house twenty feet wide and the desired length for 200 poultry making a

vate as soon as ground is dry and sow to grass seed or any other green crop or to grain.

As soon as the small fruits start to bloom shut off the runs into the small fruit divisions and let the fowls run in the divisions on the other side. When the small fruit is all gathered, change the runs to the divisions on the small fruit side. Then sow buckwheat in the spaces between the pears, apples, etc. As soon as any grain appears, change the runs again or let the fowls use both sides.

Plow the buckwheat under as a cover crop before frost sets in for the benefit of small trees. A few mangels can be grown for winter use as they are very beneficial as a regulation in winter time.

The fowls running on the land between the trees and bushes will fertilize them as well as destroy millions of insects which would otherwise be destructive. The production of eggs can be counted as a clean profit as the fowls would pay for themselves in the benefit the fruit would derive from them.



Plan for Ten-acre Fruit and Poultry Farm

1. About one acre in each division, containing apples, 40 feet apart each way, with plums, pears, peaches and cherries half way between the rows. Remove these fillers when apple trees need the room, say, ten years after planting. 2. Black currants. 3. Red currants. 4. Gooseberries. 5. Red raspberries. 6. Black raspberries. 7. Driveway, ten feet wide. 8. Temporary gates that can be opened or taken down when fowl are to run in divisions on that side. 9. Poultry houses.

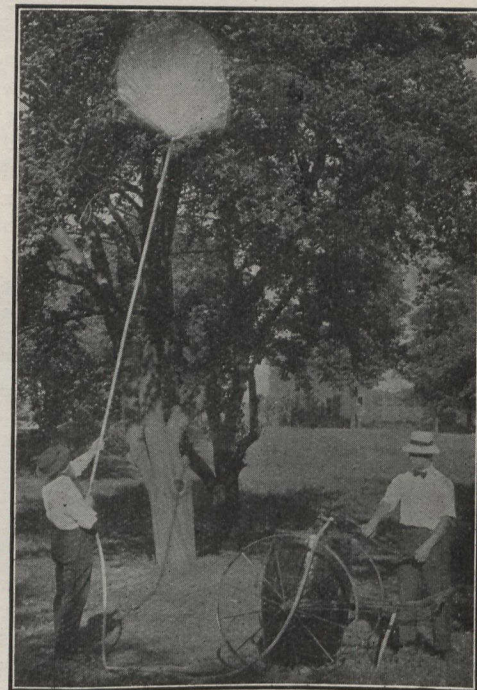
total house space for 1000 fowls. In each division on one side of the central space, plant small fruits, such as black currants, red currants, gooseberries, red raspberries and blackberries, and in the division on the other side plant pears, plums, peaches, cherries and apples. Do not plant strawberries, as this system would not be beneficial for them. The best breeds of fowl in my opinion are Barded Plymouth Rock, Minorca, Wyandotte, Orpington, Brown and White Leghorn.

Have the houses so constructed that the fowls may be let out into each division. Divide the divisions with wire netting as high as is required.

As soon as the soil can be worked in spring, cultivate between the rows of fruit and sow every morning the fowls' morning meal which should be grain. Good wheat is preferable to anything else in this line. Let the fowls work for their living by scratching and gathering their food. Exercise is good for them, and if the soil is fairly dry they will dust themselves. The noon meal should consist of soft feed, such as bran mash, scraps from dining table, and so on. A little pepper is good. In the evening feed the grain by sowing as in the morning. On the other side plow and culti-

remain red and unmarketable. The leaf hopper can be controlled by spraying the under side of the leaf with whale oil soap, using from twelve to fifteen pounds to 100 gallons of water. This should be applied before the hopper gets wings. Last season I killed seventy-five per cent. of the hoppers by this treatment.

"The most serious pest with us is the root worm or fidia, which has ruined thousands of trees in the grape belt. This



Hand Power Barrel Spraying Outfit

Manufactured by Goulds Manufacturing Co., Seneca Falls, N. Y.

Spraying the Vineyard

In the course of an excellent address on "Grape Growing in the Chautauqua Grape Belt," Mr. D. K. Falvay, Westfield, N.Y., gave the Ontario Fruit Growers' Association at its last convention the following information on vineyard pests and spraying:

"All vineyards should be sprayed at least twice for the 'root worm' and several times if affected with rot. Poisoned Bordeaux is used for the fidia or root worm, and also for the grape berry moth, which produces wormy grapes. The first application is made when the grapes are just past full blossoming, and the second application is made about ten or twelve days later. The material costs about \$1.30 cents an acre for each application if poison is used with the Bordeaux; with Bordeaux only, about 70 cents an acre. With water handy and a good walking team two men can spray fifteen acres in a day. From ten to twelve acres a day is, however, a fair average.

"The benefits from spraying are many. It will control the root worm, destroy the grape berry moth, prevent mildew, check black rot, prevent grapes shelling and keep the vines healthy. Sprayed vineyards have a better growth of foliage, which stays on the vines from one to three weeks longer than on unsprayed vines, thereby fully ripening the fruit and the wood.

"The 'thrip' or leaf hopper has damaged thousands of acres. This insect works on the under side of the leaf. It sucks the juice after the leaves fall but

year it was not so much in evidence. As a result of experiments by the state of New York it was demonstrated that the root worm can be controlled or at least reduced in number below the danger line. This work is performed by hoeing out the pupae when in the turtle stage, and by spraying just before the beetles feed on the leaves. Vineyard work should be done intelligently and at the proper time. No business will run itself."

The native black currant of Saskatchewan, though different in flavor from the cultivated sorts, is fully as palatable, and yields much better.

Orchard men in the strictly dry belt of British Columbia claim an advantage over slightly wetter sections where summer rains are not heavy enough to soak the ground yet necessitate much cultivation to preserve a dust-mulch to retain the winter moisture or irrigation water. Practical orchardists hold that after the one, two or three (in the case of an open soil and a bearing orchard) irrigations necessary, a stir with harrows every ten days or two weeks, keeps so perfect a mulch that trees can bring large crops to full size even in the dryest season.

Spraying Ten Acres of Apples: Cost and Results*

Max C. Smith, Burlington, Ontario

AN orchard of ten acres will contain on an average 400 trees. To operate a power outfit, the labor of three men is required—two men to handle the spraying rods and one to drive the horse. The labor of the first two at \$1.50 per day would cost \$3; the team and man, \$4.50; total, \$7.50. The capacity of a power outfit should average about 1,500 gallons daily. The cost per gallon therefore would be one-half cent.

For my first spraying, I use the commercial lime-sulphur at the strength of one to eleven. This is used just before the buds are opening. The concentrated lime-sulphur costs \$10 a barrel of forty gallons. Diluted at the strength mentioned, this would make 480 gallons of spraying mixture which would cost 2.08 cents per spraying gallon. Add this to the cost of labor per gallon and we have a total cost of 2.58 cents per gallon. The average tree will require five gallons of the mixture. At 2.58 cents a gallon, the cost per tree for the first spraying would be 12.9 cents.

For the second spraying for codling moth and fungi, which is done just as the blossoms have fallen, I use commercial lime-sulphur at the same cost per barrel but dilute it one to thirty, which makes 1,240 gallons at a cost per gallon of .83 cents. To this I add arsenate of lead which can be bought in small packages at 14 cents a pound or less. I use five pounds of this to 100 gallons of water. This makes the arsenate of lead cost .7 cents a gallon. The labor costs just the same for the second and third sprayings as for the first. For this second spraying, the total cost is 2.03 cents per gallon of spraying material. At five gallons a tree, this makes the second spraying 10.15 cents a tree.

The third spraying should be given ten days to two weeks later than the second. The cost is the same as the second, namely 10.15 cents per tree. The total cost therefore of the three sprayings per tree is 33.2 cents for the season. At this rate 400 trees on ten acres would cost for spraying \$132.80. By using four gallons per tree and eliminating the third spraying which is not necessary in all seasons, the 400 trees may be sprayed for \$73.76.

EQUIPMENT

I prefer gasoline engines for power because they are most efficient and the cheapest to operate. A gasoline engine can be operated for ten or fifteen cents a day for gasoline. The gasoline engine may be used for other purposes when not needed for spraying. I prefer a pressure of 175 pounds on the average.

High pressure is particularly necessary for the second spraying as you cannot drive the material into the calyx cups with a pressure of only sixty or seventy pounds. Use a pump of good capacity and one that will give the high pressure required. For best results use two large nozzles on each hose. Use the best quality of hose that you can buy. Spray thoroughly and use lots of material.

RESULTS

During the past season I sprayed about 100 acres of fruit, including apples, plums, pears, cherries, grapes, currants and gooseberries. The results with the currants were especially marked. The foliage was very heavy, the currants large and I marketed them at higher prices than ever before. I did not have a blistered currant in the lot. In the case of the cherries, only those that were thoroughly sprayed were worth buying. I spray cherries just before the buds swell and again just after the small cherries form. Only two applications are made. I use the same strength as for apples.

I had equally good results with apples. One orchard that I took over and which had not been sprayed, pruned, plowed or fertilized in twenty years, gave me 2,000 barrels of fine fruit, the result of one year's attention, including spraying. I controlled the fungus completely and the codling moth to the extent of about eighty per cent.

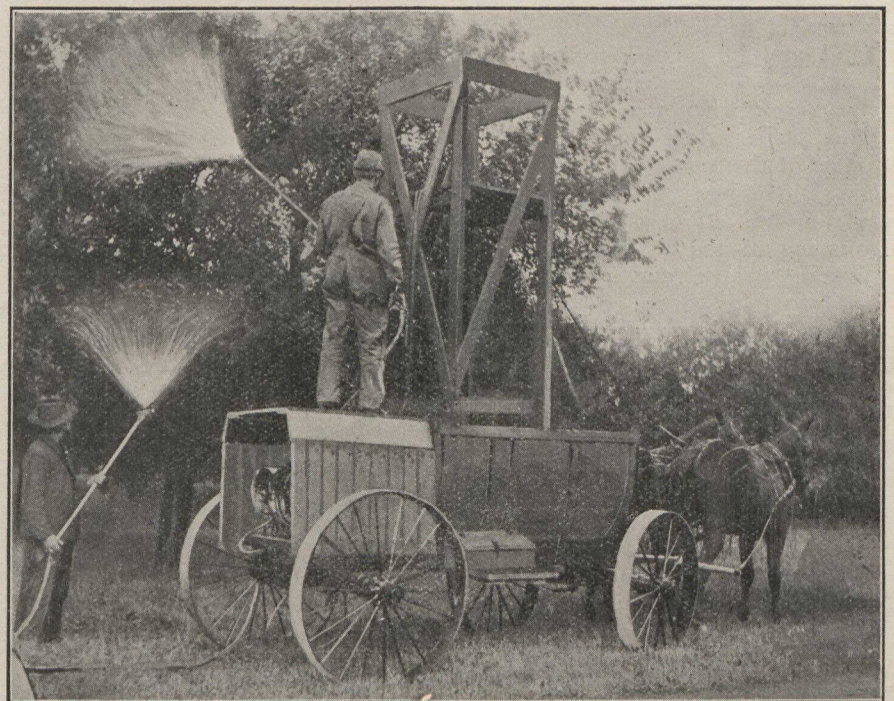
It might seem a big item of expense to spend thirty-three cents a tree for spraying, but let us see. A bushel of culls is

worth fifteen cents, and a bushel of good apples is worth fifty cents, a difference of thirty-five cents. The average tree should produce ten bushels and if you convert one bushel of culls into one bushel of good apples, you are making thirty-five cents. If you have a tree of apples bearing ten bushels and do not spray them, you will have half culls. If you convert that five bushels into good apples, you will make \$1.75 profit on that tree, or \$700 profit on 400 trees. This is over and above what you could get if you did not spray. Take the cost of spraying off and it leaves a net profit of \$567. Besides this, you will strengthen the trees and make them produce better another year.

Controlling Gooseberry Mildew

About three years ago, mention was made in THE CANADIAN HORTICULTURIST of the success of Mr. Joseph Tweddle, Fruitland, Ont., in controlling gooseberry mildew. As his method of control has been verified by later experience, it is well worth mentioning again.

The remedy used is the lime-sulphur wash prepared as for San Jose scale. One application is sufficient and this should be applied thoroughly just as the buds are swelling. The 15-20-40 formula is used in making the mixture. This is boiled vigorously with steam for one hour. Mr. Tweddle's five years experience with this remedy for gooseberry mildew should encourage all persons who desire to grow the English varieties which are susceptible to this disease.



The Power Sprayer is the Most Efficient and Economical for Large Areas

The one illustrated is manufactured by the Friend Manufacturing Co., Gasport, N.Y.

*The substance of an address on "Spraying Ten Acres of Apples: Cost, Equipment and Results," given at the last convention of the Ontario Fruit Growers' Association.

Pruning Apple Trees

Wm. Rickard, Newcastle, Ont.

Pruning well and properly done is a matter of great importance but one that is very much neglected. In driving

sidered I believe this to be the most convenient and under some conditions (I may say, quite general conditions) the best time.

Under some special conditions, I pre-

tree and to restore the balance between the top and roots, the latter having been materially reduced in the process of digging and planting. Allow branches to come from the trunk of dwarf trees near the ground, thus protecting the trunk from sun scald and keeping the load of fruit low which adds to the life and strength of the tree.

The annual pruning consists of removing all superfluous branches and heading back vigorous growths, keeping the trees uniform and pyramidal in form, not allowing any dwarf tree in orchard blocks to exceed fourteen feet in height, and choosing desirable varieties. Following the above system with thorough spraying and heavy thinning of fruit when the fruit is about one-third grown, combine practices which have resulted in pleasure and some profit to growers of pears.

Planting in Annapolis Valley

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

I prepare my land two years before planting at least. The first year I raise grain and, if possible, roots the next. In plowing for both grain and roots, I have the dead furrows come where I intend to put the rows of trees. These dead furrows are really the subsoil after two plowings, but the action of frost and cultivation has enriched it and made it available, so that in setting out the trees in these dead furrows, I do not have to set the trees deep or in poor subsoil as I would under ordinary circumstances, while the subsequent plowing-up against the trees brings them gradually into deeper rich soil.

Planting the trees six inches deep in this low valley between two ridges precludes the necessity of subsoiling the whole piece and by the time I have plowed twice toward the trees and thus levelled the land again, the trees are in ten or twelve inches of good soil. The necessary cultivation for the previous root crop has mellowed and fined the soil, leaving it in best condition for young tree growth. Of course, it is understood that land must be well drained either artificially or naturally.

In planting even in this way, I puddle my trees in a porridge-like mixture of rich soil and water just before planting and also place next to and around the roots the best soil in vicinity, leaving the poor bottom soil for the top.

One thing we learned from one year's experience in spraying is that thoroughness is very essential if satisfactory results are to be expected.—M. B. Clark, Wellington, Ont.

Saskatchewan already has its apple growers, and they do not need to stand and hold the apples on the tree when the prairie winds blow, because they have provided shelter belts of hardy trees.



A Manitoba Orchard that Bears Good Crops of Fruit and Shows What Can be Done in That Province
The variety in foreground is Blushed Calville—Orchard of Mr. A. P. Stevenson, Dunston, Man.

through the country how many orchards the close observer will see that have never had a saw in them for many years until the trees have become so thick and full of limbs that it is quite impossible to get up through them to get the fruit should there be any worth picking!

Pruning should be commenced and the tree properly formed while it is young and continued a little each and every year according to requirements. A common fault and mistake is to leave too many limbs in the beginning which becomes apparent when they have grown somewhat large; then rather than remove some of them they are trimmed off like poles all the way out from the trunk to near the end. It would be better to remove some of the limbs as soon as the mistake was discovered, leaving plenty of room for those left with fruit-bearing wood all the way out.

Another mistake I have made is to keep the centre of the tree entirely clean of all fruit-bearing limbs. I have come to the conclusion that there is room for some good fruit in the centre of the tree as well as all around on the outside.

As to the proper time or the best time to prune there is and always has been a difference of opinion. There is an old saying, "prune when your saw is sharp," and I know very successful orchardists who prune any time during the winter months as they find time to do it.

I have usually done the most of my pruning in the latter part of February or the first of March. All things con-

fer the month of June. If the tree has a vigorous growth of wood and is inclined to be barren of fruit prune well in June. This will tend to check the wood growth and help the fruit bearing. I have had good results in this way bringing trees that were inclined to be barren into quite heavy bearing.

The man who undertakes to prune should use his brains as well as his hands. He should first size up the tree then go to work, aiming to have a well balanced tree with fruit-bearing wood evenly distributed throughout the centre and circumference, thinned out sufficiently to admit of a free and full circulation of air and an abundance of sunshine.

Growing Dwarf Pear Trees

Wm. F. W. Fisher, Burlington, Ont.

The average dwarf pear tree is short-lived, due to the fact that this is a characteristic of the quince root on which it is propagated, coupled with the many disasters common to all pear culture. In planting, cultivation and pruning, the attainment of rapid growth and early returns should therefore be constantly kept in mind. They require rich, dry soil, vigorous cultivation and judicious pruning.

Nursery stock should be pruned root and top before planting, removing all torn and bruised roots and occasionally shortening a coarse tap root which might prevent getting the tree sufficiently deep in the ground. The top should then be pruned to form a strong symmetrical

How to Grow and Manage Azaleas

C. M. Bezzo, Berlin, Ontario

DURING the growing period the azalea should have a temperature of from fifty to sixty degrees. Other conditions being favorable it will grow and bloom in a temperature anywhere from forty to eighty degrees, but these extremes are not recommended, particularly the latter, which is not only hard on the plant, but the plant is in such a hot, dry atmosphere that the red spider, which usually does not trouble the azalea, becomes its implacable enemy. When the presence of this pest is evident, spray with clear water or a weak solution of soap and water rinsing after with clear water or the top of the plant may be dipped in the water, which insures the thorough wetting of every part. During this period the plant should be given all the light and sunshine possible with fresh air whenever it can be given without a draft.

Liquid fertilizer may be given if great care is exercised. The great trouble with many amateurs is they think if a little is good twice that quantity is that much better. Many a man and many a woman has found it to be a fatal maxim when the plants became chronic dyspeptics, neither fit to live nor ready to die. For liquid fertilizer use cow manure or guano. Use the latter according to directions on package.

To make liquid fertilizer from cow manure fill a jar or pail full of manure, and pour enough boiling rain water over it to fill the receptacle. This will make a liquid strong enough to kill almost any plant. The color will be almost black. When ready for use add enough of this liquid to a can of water to give it a light brown color. Of this strength it may be used to give the plant a thorough soaking once in two weeks. If the room is of moderate temperature and the atmosphere kept moist, watering once in ten days or two weeks ought to be sufficient. But no cast iron rule can be made regarding the frequency with which watering may be done, owing to the extent to which conditions of soil, temperature and atmosphere may vary.

THE BLOOMING PERIOD

During the blooming period the treatment is somewhat similar to that mentioned. Continue to give it light and sunshine. Liquid fertilizer may now be given once a week with a little closer attention to the watering. The plant will consume more now than during the growing period, and while it must not be kept wet, the soil must not be allowed to dry right out or the buds will blast and the bloom wither. If red spider is suspected, try to get a cooler situation, as wetting the leaves will not injure the flowers. If the atmosphere

is dry, place a shallow pan of water on the radiator, the heater or in some place where the evaporation will be fairly rapid, say about one and a half pints in twenty-four hours for 1500 cubic feet of air space.

After the blooming period is over the plant completes its annual growth and should now receive water less frequently. When the weather becomes warm put it out in the open air, a shady place on the porch where it will get only the early morning or late afternoon sun, will answer. Or it may be sunk in the flower border. When the latter is done select a place sheltered from the noon-day sun—but not dense shade—and put half an inch of ashes under the pot to prevent worms entering at the bottom. Leave it here until about the first or middle of September, by which time it will have completed its annual growth.

THE RESTING PERIOD

When the plant has completed its

yearly growth and has commenced to take its periodical rest it may be set away on some back shelf, where it will be out of the way, but not entirely forgotten. During this period it should not lose its leaves, although it will be at a complete standstill. Water should now be given very seldom, once in three weeks should be sufficient if the temperature is not over sixty and the atmosphere moist. About the last of November begin to look for new growth. Most sorts do not start until about the new year, but some varieties are earlier than others, and at the first sign of returning animation bring to the light and water more frequently.

If at any time the azalea should lose its leaves in considerable quantities it is a danger signal which must not be lightly regarded. The indicator points to too much water or poor drainage, and the matter must be remedied at once. The azalea's demands are few but they are imperative.

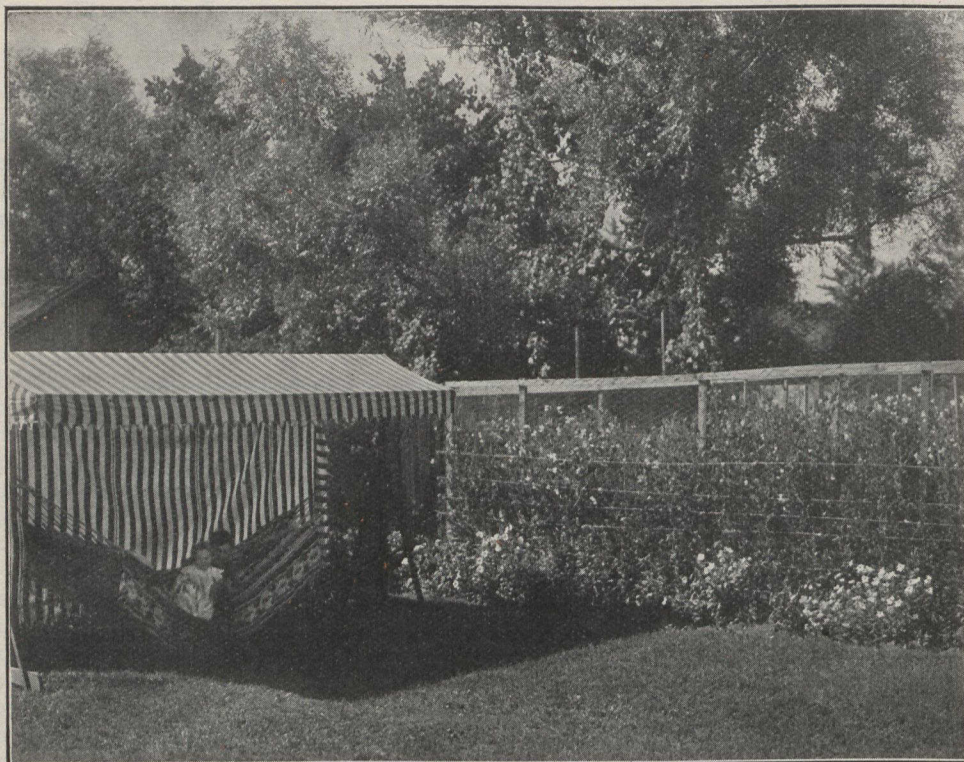
A Prize Winning Lawn and Garden

ONE of the prettiest homes in the City of Guelph is shown in the illustrations on this page. It is the residence of Mr. J. A. Hewitt, who has won the first prize in the lawn competition in his ward in that city for years. One of the judges in the lawn and garden competition, conducted by the

Guelph Horticultural Society, is Mr. Wm. Hunt of the Ontario Agricultural College, who in a recent letter to THE CANADIAN HORTICULTURIST wrote in reference to this home: "Mr. Hewitt is quite an enthusiast and expert in the culture of plants and flowers. Although Guelph has many pretty residences there



Front View of a Prize Winning Home and Lawn—Residence of Mr. J. A. Hewitt, Guelph



Corner of Back Lawn of Mr. Hewitt's Residence, Showing a row of Prize Sweet Peas

are few that can surpass Mr. Hewitt's in point of excellence, from a floral point of view." The photographs were taken early in the season.

Hanging baskets, verandah boxes and window boxes are striking features of the front view. Around the verandah may be seen red geraniums and coleus planted alternately, with silver-leaved geraniums in front for a border. At the corners of the steps are cannas.

The side lawn is bordered with sweet peas on the fences, in front of which are mixed annuals, such as scabiosa, stocks, antirrhinums, petunias, mignonette, zinnias, phlox, verbenas, together with roses, geraniums, coleus and other plants and for a border, more silver-leaved geraniums.

The back lawn is surrounded with about the same material with a few more annuals added. It contains also beds of asters, including Sutton's Giant, White Ray, Ostrich Plume and Comet. Sweet peas are on every fence. Tender roses are grown in a glass frame.

SWEET PEAS

Sweet peas are a hobby and a specialty with Mr. Hewitt. The rows of sweet peas on his grounds have a total length of about 300 feet and were eight to ten feet high. On the south side of the front lawn, at the time the scenes published herewith were photographed, Eckford's best peas were growing. These were mixed by Mr. Hewitt himself, to make the choicest collection. On the west side of the front lawn was a complete row of Eckford's beautiful red, King Edward VII. All of them were covered with splendid bloom among which many

four, five and six-bloom sprays were to be found. The stems were unusually long, some of them measuring eighteen inches.

In the garden at the rear, sweet peas were grown in variety, among which stood out prominently Eckford's Apple Blossom, Bolton's Pink, Black Knight, Phenomenal, Brilliant Blue and King Edward Spencer, and, in fact all the Spencer types were to be seen, arranged so as to give a most beautiful effect.

At the Canadian National Exhibition last season, Mr. Hewitt won first prize in sweet peas in both sections called for by the prize list. When commenting on these entries, the *Toronto Star* said: "These dainty little blossoms are notoriously difficult to raise so that the splendid blossoms displayed are of a special interest. From the purest white to a deep rich purple, and a lovely shade of blue, nearly every variety is there in large beautiful bunches. The fortunate prize winner, Mr. J. A. Hewitt of Guelph, earned the distinction fairly." With sweet peas Mr. Hewitt has won also many prizes at the Guelph Central Fair.

The achievements of Mr. Hewitt are the result of constant attention to the details of plant management, and to his great enthusiasm for the work and his love for plants and flowers. In later issues of *THE CANADIAN HORTICULTURIST* it is expected that Mr. Hewitt will tell how he grows sweet peas and other flowers so successfully.

Cedar and spruce hedges are trimmed early in April or May before growth commences.

Protection of Roses

Editor, *THE CANADIAN HORTICULTURIST*: I read with pleasure the article on the protection of roses in winter by "Amateur" in the November issue, and am glad it is not such a big order to keep roses through these winters. I have been out here nearly five years and I came from close to the famous nurseries of Pauls & Sons, rose growers, Welham Cross, Herts, England. There are acres of them growing there and when I came out here I looked in vain for the "queen of flowers." I saw a few but only during a part of the year; the other part, being the winter, they were tied up in bags, or in other words, put to sleep for six months. I thought that it must be a terrible trial to grow roses and people told me that if they did not do that the winter would kill them.

I pictured to myself the number of times in England that the head gardener had sent me to train roses up the walls as high as the bedroom windows. I could see the Glorys and creamy white of the Marechal Neil and the apricot color of William Allan Richardson, and the times I have had in searching the hedge-rows for the wild dog rose, briar and the Manetti stock to bud on in the following August and then to come back in thought to Canada when the winters killed the lovely rose was a shock. But since I have read "Amateur's" remarks I feel refreshed, and I would like to ask "Amateur" when is the best time of year to prune them. ("Amateur" has promised an article on this subject.—Editor.)

We always used to prune them in March at home and we cut the bush roses back to the third eye or bud from the base of each shoot, and weaker ones harder still but here I have seen them just taking the tips off each shoot. I think this is a waste of good stuff, as it leaves the bushes so straggly. I should think that if that were persisted in for a few years, one would have to use a stepladder to pick the bloom. I believe in cutting them down as it keeps the bush in good shape and the blooms are near the base of supply, i. e., the roots. If "Amateur" would give a list of really good roses I would be thankful to him, as I am thinking of getting some.—"A Lover of the Queen of Flowers" (An Englishman), Guelph.

Most annual flowers are easily grown. Try some new kinds this year.

The American mountain ash, better known to some as the rowan tree, is hardy in Saskatchewan.

Sweet alyssum is easily grown indoors and may be used effectively for the edges of window boxes and hanging baskets.

Street Tree Planting and Boulevarding in Winnipeg*

George Champion, Superintendent of Parks, Winnipeg

THERE is nothing which tends more to beautify the general appearance of a city, to impress its visitors, to add to its healthfulness, and to inspire its residents with a desire to improve and beautify their own homes and surroundings, than that of streets bordered with well kept lawns, and uniformly planted with clean and healthy trees.

In many eastern cities, different systems of boulevarding, tree planting and maintenance are in operation more or less successfully but in very few is the system comprehensive or general, and it is this point that I particularly wish to emphasize as upon its general application over the entire city depends its success.

This paper is not an academic treatise on how to construct a boulevard, or how and when to plant street trees, or even what trees you should plant, as I think these points are usually best determined by local conditions, but just a few facts about what has been accomplished by the Parks Board of Winnipeg, in their efforts to improve and beautify the general appearance of the city streets.

The term "boulevard," as it is generally used, denotes a drive or parkway,

*A part of a paper read at the eleventh annual convention of the American Association of Park Superintendents, held at Seattle, Wash., last August.

marginated with grass and trees, and is usually constructed and maintained in its entirety by the park authorities, for the use of light traffic only. In Winnipeg, the term is applied to the strip of lawn and trees which every paved street in the city has.

Our streets are wide, sixty-six feet or more, and, with the exception of the main business streets, are all constructed with a space between the sidewalk and curb varying in width from six to twenty four feet, the width on an average being fourteen feet on each side. It is this strip that is parked and planted with trees. The sidewalk is built next the property line, and with the roadway and curbing, is constructed by the city engineer's department.

When a street is paved, the property owners on it usually petition the city council at once for boulevarding and tree planting. If, however, they fail to do this, the council take the initiative, and advertise for thirty days their intention to carry out such local improvements, and, at the expiration of this term, if no adverse petition is received, a by-law is passed placing the control of the boulevarding and tree planting in the hands of the public parks board. This control includes any and all trees already growing on the streets mentioned

in the by-law, no matter by whom planted.

All expenditures on the boulevards are charged by the parks board to the city council, and by them assessed against the property owners, payment for construction being spread over a period of seven years, with interest at five per cent., sinking fund at four per cent. Payment for the cost of tree planting is collected in one year, and the cost of maintenance is assessed annually, this being authorized by special by-law.

This system was originated and worked on a small scale in 1896 by the board of works of the city council. In 1898, the maintenance of the boulevards was turned over to the parks board, and in 1900 the construction, tree planting, and sole control of the system. Since then, it has, like the city grown very rapidly.

At the end of 1908, we had approximately eighty-six miles of boulevards, planted with 20,000 trees, about 6,000 of these being planted by property owners before the streets were paved.

Prior to 1904, all new boulevards were sodded, but since then, more and more seeding has been done, till now practically all are seeded, it being conclusively proved that seeding, in spite of the adverse conditions prevailing on a public street, makes a much better and cleaner



Wellington Crescent Boulevard, one of the many Beautiful Streets of Winnipeg

sward, besides materially reducing the cost as compared with sodding.

In 1908, 29,948 square yards were graded and seeded by day labor, at a cost of 10.67 cents per square yard; 21,385 square yards were graded and sodded by day labor, at a cost of 12.71 cents per square yard; 21,865 square yards were graded and sodded by contract, at a cost of 13.53 cents per square yard; making a total of 73,198 square yards, at an average cost of 12.12 cents per square yard., or 18 cents per front foot, this area having a total frontage of 49,229 feet, or a little over nine miles. This rate, however, was very low, the average cost of construction during the last three years being about 25 cents per front foot, for a fifteen-foot boulevard.

The cost of tree planting for 1908 averaged 2.5 cents per front foot, over a frontage of 79,302 feet, about 51¼ cents per tree. This may seem a very low rate, explainable by the fact that we plant trees dug from the bush by the farmers, and for which we pay about thirty-five cents per tree. This plan was

adopted when it was found that nursery grown trees from the south or east, would not thrive in our rigorous climate, but almost invariably winter-killed.

We use American elms, white ash, and basswoods, the former being the most satisfactory. Some Russian poplars are being experimented with. We have also a number of box elders; this tree, however, is not reliable, and no more are being planted on the streets, though we find it very useful as a filler in park work, owing to its rapid growth.

The system of maintenance is very simple. The city is divided into districts, with a foreman in charge of each. Tool boxes are placed in convenient locations, and the mowing, watering, tree spraying and pruning is carried out with an unvarying uniformity over the entire system.

The total cost of maintenance for the year 1908, was \$14,982.50 for a frontage of 404,728 feet, or 76¾ miles, giving an average of 3.7 cents per front foot over the entire city. This was also a very low rate, owing to local conditions, the average yearly maintenance

rate being about five cents per front foot.

This cost need not be very largely exceeded in any city, as our hot summers demand a maximum amount of attention to the grass, which would be, to a considerable extent, unnecessary in a moister climate. The expenditure for policing in winter, is also large, as much damage is caused to the trees by horses, and to the grass, by short cuts over the snow-covered boulevards.

The amount charged for maintenance against the individual street or lot, is arrived at by taking the area in square feet of all the boulevards. The amount charged against any street, will be in the same ratio as the boulevard is to the entire system, so that each lot owner pays for the actual area fronting on his property, and no more.

This system seems to give general satisfaction to the citizens, and the only change we have in view, is that of obtaining power to strike a flat rate for maintenance so as to obviate the great amount of clerical work now required in making up the assessment schedules.

What Amateur Gardeners Can Do in February

AS there is not much to do in gardening indoors or out this month, spare time can be utilized to advantage in planning for the garden that is to be. Recall the weak spots of the garden last year and plan to remedy them. Was there not some fence or out-building that should have been covered with vines, some corner of the lawn or some place in the border where one or two shrubs would have improved the effect, some parts of the vegetable garden that were not occupied by plants, or something else that was neglected last year? A little forethought exercised now will do more for these places than can be done on the spur of the moment when time for action comes.

Do not wait until the last minute before ordering seeds and plants for next spring's use. Secure catalogues from seedsmen and nurserymen and make selections early. Even though you may not intend to buy it is worth while getting these catalogues. They are interesting and contain much practical advice on the culture of the plants listed therein. As a first choice of seeds and plants, select those kinds that are well-known and well-tried. As a rule these are given the shortest descriptions in the catalogues. After satisfying your needs from the standard sorts, then choose a few novelties for experimentation and curiosity. All leading and reliable seed and nursery firms advertise in *THE CANADIAN HORTICULTURIST*. Con-

sult their advertisements on other pages of this issue.

Towards the end of the month sow seeds of verbenas, lobelias, cockscombs, double petunias, sweet sultan, schizanthus, and mignonette in pots or boxes in the window. These will come in useful in early spring for window boxes and hanging baskets.

About the same time or the first of March sow a few sweet peas seeds indoors for planting outside when the time comes. Put six seeds in each five-inch pot. By the time you would be sowing seeds outside you will have strong plants three inches or four inches high. When the time comes these plants may be placed ten inches apart in trenches. When planting knock the ball of earth out of the pot carefully, and do not disturb the roots.

WINDOW PLANTS

With the increasing heat of the sun, insect pests on house plants will become troublesome. Keep all growing plants, such as fuchsias, geraniums, calla lilies, and so on, well moistened at the roots. The foliage should be sprinkled or syringed two or three times a week with luke-warm water. Some weak tobacco water placed in the solution once a week will help to hold these pests in check.

Take proper precautions against extreme cold weather at night. The hot sun of some winter days often gives the amateur a feeling of security that makes him negligent in this matter. Should

the plants become frozen, keep them away from the heat, cover them carefully and keep them in the dark for twenty-four hours or until the frost is out of them. Do not place them in bright sunlight for a week or two afterwards.

Keep the leaves of house plants free from dust. Wipe them with a wet sponge once a week. Give them fresh air occasionally, but do not allow direct drafts to strike them.

Start fuchsias into growth. Prune back the tips of last year's growth so as to make a shapely plant. Give the plants more water than they had when resting, and place them in a warm position. When young leaves appear re-pot the plants into the same sized pot, first shaking them out from the soil in which they have been growing. When re-potting them, use soil composed of two parts of rich light loam and one part each of sand and leaf soil, mixed well together. Provide plenty of drainage. Water well when potted and not again until the soil shows signs of dryness. For red spider, a bad pest of the fuchsia, syringe the plants daily.

Fall propagated geraniums should be shifted into three and a half-inch pots and potted firmly in rather heavy rich soil. Cuttings may be taken from these plants in from three to five weeks.

A few tuberous-rooted begonias may be put in moss or sand to start them off



A good Illustration of Results in Gardening that May be Secured in One Season

In this garden last summer were grown an abundance of things for everyday use and for storing for winter. The plot was bordered with sweet corn. Planting was begun about the first of June, and throughout the season, in many instances, when one crop was all harvested another was ready to take its place. Among the vegetables grown were cabbage, cauliflower, celery, turnip, carrot, beet, parsnip, onion, radish, lettuce, parsley, tomatoes, beans, peas, squash, muskmelon, and early potatoes. The work of planting, etc., was done "after hours." Garden of Mr. F. Peat, Peterboro, Ont.

before potting. They are easily handled and give great satisfaction.

For most house plants a temperature of about fifty to fifty-five degrees at night and sixty to seventy degrees during the day will furnish the most desirable conditions for growth. Greater extremes between day and night temperatures are not conducive to best results.

Another lot of house bulbs may be potted early this month. Keep them cool and in the dark for three or four weeks, then bring to the light and perhaps you may have bloom in time for Easter.

If you want to keep your freesia bulbs after flowering, give very little water until the foliage turns yellow and then give no more. Place pots in a cellar until next fall, when the bulbs may be taken from the soil and re-potted.

SOME JOBS FOR ODD TIMES

If you saved seeds of annuals and other plants last year, clean them now and place them neatly in packages with names of the variety.

Repair any tools that were broken or damaged last season. Put the hoes, rakes, spades, weeders, the reel and line, and the lawn mower in shape for use when wanted.

Currant and gooseberry bushes may be pruned this month if desired. These bushes are hardy and will stand more abuse than others.

Insects and fungous diseases are no respecters of persons. They do not confine their depredations to the orchards and gardens of the commercial growers, but find as congenial conditions and as tasty food in the gardens of amateurs. To hold them in check we must spray. It is too early this month to do anything more than make preparations. Purchase a knapsack spray pump if the

garden is small. A barrel pump is better, however, and will last longer. Three or four neighbors could club together nicely in the purchase of one. If you cannot do the spraying yourself, employ some person to do it. If you do not know what to use consult the articles on spraying that appear on other pages of this issue, and also the advertisements of firms that deal in spraying apparatus and mixtures. Send questions to THE CANADIAN HORTICULTURIST.

Sure Bloomers for Winter

Len W. Berclay, Morrisburg, Ont.

Many flower lovers do not know the value of bulbs known as winter bloomers. With an outlay of two or three dollars, even less if that much cannot be spared, one is sure to have flowers at all times from the Christmas holidays until the green grass is growing again.

Nearly all bulbs, at least the best of them, are suitable for the amateur. From experience I would not advise trying to grow more than you have plenty of sunlight and window space for, although it is true a bulb will grow and flourish where many other plants will wither and die.

Among the narcissi or daffodils there are two or perhaps three varieties well worth trying. The paper white and the Grand Soleil d'Or are about the best of the polyanthus or bunch-flowered variety. As the name indicates, the former is a beautiful pure white variety while the latter is yellow with reddish orange cup. Of the single trumpet sort, Maximus takes the lead of over a dozen varieties tested. It is a large flower of perfect form color, rich golden yellow; the

perianth or cup is very large and deeply scalloped and frilled.

There are also the double daffodils of which it is hard to choose between Alba Plena Odorata, and double Von Sion, although lovers of a white flower will find the former a gem. The polyanthus varieties are about six weeks earlier than the trumpet sorts. Blooms of either variety last two weeks or even more if kept cool.

For early hyacinths try single white Romans. They are very early and last for weeks if kept in a cool room. Dutch varieties of hyacinths are very pretty but are slow coming into bloom.

I do not find tulips to make good indoor flowers, but no garden is complete without at least a few Darwin and parrot tulips.

Crocuses bloom under almost any treatment and are very cheap.

Freesias are early bloomers and easily grown. The perfume is most delicious. One pot of them will perfume a large room.

The Bermuda Easter lily is sure to bloom and very pretty. The Chinese sacred lily, which is of the narcissus family, is a favorite with many, but I have not found it satisfactory.

Bulbs which have bloomed in the house during winter may be planted in the outdoor beds in the spring and will there recruit and make fine plants the following spring. Cultural directions are supplied by any of the firms of whom the bulbs are obtained and THE CANADIAN HORTICULTURIST also gives advice on these points.

The ice plant is an interesting subject for rockwork or for edging. Give a sunny location and gravelly soil.

The Culture of the Melon for Profit*

J. Od. Beaudry, M.D., St.-Jacques de l'Achigan, Quebec

FOUR principal things have to be considered in order to assure success in the culture of the melon—the kind of soil, the best method, the best cut and the best care. A sandy loam soil is most favorable. Every means should be taken to render the ground suitable, whether by special manures or by peculiar improvements in order that the ground may contain all the best fertilizing principles.

METHOD OF CULTURE

The best method of culture is that which makes the plant profit from the solar influence, which facilitates the free circulation of the air, and which makes the fruit absorb solar rays. This method exposes them to the influence of light. The culture of the melon upon knolls appeals to all these conditions in preference to any other method. I recommend, therefore, hotbeds and windows (sashes) in preference to the flat ground. This kind of culture assures a greater quantity of fruit and gives more strength to the plants. The ascending direction of the sap and the descending direction of the branches, are the two great factors in this method.

By this method one can get at least ten melons a mound and even more. This is the smallest number I raise from my mounds; generally I have more. If you cultivate only one plant on a mound, your melons will be bigger but, if the fruit is to be sold, it is far better to leave two plants a mound which will give twenty melons. On an acre, at a distance of six feet from each other, you have 900 mounds. At twenty melons each mound this will yield 18,000 melons which, at ten cents each, will give a revenue of \$1800.00.

In spring as soon as the ground is in order and the weather favorable, I place my hotbeds six feet apart on the ground, which was well prepared in the fall. I then dig only the ground where the hotbed should be placed. I fill the hotbed with the best mould containing twenty per cent. of pigeon's dung thoroughly mixed with the mould, leaving two or three inches between the hotbed and the ground. The front part of the hotbed should be nine inches high while the back twelve inches. The width of the base of the hotbed should be twenty-six inches, and of the top nineteen inches. The depth at the base should be twenty-six inches and at the top twenty inches. Each pane of glass should measure fifteen by sixteen inches. The size of the hotbed can vary in size as one wishes, and consequently that of the frames. My

frames are made of one inch spruce boards.

SOWING THE SEEDS

Now, having made the surface of the mould even in the hotbed, I sow from ten to fifteen melon seeds with proper spacing. When the plant has sufficiently grown, I sort the plants, keeping the best ones. Then, gradually, I clear the ground so as to leave one or two a mound.

VENTILATION

As soon as the seeds begin to grow I move the window somewhat to allow the air to circulate through the corners of the box. I move the window thus between seven and eight o'clock in the morning. According as the sun gives more heat and as the plant grows, I move the window more and more.

At night I push the window back into its place about an hour before sunset so as to keep the heat inside the box. I then cover the hotbed with a heavy covering. The hotbed should be surrounded by dirt at least six inches thick and two-thirds of the height of the hotbed frame. The covering made with empty salt-bags should be thick enough so as to preserve mounds from low temperature, and should be put on the frame every evening, as soon as the melon seeds are sown, and then taken off after sunrise.

WATERING

We should never water nor warm melon plants at night, when the nights are cold, but in the morning. On the contrary, when nights are warm, we should water them an hour at least before sunrise, then close the frame and cover it. Rain water heated by the sun is preferable to all waters, because it contains more fertilizing principles. For want of rain water, we can use other waters—but waters which have been heated by the sun.

I water the melon plants with *purin* (French word)—a liquid manure—and common water; then, I warm with one-quarter of *purin* mixed with three-fourths of water. My melons are very aromatic and juicy. During the period of the culture of the melon, the watering should be made so that it may reach the interior of the mound three or four times, according to the dryness of the mound and to the temperature of the weather. The warming should be done every night or every morning, according to moisture of the night, because leaves are the soul of the plant or in other words, its pulmonary surface.

CUTTING AND PINCHING

When the melon plant has four leaves and the fourth one is big like the nail of a thumb, I cut the stem under the third; and I put dust-land on the wound;

yet one is not obliged to do that. We should never cut cotyledons (the seed leaves). The operation causes great harm to the plant. I never touch branches that come out from the arm-pit of cotyledons, because from these, appear the first female flowers; but, if they do not give any female flowers I pinch them without intrinsching them.

When the fourth leaf appears on new branches I again cut the stem under the third leaf. This is the second cut.

New branches appear, and when they have four leaves, that is to say, when the fourth one appears, this time I cut above the third. This is the third cut. By this cut male and female flowers appear.

I make a fourth cut, also a fifth one. If the female flowers do not appear at the fifth leaf, I then pinch the branches just after the fifth leaf. It is necessary to see and to know how, and when, we should pinch. When the female flowers appear we should not pinch branches immediately, because you would destroy the coming fruit in bringing the plethora of the sap to the branch before the vessels of the peduncle (stalk) of the female flower have taken enough development to receive it with profit. Likewise too great dryness at the interior of the mound brings a considerable diminution of the sap; consequently, the death of the plant and of the female flower. Therefore we have to wait three or four days before the female flower opens in order to pinch the extremity of the branch. Then you fold slowly the extremity of the branch while having it form an acute angle on the right of the insertion of the peduncle in such a manner that the latter may appear to form the lengthening of the branch and we fix it thus by means of two small branches. This is the best way to have the fruit knotted. If on the mound there are no male flowers but only female flowers, and though draughts, bees, etc., would favor the transportation of the pollen; yet it is prudent to gather flowers from the nearest mound—also to shake the stamens on the pistil of the female flower, in order to assure fertility.

When the fruit is knotted, that is to say when it has acquired the size of an egg, we cut the branch about two or three inches above the melon. If other branches come forth in the arm-pit it is better to take them off. If there are branches not bearing fruit we should take out some of their wood with great precaution.

We should not forget that, if we wish to get excellent melons, the solar rays have to reach them entirely and continually. This is the reason why we should

*Extracts from an address delivered before the Quebec Pomological Society at La Trappe last summer.

prevent branches from forming bushes and regretful confusion that cause a great harm to the circulation of the air. This is why we should not leave more than one or two plants a mound.

MAKING THE MOUND

I come back to the making of the mound: when the leaves touch the glass I raise the box a little; then when branches reach the edge of the window I remove the hot-bed. Therefore, I complete my mound. I dig the ground around the hotbed, stir the land, and with a rake again hill up the land a little towards the melon plants. I again put some mould on the top of the mound and on the melon plant as far as the seed leaves.

I make a circular mound with depression in the centre where the plant is in such a manner so as to form a basin, in order to contain the quantity of water needed. Afterwards, I put a thickness of

one inch or one and one-half inches of a black substance (like dung) all around the mound, in a manner so as to mask all the surface of the mound. This is done to have all the heat possible penetrate the depth of the mound. In fact, of all colors, black absorbs most heat, and the more a mound will absorb of solar heat the more melon plants will develop; the fruits then will be juicy and delicious. Therefore, the whole plant absorbs an excessive heat which is an advantage over flat layers.

My mounds finished, I put four shingles (about middle size) in each, leaving them a little larger than the branches of the melon, then I put on my hotbed with the frame entirely closed. I open it only to water or to warm the plants. I take off the hotbeds in June only when the heat of the temperature is strong. When the fruits are half grown, I gradually take them away from the leaves, or rath-

er, if the weather is cloudy, I place them on a large shingle which I sharpen at one end and which I put in the mound; at the other extremity I put a support.

The height of my mounds is eighteen or twenty inches, having a circumference at the base of 100 inches at least, and at the top, a circumference of seventy or seventy-five inches.

VARIETIES AND SEED SELECTION

I have cultivated a great variety of melons with seed coming from Los Angeles, California, but the best ones that I have found are those of Montreal and of Cantaloupe. Select those varieties that are known to give the best results.

We should always select the seed. The best seed is that which is taken from the middle part of the slice of the melon. This is the first one formed, and it reaches always its full development. A melon seed, well cultivated, requires four months to cover the period of vegetation.

A Few Facts About Potatoes

W. J. L. Hamilton, South Salt Springs, British Columbia

ALTHOUGH everybody grows potatoes there are a few interesting facts about them that are not generally known. To obtain an early crop of potatoes, not only should an early variety be chosen, but the tubers should be exposed to the sun under glass until they have turned green, and until the sprouts on them are an inch or more long. The longer these sprouts are, the better, if the sets are carefully handled so that they are not broken off. This sprouting has the effect of developing a number of short joints on the young shoots and, as the young potatoes form at the joints, it stands to reason that the more joints we have underground, the heavier the crop will be. If after planting, the potatoes are earthed up, more young tubers will form, but as these do not develop until the plant has made considerable growth, the ensuing crop though heavier is later than if the plants are not earthed.

POTATO CULTURE IN IRELAND

In Ireland, where the labor is not grudged, I have seen very fine crops of potatoes grown in wet boggy land by the following method:

After being plowed, the land is marked out in strips alternately four feet and two feet wide. Strawy manure is spread on the four-foot strips, and on this manure, the freshly cut potato sets are evenly distributed, at from twelve to eighteen inches part, according to the variety of potato used.

The soil from the two-foot strips is then shovelled all over the four-foot beds, covering the potatoes to a depth of three to four inches. When the pota-

to tops have grown a few inches above the soil, the bed is given another top-dressing of the soil from the two-foot strips, which are by this time converted into deep trenches.

Good crops are obtained in this way, and a second crop is obtained from the land at the same time by inserting cabbage plants two feet apart along the edge of the trenches at about the level of the manure. These generally also yield a fine crop. By further deepening these trenches can be converted into drains, whereby the land can be easily reclaimed. This hint may be worth noting, although I doubt if the method would become popular in this labor-saving country.

GROWING EARLY POTATOES IN CELLAR

New potatoes in small quantities can be produced early in the year, when they will fetch fancy prices, by the following method:

Fit up a number of wide shelves in a dark cellar and on these place two inches of almost dry soil. Select good-sized tubers and half imbed these in the soil, setting them two and a half to three inches apart. Sprouts will shortly form with small potatoes at their base. The tops of these sprouts should be nipped off with scissors. The small potatoes can be gathered and marketed when about the size of a large walnut. Several crops will be borne before the bed is exhausted. The cellar must be perfectly dark. A very slight sprinkling of water may be given carefully from time to time to the potatoes, though too much does harm.

In fertilizing potatoes, sulphate of

potash and not muriate of potash should be used, as the latter tends to make the potatoes waxy. If nitrogen has to be supplied, nitrate of soda is preferable to ammonia salts. As a rule, however, this is not needed, especially if potatoes are planted on a turned under clover sod, which gives nitrogen equal to about fifteen loads of barnyard manure per acre. As potatoes like a strawy manure, this clover particularly suits them and it has another beneficial effect in that its fermentation produces a slight acid reaction in the soil which has a tendency to check potato scab.

Fertilizer for Lettuce

In what proportions should dried blood and nitrate of soda be used on lettuce?—M.A., Dundas, Ont.

I would suggest the following per 100 square feet of surface; Nitrate of soda, one-half pound; superphosphate, one pound; finely ground bone, one pound; sulphate of potash, one-half pound. To facilitate distribution, this may be mixed with four or five times its volume of dry loam. Work the fertilizer well into the surface soil, say to a depth of two to three inches, by raking.

If preferred, dried blood may be substituted in part for the nitrate of soda in the proposed mixture, say one third dried blood and two thirds nitrate of soda.

When the lettuce is, say, two or three weeks old, a further application of nitrate of soda, at the rate of four ounces per 100 square feet, may be made, if the growth is not vigorous.—Frank T. Shutt, Chemist, Dominion Experimental Farms.

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

CIRCULATION STATEMENT.

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January, 1909.....	9,456	January, 1910.....	8,925
February, 1909.....	9,310		
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April, 1909.....	9,482		
May, 1909.....	9,172		
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Communications should be addressed:

THE CANADIAN HORTICULTURIST,
PETERBORO, ONTARIO.

EDITORIAL

CANADIAN APPLE SHOW

From British Columbia comes a suggestion that a National Apple Show be held in Canada annually and that it be instituted in the City of Vancouver in November or December, 1910. The success of the National Apple Shows at Spokane, Wash., is cited and the educational and advertising advantages to Canada that might result from similar shows in this country are pointed out. The idea is an excellent one in theory. Every person in Canada who is interested in our apple industry and its progress would be glad to see a great Canadian National Apple Show held annually in a different province each year. If successfully managed and financed, great advantages would accrue and our pride in things Canadian would be made greater than ever. For these reasons we would like to see such a show held if prospects for its success should warrant action; nevertheless, we fear that the scheme is not feasible.

In the first place we must consider who would be benefitted by the holding of such a show. If the show is to be national in character it must be conducted on a basis that will ensure the support of practically all the apple growing centres of Canada. This would necessitate the show being held at a point that will meet with the approval of the growers in such sections. Eastern growers do not ship any of their apples to British Columbia, therefore, an apple show held in British Columbia would not appeal to them. In the same way, British Columbia growers market little or no fruit in Ontario or other eastern provinces. For this reason they would not be inclined to support a show held anywhere in Ontario or the east. Thus the only point where such a show could be held with any likelihood of gaining general support would be at some place in the prairie provinces. This is a market for which both British Columbia and Ontario fruit growers are competing. As yet neither Quebec nor the Maritime provinces are competing factors there.

To ensure success shows of this kind should be held in fruit centres. Otherwise the attendance and interest manifested is slim. The support such a show would gain in any of the prairie provinces is, therefore, problematical.

Canada's greatest need during the next few years will be the holding of more and better provincial shows. Until shows such as those now held in the various provinces receive greater support than they have in the past it would seem to be too risky a venture to attempt to hold a national show. Such an event, however, will materialize in good time as our fruit industry develops.

SPRAY! SPRAY! SPRAY!

It is necessary no longer to tell farmers and fruit growers that it pays to spray. The spread of injurious insects and fungi has made the practice absolutely essential to the production of fruit of the best quality. Spraying is now placed among the regular operations in orcharding. No up-to-date fruit grower would consider for a moment the possibility of growing fruit without the aid of the spray pump. When money is invested in fruit trees for commercial purposes, money must be spent for spray pumps and mixtures. Many growers who have been slow in adopting the practise have, through their losses, been made to see their folly.

There are very few out-and-out fruit growers who do not spray and those that do not are not profiting by the experience of others—they are producing low-grade fruit when high-grade fruit could be had with but little extra expense.

In the case of farmers who have small orchards of fruit trees "on the side," the practise of spraying is not so universal. Unless they have been shown the value of spraying, by example or by co-operative effort, they consider it laborious and an unnecessary expense. There are thousands of farmers in Canada with established orchards that might have a nice income from the sale of fruit, particularly apples, if they would give the trees more attention in regard to cultivation, fertilizing, pruning and spraying—and no one of these operations is worth while for any length of time without all of the others. These farmers should spray.

The first cost of a spray pump is soon returned to the purchaser in increased returns from the orchard. For small orchards, hand-pumps give excellent results; they are cheap and can be used also in the potato field and elsewhere when needed. For large orchards and for use in a group of small orchards whose owners club together, the power sprayer is the most satisfactory and economical.

Farmers and fruit growers in Ontario have had a special inducement for forming co-operative societies of five or more members for spraying. In 1907, the provincial government gave a bonus of fifty dollars on each power machine purchased co-operatively. In 1908 and 1909, the money was distributed according to the acreage sprayed and the efficiency of the work done, regardless of the type of machine used. Bonuses for such work will not be offered this year. Instead, the government intends to send out competent instructors to give advice in regard to pruning, spraying and other orchard operations. A number of townships or counties will be selected and a man put in each for a considerable time to go from place to place giving information on these points.

There should be a spray pump of some kind on every farm where fruit trees are grown. One season's trial will prove its worth and the owner will wonder why he did without it so long. There are many different kinds of spray mixtures to use. Good ones may be made at home and others equally good may be purchased from manufacturers. Buy a spray pump, find out what mixture to use and spray, spray, spray!

PUBLIC SPRAYING

There is an opportunity in Canada for public sprayers. In many villages, towns and cities, there are fruit trees, bushes and shrubbery, infested with insects and diseases in variety, that should be sprayed. Often the trees are held in high esteem by the owners who seldom detect the pests until the trees are badly infested. Many of these people are eager to have their trees properly sprayed but have neither the facilities for the work nor the time to do it. There is a chance here for remunerative employment for persons who would undertake the work. Furthermore, there is great need for such public spraying in preventing the spread of noxious insects and diseases.

There are three ways in which public spraying can be conducted. Private parties in each municipality can secure the equipment and spray mixtures and perform the operation. By using commercial spray mixtures the equipment could be reduced to a spray pump and accompanying apparatus. Once it is known that the service is available, plenty of work would be

found in most cities and towns to occupy two or three months in spring and the same in fall.

Public spraying could be conducted by local horticultural societies and fruit growers' associations. Spray pumps and materials could be purchased by the societies, men hired to do the work and a charge made to each member at so much per gallon of spray mixture used. This scheme has been tried already by Grimsby, Ont., and other towns and villages. The spraying outfit would soon pay for itself and the societies would have another strong scheme for securing membership.

The departments of agriculture of the various provinces might introduce this system of public spraying. For the past two years the state government of Maryland has been conducting public sprayers in different parts of that state. Twenty-three outfits were operated there last spring and the state intends to increase operations. The success of the work has resulted in a great demand for public sprayers. A recent bulletin issued by the Maryland Agricultural Experiment Station states that such spraying can be conducted by private parties on a reasonably profitable basis. That state "conducts the work upon a basis of cost of operation, and not with any desire to make a profit." The provincial departments of agriculture in Canada might well start the work in this country in a small way and thereby help people who are in need of such assistance. A means of controlling the development of pests in and their spread from town and city breeding places would thus be provided. By showing that there is a demand and by demonstrating that such work can be done profitably the departments would prepare the way for private parties to undertake the work.

PUBLISHERS' DESK

An index to THE CANADIAN HORTICULTURIST for 1909 has been prepared. Copies will be sent only to those subscribers that apply for them. If you keep your copies on file, you will find an index very useful. Write for one right away.

Two or three of our friends have asked by letter recently why we do not establish a nature study column in THE CANADIAN HORTICULTURIST. While nature study has an indirect bearing on the practice of horticulture we do not feel that we can afford the space just yet for a department of this nature. Occasional articles on the economic phases of nature study will be published.

As our readers feel that they cannot do without the monthly visit of this magazine, most subscriptions are renewed promptly. Those that neglect to renew are reminded by mail. In most cases we have no difficulty in securing renewals, but what are we to do with a subscriber who writes as follows: "I would like to renew this subscription, but what's the use when I don't know the difference between a perennial, a biennial, a diurnal or a Chinese pompon, and am too chronically lazy to till the soil for gardening, and too old and rickety to start fresh; so, wot's the use?" Friend, the teachings of THE CANADIAN HORTICULTURIST will make you wise in all things horticultural, its counsellings will baffle the hook worm and its motives will bring you back to youth and start you right; it will put you into harmony with the out-of-doors—that's the use! Send stamps, if most convenient.

A Niagara Man in the Okanagan Valley

"Cerasus," Kelowna, British Columbia

NOT having been in the valley long enough to speak authoritatively about cultural methods, I will tell some of my impressions about a country and climate very different from that in which I was brought up, the Niagara district of Ontario. From Sicamous Junction on the C. P. R. southward to Vernon is sometimes included in the Okanagan Valley. Probably more often it is known as the Spallumcheen Valley. It is a splendid country for agriculture and apples, and is claimed to resemble Ontario in climate more than any other part of British Columbia. From Vernon, it is but a short distance to Okanagan Landing where navigation on the lake begins. From the landing to Penticton at the southern end of the lake, a daily boat service is maintained by the C. P. R. Kelowna, Peachland, Summerland and Penticton are ports on the lake and fruit growing sections of importance.

Vernon is well known for its superb apples and the location of the famous Coldstream Ranch. There are large areas of good fruit lands at Vernon. Some of the more tender fruits do not seem as much at home as on places on the lake, where the water moderates the winter, as Lake Ontario does for the Niagara fruit belt.

From Penticton southward along the Okanagan River, there is some fruit land right to the international boundary. A good country it will be when water is got on to the land and a railway is put through.

Summerland is a progressive little town, in which some C. P. R. men are quite interested. A splendid and rapidly increasing quantity of fruit is shipped from here. Peaches, prunes and apricots are grown with entire success and also at Peachland, the latter a busy little place and notorious for its abundant crops of peaches. Kelowna, the largest place in the valley, excepting Vernon, has 1,200 population, and is growing rapidly. The largest compact area of fruit land in the province lies in the wide flat and benches back of the town.

IRRIGATION REQUIRED

As yet there is not irrigation water for all the land, even if there were settlers. Reservoirs or dams are needed in the mountains to conserve the snow water which comes down in greatest quantity in early June. It will mean more big companies and capital before more than a fraction of this land can be properly irrigated. Bench land that gets absolutely parched in mid-summer seems to grow fruit trees splendidly when water is got on to it.

Last summer was unusually dry, but orchards continued to smile on well-irrigated land. There is a great variety of insects here, but the wise precautions of the provincial government in fumigating incoming stock, and the careful spraying practised in nearly every orchard, has kept the orchards very clean.

KIND OF PACKAGES

Fruit is all sold by weight. The Californian idea of small, neat packages has caught on here and is a great step in advance of eastern methods of packing. Ten-pound cherry boxes, for instance, are more reasonable packages in which to ship that fruit than 10 or 12-quart baskets. Though many sorts are grown which are rather tender in the east, and the fruit generally is beautifully colored, I cannot say that, for juiciness or flavor, the fruit here excels the same sorts grown in the Niagara district.

People taking up land in this valley should make sure that it is suitable for

fruit growing. Real estate men are very fond of selling side-hill farms to those who will buy them. Even if the soil is suitable, it should be remembered that steep land is always difficult to irrigate well. The job of watering an orchard here is no small part of the routine work. The Kelowna district will be a power in the fruit market in a few years as there are thousands of acres of young orchard that will be in bearing soon.

Grapes in Niagara District

At the conference of the American Pomological Society held at St. Catharines, Ont., last September, Mr. Murray Pettit, Winona, Ont., read and discussed the following paper:

"Grape growing in the Niagara district is confined chiefly to a narrow belt along the southern shore of Lake Ontario, 40 miles in length, and from two to three miles in width, and along the Niagara River. From 1861 to 1871 a few small commercial vineyards were planted; in 1881, about 400 acres were under cultivation; in 1891, 2,397 acres; in 1901, 7,888 acres; and at the present time, 1909, 14,504 acres.

"The average yield for Concord and Niagara is over three tons per acre, other kinds about two and one half tons. One-third of the crop is used for wine, the balance in the fresh state. Sixty per cent. of the grapes grown in this section are Concord; 20 per cent. Niagara; 10 per cent. Champion, Worden and Black Rogers; 10 per cent. Red Rogers, Delaware, and other kinds.

"Bright sunshine during the maturing months of August, September, October and a high average temperature, make it an ideal condition for grape growing. Destructive frosts seldom occur before the close of October, giving a long maturing and harvesting season, which begins about the end of August, and lasts until November.

"Insect pests are neither numerous nor particularly destructive. Fungous troubles are chiefly confined to the downy mildew, powdery mildew and black rot, in some sections on moist, sandy soils. Spraying in early spring with lime and sulphur and later with Bordeaux mixture practically controls these troubles.

"In reference to varieties: I have fruited for several years 154 varieties, new and old, which I place in three groups with regard to profit, and in order of ripening.

"The first eight varieties which I have found the most profitable, are Champion, Worden, Lindley (Roger No. 9), Delaware, Niagara, Concord, Agawam, (Roger No. 15) and Catawba. For the Niagara district, Champion and Catawba should be struck out of a general list for profit, except in very early locations and soil.

"The next group in point of profit is: Campbell's Early, Moore's Early, Massasoit (Roger No. 3), Moore's Diamond, Wyoming Red, Brighton, Wilder (Roger No. 4) Herbert (Roger No. 44), Barry (Roger No. 43), and Vergennes.

"Next most profitable are: Moyer, Early Victor, Winchell, Eumelan, Brilliant, Cambridge, Reque (Roger No. 28) and Diana."

THE CANADIAN HORTICULTURIST should be in the hands of every practical farmer and fruit grower. It is worth many times the price of subscription. I am both pleased and benefited by perusing it.—W. G. Clarke, Bear River, N. S.

Tree Planting in Charlottetown, P.E.I.

A. B. Warburton, M.P., Charlottetown

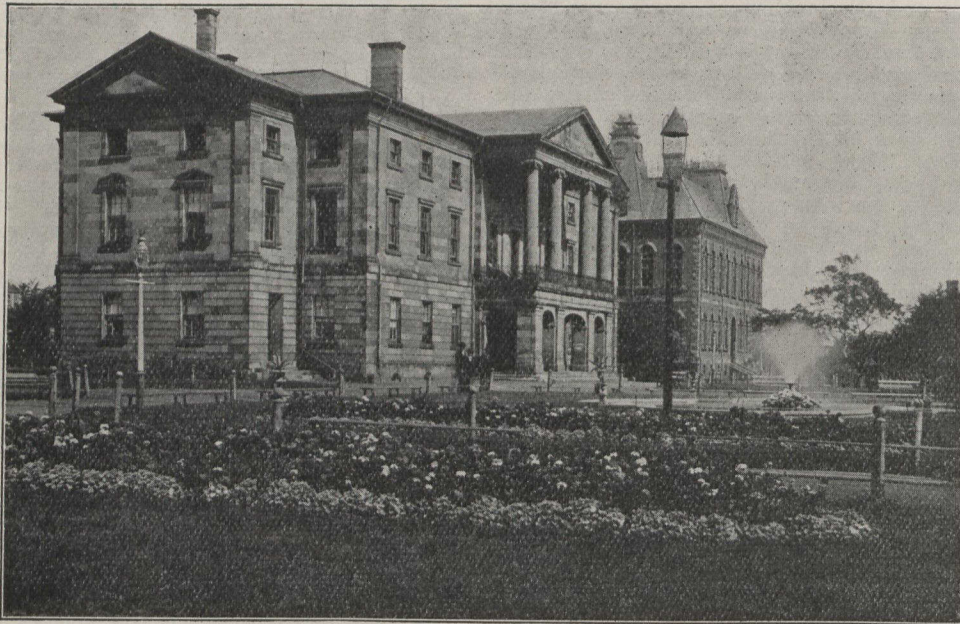
CHARLOTTETOWN is one of the old towns of Canada. It was planned before it was occupied. Spacious squares with wide streets running to the water's edge were plotted out before any buildings were erected. It is one of the best laid out towns in the Dominion. The principal streets are 100 feet in width. Five squares were reserved for the benefit of the citizens. Unfortunately, in the middle of last century, one of them was spoiled by having an unsightly jail with high palisaded fence placed upon it.

On three sides, Charlottetown meets the waters of one of the finest harbors in Canada. There are three tidal rivers emptying into the harbor. The surrounding country is fertile, undulating and beautiful in its varied hues. The red soil affords a pleasing background to the ever changing colors of the landscape. Trees singly or in clumps and groves give the country a park-like appearance.

Charlottetown would seem to be an ideal

now few in number and are rapidly disappearing. It is to be hoped that those who still keep them up will take some wet afternoon, ransack their family pedigrees, and when they find that none of their forbears who came to Prince Edward Island long ago, should have been sent to Van Deman's Land instead, they will remove these hideous structures, so suggestive of bygone wrong-doing, and by so doing improve the appearances of the city and of their own homes.

In the early spring of 1884, it would have been difficult to find a more unsightly place than Queen Square. The buildings were all right. But the square! Its absolute hideousness could not be described. Brick bats were the most ornamental things to be seen. Next came wisps of grass, looking forlorn, and growing in a spasmodic fashion. They were always dry, but fortunately so far apart that if a lighted match were thrown into one bunch, the conflagration thereby caused was not likely to spread to



Queen Square, Provincial Legislative Buildings and Court House, Charlottetown

place for ornamentation. Yet, founded though it was in the third quarter of the 18th century, the last quarter of the 19th saw streets and squares, notably the principal square in which the public buildings stood, that were about as unsightly and bare as well could be imagined.

The early settlers in Charlottetown were not convicts nor were they of the jail bird type. They were of as fine a class of people as the Old Country ever sent forth to occupy her over-sea territories. Yet, somewhere away back, one would almost expect to find an "off streak," because these excellent people insisted on surrounding their places of abode with high board fences, which gave these pleasing residences the appearance of asylums for the insane or of prisons for the criminal classes. This mania prevailed until some 25 years ago, when the more civilized notions of the Victorian age, gaining the upper hand, induced the majority of the owners of these jail-like structures to use the materials of which they were composed for kindling wood or other useful purposes. A few samples of the jail-yard style of wall still remain, an eyesore in our city, forming a sort of connecting link with the past. However, they are

the next squalid neighbor some feet distant. Cows and horses frequently found their way into the square, proofs of whose presence could always be seen by the admiring tourist. The summer dust, to be appreciated, had to be seen and felt.

A post and rail fence, of portentous ugliness, had been erected around the square, but its builders or designers, being lovers of animal life, had seen fit to allow numerous openings to be left or made, which were a great convenience, as to ingress or egress for the animals owned by citizens who looked upon the square as a kind of bovine or equine recreation ground.

In the spring of 1884, a number of the more public spirited citizens came to the conclusion that the time had arrived when all this should be changed. The assistance of the local press was sought and most freely given. For once the *Patriot* and *Examiner*, organs respectively of the Liberal and Conservative parties united in advocating tree planting. Citizens suddenly realized how unsightly was the appearance of the place.

It is unnecessary to detail the steps taken to effect a change. Suffice it to say that the Queen's birthday, May 24, 1884, was

appointed "Arbor Day." The children of the schools, and some not of the schools, were asked to take a part and plant and they did so. No section of the citizens were more interested than the children. The sight of some 1200 children, on that day, gathered in Queen Square, to inaugurate "Arbor Day," and to help do away with the noisomeness and unsightliness of that and other squares, as well as streets, will ever be remembered by those who saw it. It was an inspiring sight. Numbers of men also, with their own hands, planted their own trees which are to-day a worthy memorial to their public spirit.

Over 800 trees were planted that first Arbor Day. The people, who are to be found everywhere, skilled in throwing cold water on every undertaking, warned us that the boys would tear up and destroy the young trees. But the boys did nothing of the kind. They looked after their trees and were proud of them. The only damage ever done to the trees was not the work of youngsters. The boys showed that they could be trusted.

Each year since, more or less have been planted, until now Charlottetown has a goodly number. But there is still room. Those planted in 1884 have made a fine growth.

Besides planting trees the beautifying of the unsightly square was taken up. In this, Mr. Arthur Newbury, assistant provincial secretary, was and still is the motor power. The ground was prepared, walks laid out and grass sown. Flower beds were planted and kept up, and now Queen Square, with its trees, its flowers, its fountains and its concerts has become a favorite resort and something of which the citizens are proud and which visitors admire. The brick-bats, the wisps of grass, the dust, the dirt, the old time air of desolation, have gone. The younger generation does not remember them.

Not only in Queen Square, but in the other squares and in most of the streets trees have been planted and have flourished. Grass plots have begun to line the sides of the streets, whilst the streets themselves have been vastly improved; but still, the improvement which most strikes the eye is the one that began with that first "Arbor Day," May 24, 1884. I would suggest to the readers of THE CANADIAN HORTICULTURIST that they visit Charlottetown next summer and see this city and province for themselves. It would do them good.

Apples at Ten Cents a Barrel

Jas. Burrell, Jr., Yarmouth, N.S.

Yarmouth county has been the dumping ground for the counties of Annapolis, Kings and Hants in the fruit business for many years. Last year was the worst in 10 years. They began as early as Sept. 25 sending in Gravensteins by the carload, marked No. 1 and No. 2. These sold at auction from 10 cents up to \$1.35 a barrel. Some of the No. 1's would have two or three tiers of good apples on top and the rest would not be good No. 3's. Barrels worth 30 cents, freight from 20 cents to 40 cents, and commission and truckage in addition, so there would not be much left for the shipper.

I know of 50 barrels being sold at a private sale to an American for \$17.50. I don't believe he made anything on that as he was kept busy picking them over and sorting them out until he could get a chance to sell at 75 cents a barrel, for most of them. I believe as many as 5,000 barrels were shipped and sold here with a population of only 7,000. Looks hard for the fruit growers of the county! I sold all mine at \$2.00 a barrel, No. 1 and No. 2.

Lime-Sulphur vs. Bordeaux

(Continued from page 1)

lime-sulphur, especially commercial lime-sulphur, can control apple scab in a very satisfactory way, in fact just about as well as Bordeaux.

One point, however, has scarcely been sufficiently well tested yet, viz., whether or not as good results can be secured in wet seasons. The last two summers have been dry and have given the wash a good chance. It is almost certain that a soluble substance like commercial lime-sulphur would wash off more rapidly than Bordeaux. If so, its efficiency would be lessened unless an extra application were made.

PEAR SCAB

On pear scab I have not got definite data from any experiments except my own. In the college orchard at Guelph there are six or seven Flemish Beauty trees near each other in three rows. Two trees in the middle row were chosen. The fruit and leaves of these were both very scabby last year. They were sprayed this summer at the proper dates mentioned above with Vanco lime-sulphur. The first application was of the strength one to nine, the second one to twenty-five, but as this burned the foliage considerably the other two were each made one to fifty. In September, when picked, the pears were absolutely free from scab as were also the leaves. All the surrounding trees which had received three applications of Bordeaux had considerable scab on both the fruit and leaves. Probably if they had got the first application (the one omitted) they would also have been quite clean. However, the experiment showed clearly that commercial lime-sulphur would control pear scab even on Flemish Beauty trees.

LEAF SPOT

As for leaf spot, Dr. Brooks has been making a close study of the cause and remedy for this disease. He finds that the regular sprayings with either Bordeaux or lime-sulphur will control it quite satisfactorily. This is valuable information because Professor Scott and Dr. Brooks have both demonstrated that the disease which causes most of these small round spots on the leaves is also the cause of the back rot canker, and so a wash that will control it in one form will also control it in any other. The leaf spot seldom does much damage to the leaves but its prevalence will help to spread the cankers which are very serious and require special care. Therefore, its control is of importance.

CANKERS

There is not time here to discuss the proper method of treatment for cankers but as

already said the first spraying must be in the spring before the buds burst as the spores spread very early and must not get a chance to germinate. Lime-sulphur of the regular home-boiled type has been well tested this year for the spring application and those who have used it think it vastly superior as a spring treatment to Bordeaux. The summer applications, as said above, should be the same as for apple scab, and either Bordeaux or lime-sulphur, preferably the commercial form, may be used. As the cankers occur on the trunks and branches these will require to be very carefully sprayed in districts where cankers abound. Badly infested orchards treated in this way this year (1909) show no new infections and a great improvement in the health of the trees.

BALDWIN SPOT

Tests made by Brooks showed that Baldwin spot could also be controlled by these forms of lime-sulphur or by Bordeaux if applied at the proper dates mentioned.

The Use of Bordeaux Mixture

Some important things about the use of Bordeaux mixture have been determined through experiments conducted by the Illinois Agricultural Experiment Station and recorded in bulletin No. 135. A few of them are:

1. Injury to foliage of apple trees following application of Bordeaux mixture is of common occurrence. Much of the injury reported or observed is preventable. The principal sources of injury as determined by observation are:— (1) Use of impure or improper materials. (2) Carelessness in making the mixtures. (3) Improper and ineffective application.

The first two of these sources of difficulty can be entirely eliminated and the third greatly mitigated by reasonable attention and supervision. Formulas must be respected and small details of practice must receive attention in order to attain best results. But when all precautions have been taken injury sometimes results. These non-preventable injuries are associated with unfortunate weather conditions and particularly with the action of rain and dew.

2. The adhesiveness of Bordeaux mixture depends very much upon the manner of making and upon the character of the lime used. Variation in the proportions of copper sulphate and lime beyond certain well-defined limits decreases adhesiveness. With lime of good quality a close approximation of equal parts of copper sulphate and lime gives greatest adhesiveness. There is decided advantage in the maintenance of an excess of lime upon the foliage, but this must be

accomplished by subsequent applications and not by increasing the amount in the original mixture.

3. No definite experiments regarding the accumulation of copper in the soil under sprayed trees have been conducted, but from results reported of experiments of others it does not appear that there is danger from this source. There is no evidence at hand that in any way associates browning or yellowing of foliage with copper in the soil.

4. The two classes of leaf injury considered are, "brown-spotting" and "yellowing." Brown-spotting is the more common injury. Yellowing, when it appears in epidemic form is the more serious of the two because affected leaves are entirely destroyed. Not all brown-spotting is due to spraying. Other causes are, frosts, winds accompanying cold spring storms, fungi and insects. Leaf injuries are most common and most serious in neglected orchards.

5. The ideal spray compound that is perfectly effective and at the same time perfectly harmless on all occasions and under all conditions has not yet been discovered. Bordeaux mixture most nearly approximates the ideal, but its harmlessness can not be absolutely depended upon.

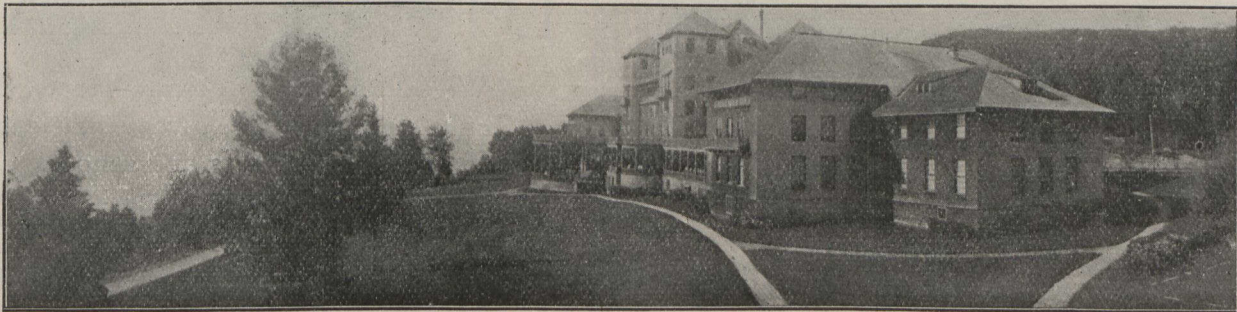
6. Injuries to foliage do sometimes follow applications of Bordeaux mixture and appear to be unavoidable. There are differences of opinion as to the exact manner in which injuries are inflicted.

7. The value of Bordeaux mixture as a fungicide depends upon the contained copper. The action is preventive and not curative. It follows that early application with the one aim of defence gives infinitely better results than later application intended to check ravages already begun.

8. The causes of yellowing of leaves of apple trees are obscure and not well understood. From observations extending over five seasons it seems certain that there are several causes which may operate singly, or together. Recurrent epidemics of yellowing appear to have no direct relation to wet or dry periods, or to other weather conditions. The experiments made do not establish any direct and positive connection between spraying with well-made Bordeaux mixture and yellowing of leaves, but do show that improperly made mixtures may cause yellowing and that yellowing results from use of simple solutions of copper sulphate.

9. Healthy bark of apple trees is impermeable to Bordeaux mixture and solutions of copper sulphate. Copper sulphate solutions are absorbed through wounds and promptly kill the leaves which then become brown. Numerous experiments in which copper sulphate and solutions were injected through roots and through holes bored in trunks of

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trees, uniformly resulted in browning of leaves. The copper penetrates to the leaves as was determined by analysis.

10. The importance of rain and dew as agents causing brown-spotting of foliage following applications of Bordeaux mixture is well attested by the uniform results obtained from the experiments with covered and uncovered trees. Two trees were sprayed heavily; one was left exposed, the other was protected from all rain and dew. This was repeated during three seasons. In each year the foliage of the exposed tree was more or less injured by brown spots, while the tree protected from rain remained free from injury. Several other experiments in which trees exposed to rain were brought into contrast with trees protected from rain gave, in all cases, the same results, namely, some degree of injury to foliage exposed to rain and absolute freedom from injury to the foliage of trees protected from rain.

11. Milk of lime does not cause brown spots even when applied in large quantity, but burning quickly follows applications of copper sulphate solutions even when the solutions are very dilute. It is therefore concluded that copper in solution is the active agent responsible for the burning of foliage.

12. Bordeaux mixture has a decided influence upon the color of leaves. Under a coating of Bordeaux mixture leaves assume a very dark green color that is retained even after the coating is mostly washed away. Leaves coated with lime only become in some degree darker in color than untreated leaves, but the shade is not so deep as is assumed under a coating of Bordeaux mixture.

I enjoy the attractive pages of THE CANADIAN HORTICULTURIST. Its suggestions are always practical.—J. A. Wallace, Brant, Co., Ont.

Self-boiled Lime-Sulphur

In the October issue of THE CANADIAN HORTICULTURIST there appeared on page 224 a brief report of a paper on "Sulphur Sprays," that was read at the conference of the American Pomological Society held at St. Catharines, Ont., last September. In the paper, which was prepared by Mr. W. M. Scott of the Bureau of Plant Industry, Washington, D.C., mention was made of some experiments conducted in the Hale orchards of Georgia. The mixture used in the experiments was composed of 8 lbs. sulphur (flour or flowers) and 8 lbs. fresh stone lime to 50 gals. of water. In mild cases of scab and brown rot, a weaker mixture (6 lbs. of each) may be used. In order to obtain a good concentration of heat from the lime, the mixture should be prepared when practicable in large quantities, say enough for 200 gals. The formula would then be 32 lbs. of lime and 32 lbs. of sulphur to be cooked with a small quantity of water (8 or 10 gals) and then diluted to 200 gals. NOTE.—50 gallons wine measure, here referred to, equal 40 gallons Imperial.—Editor.

Place the lime in a barrel and pour on enough water to almost cover it. When the slaking starts, add the sulphur, which should first be run through a sieve to break up the lumps. The slaking of the lime will boil the mixture for several minutes, dissolving a small portion of the sulphur. More water may be needed to keep it wet but care should be taken not to add enough to stop boiling before the lime is thoroughly slaked. Considerable stirring is required, to keep the water distributed through the mass so as to avoid drying and burning on the bottom.

As soon as the lime is thoroughly slaked, or not more than five minutes thereafter,

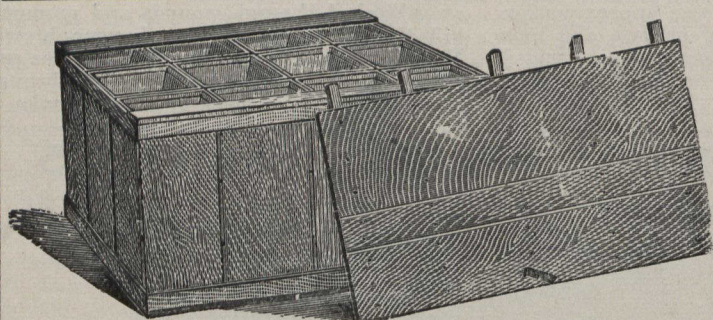
enough water should be poured on to cool the mixture and prevent further cooking. It is then ready to be strained into the spray tank, diluted and applied. If the mixture is not cooled within a few minutes after the lime has finished slaking, the heat continues the cooking so that within 20 or 30 minutes a large percentage of the sulphur may go into solution in the form of calcium sulphide, which is injurious to the foliage. The object is to make a mechanical mixture of the lime and the sulphur, dissolving only a small portion of the latter. It should be strained so as to take out the coarse particles of lime, but the sulphur should be carefully worked through the strainer.

Tomato Leaves as Insecticide.—Many observers have noted that the leaves of Tomatoes are obnoxious to certain insects. Applying this idea, Mr. Boncher, a French grower, has experimented with decoctions of tomato leaves, and finds, according to the *Revue Horticole*, that the extract is sufficiently poisonous to destroy green fly. By syringing peach trees infested with these insects he succeeded in completely ridding his trees of the pest. The value of the observation lies, of course, in the cheapness of the specific, its cost (to growers of tomatoes, at all events) being far less than that of many other remedies.

Readers of THE CANADIAN HORTICULTURIST wishing to secure some of the fine colored calendars and posters being sent out by the International Harvester Co., of Chicago, or copies of their interesting book, "Glimpses of Thriftland," can secure same by writing to the nearest agency of the above company and mentioning this paper. See elsewhere in this issue for a list of Canadian agencies.

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Iron Arsenate as Insecticide

Experiments with iron arsenate as an insecticide have been conducted for several years in France by Messrs. V. Vermorel and E. Dantony. A report of their work is given in the "Experiment Station Record" of the United States Department of Agriculture, Washington, D. C., as follows:

"On the basis of several years' experiments the authors conclude that the action of iron arsenate, as an insecticide, is equal and sometimes superior to that of lead arsenate. It is easily prepared for use and its adhesive power is greater than that of similar products.

"Among the advantages that this insecticide has over lead arsenate are its characteristic color which prevents a mistaken use and the presence of iron in place of lead, the former having a beneficial effect upon the foliage. The most important advantage, however, is the cheapness of the product due to the cheapness of sulphate of iron as compared with acetate of lead."

At the Woburn (England) Experimental Fruit Farm, investigations have shown that the clear lime water made by slaking three pounds of quicklime in about one hundred gallons of water, and then adding eighty-six gallons of this clear solution to fourteen gallons of water in which six pounds, six and one-half ounces of copper sulphate have been dissolved, will yield one hundred gallons of Bordeaux mixture superior to and cheaper than that made according to the commonly accepted formula. As our ordinary commercial forms of quicklime vary exceedingly in its essential constituent, viz., calcium oxide, the potassium ferro-cyanide test becomes essential if anyone is disposed to give this formula a trial.—Exchange.

Niagara Growers Meet

Harmony prevailed as usual at the annual gathering of the Niagara Peninsula Fruit Growers' Association held at St. Catharines, Ont., on Jan. 13. President Bunting was in the chair, with Secretary Carl Fisher presenting the reports of the year. Officers were elected for the various districts and a series of meetings were arranged for the coming spring.

It was moved by Major Roberts and W. H. Hough that in the opinion of the association it is necessary that an adequate census of the amount of acreages of fruit under growth and the ages of trees be taken, and that both Provincial and Dominion departments be requested to assist.

Mr. P. W. Hodgetts of the provincial department stated that a census taker had been placed in the district to get information and that a report would be issued early. Major Roberts thought that the number of young, non-bearing trees should also be taken into consideration. It was very essential in the mind of the president that such a census as Major Roberts had outlined should be taken. Unless this was done, the growers would not be able to get proper information relative to the setting out of the different varieties of trees.

A resolution was adopted setting forth that "in view of the rapidly increasing output of tender fruits from the Niagara peninsula, and from the fact that under the present methods and conditions, the distribution of these fruits is not satisfactorily nor systematically conducted, a situation which results in dissatisfaction to the consumer and often in loss and disaster to the shipper, we would urge that a committee of prominent growers, selected from the members of this association, located at different shipping points in the district, be

appointed to take the matter under consideration, to secure data, and, if possible, to formulate a plan whereby the present unsatisfactory conditions may be if not wholly eliminated, at least to a large degree remedied."

Another resolution was passed as follows: "In view of the amalgamation and merging of the various canning factories of the country into one or more large holding companies, it is in the interests of the fruit and vegetable growers that a committee of growers be appointed by this association, who shall have authority and whose duty shall be to treat with these companies with the object of arriving at fair and equitable uniform prices for the various fruits and vegetables produced in this district, and used by the canning factories in their business."

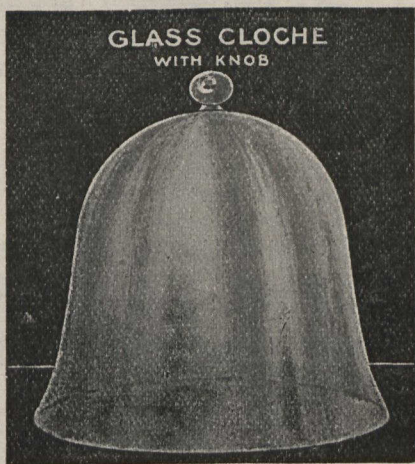
The special spraying committee reported that after experimenting they had found that curl leaf on peach trees can be prevented if sprayed with lime and sulphur previous to the time the buds begin to grow. If the leaves start and curl while the leaf season is on the pest cannot well be checked. The committee experimented in one orchard by spraying all but five trees in the manner advised. In every case, save those of the five trees, the crop averaged ten baskets. The other five lost all their foliage and fruit.—J. A. S.

All persons who are interested in improving their homes should write to Brown Bros., Nurserymen, Limited, Brown's Nurseries, Ont., for a copy of their booklet entitled, "Beautiful Landscapes Quickly Produced." This little work contains much valuable information on landscape gardening.

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Nov. 6th, 1909.

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What Is a Crab Apple?

In the November issue of THE CANADIAN HORTICULTURIST editorial reference was made to the need for definitions to distinguish between apples and crab apples. Our pomologists are asked to contribute their views. Expressions of opinion on this subject will be interesting and may aid in determining the real distinction, if there is any, between these types. Mr. E. D. Smith, Winona, Ont., proprietor of Helderleigh Nurseries, and president of the Ontario Fruit Growers' Association, gives his opinion in a letter recently received by THE CANADIAN HORTICULTURIST, as follows:

"My idea of a crab apple is simply an apple that is of an extremely acid character, of too acid a character to be edible out of hand for the average person; that is, too acid to be eaten by the average man with pleasure. I do not know what other distinction there is between a crab apple and an apple."

R. Brodie, Notre Dame de Grace, Que., writes: "A crab apple is understood to be the hardest species of the apple family. Most of the improved varieties have sprung from the old Siberian crab, a small, highly colored apple with a long stem, very astringent, the eating of which uncooked, makes people very "crabbed." Large varieties like Whitney, Gibb and Isham Sweet should be claimed as apples. In the old overloaded trees of the Wealthy, a hybrid between the crab and the Duchess, one would think that the fruit had reverted back to the crab. It shows the crab parentage with small sized, long stem. It is only by severe pruning, cutting back, manuring and thinning that you can get any size on old Wealthy apple trees."

Mr. W. J. L. Hamilton, South Salt Spring, B.C.: "The term 'crab apple' is the old English name for the wild apple

of that country, *Pyrus Malus*, the parent of our garden apples. Hence it has, in a wider sense, been applied to all wild varieties of apple, such as *Pyrus baccata*, and *Pyrus prunifolia* of Siberia, *Pyrus coronaria* of our continent, and the allied *Pyrus augustifolia* of the west. The crabs of our orchards are cultivated and improved varieties of the Siberian class, *P. baccata* and *P. prunifolia*.

"I well remember when the original 'Siberian crab' was grown in our orchards in England as the sole representative of its class, where it was much valued for the excellent jelly made from it, superior, I believe to that made from the Hyslop or improved Siberian crab of the present day.

"Strictly speaking, I should imagine that the direct descendants of these two Siberian varieties would be the true crabs, but as Professor Baily hints, and as your article clearly points out, the many crosses with *P. Malus* and with possibly other varieties, has made it almost impossible to draw a strict line of demarcation between "crab" and "apple."

"Crabs are useful only in cooked form; so, it is perhaps logical to look to the cook for the modern definition. From her definition I understand a crab should be of conveniently small size, of a bright, attractive color, and of pronounced crab flavor. Crab flavor means that it should be aromatic, tart, and astringent to a certain degree, but the flavor is hard to define and is best understood by tasting the fruit. It is distinct from that of the apple and is directly inherited from its wild parent."

I appreciate THE CANADIAN HORTICULTURIST very much and do not think I could get along without it. It improves with every issue.—Thos. Bradley, M.D., Bruce Co.

Book Review

"Popular Fruit Growing," by Samuel B. Green, Professor of Horticulture in the University of Minnesota.—A thoroughly practical work treating on the factors of successful fruit growing, orchard protection, insects injurious to fruits, diseases injurious to fruits, spraying and spraying apparatus, harvesting and marketing principles of plant growth, propagation of fruit plants, pome fruits, stone fruits, grapes, small fruits, nuts, etc. Profusely illustrated. Revised Sept., 1909, contains 300 pages, 5 1/2 x 7 inches. Webb Publishing Co., St. Paul, Minn.

This book is the result of the development of the teaching of fruit growing in the University of Minnesota and comprises a careful compilation of lectures on fruit growing given to the students, which have been revised and considerably extended. It should be in the hands of every person interested in fruit growing, is an indispensable guide for the class room and no library is complete without a copy on its shelves. The subjects are well arranged and minutely described, making it easy, therefore, for anybody to understand the matter portrayed, identify difficulties, find the remedies and apply them. It is so carefully indexed that the reader can immediately locate the requisite knowledge by a glance at the list of chapter headings. This volume is handsomely printed on fine paper from large, clear type and is profusely illustrated, containing many special drawings, to more clearly define the author's descriptions.

Copies of this book will be sent to any address in Canada, postpaid, on receipt of the price, \$1.00. Order at once. Address THE CANADIAN HORTICULTURIST, Peterboro, Ont.

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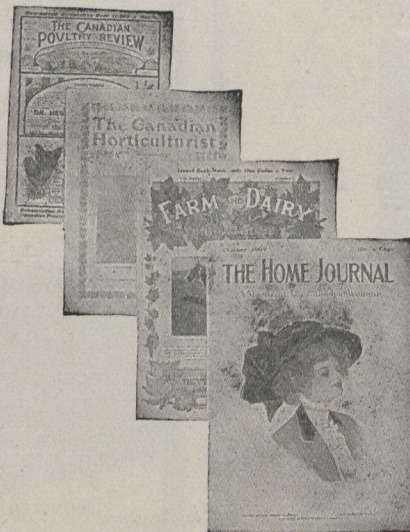
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Magazines sent to one or different Addresses

Peach Orcharding in Southwestern Ontario*

J. L. Hilborn, Leamington

WITH such subjects as this, it is the present condition that is of chief interest. I will allude to the past, therefore, only enough to say that in Essex county the fruit buds of the peach tree usually come through the winter in good condition so we almost always have plenty of good buds to produce a crop.

The peach orchards in that district have been twice annihilated in ten years, by the winter killing of the roots of the trees to such an extent that several thousands of acres of peach trees were entirely destroyed in that way while a good share of the fruit buds and the tops of the trees were apparently uninjured. So far as I can learn this never occurred before, except once some thirty years ago and then the destruction was not nearly so complete. Therefore, it is fair to assume that with the improved methods of culture and the more general use of cover crops, which is being adopted more and more, the chances are that those who are now planting peach orchards have a fair chance of harvesting good crops.

As so many of the growers lost so heavily by the destruction of all their orchards, on the two occasions I have mentioned, most of them entirely ceased planting peaches for several years and gave their attention to the growing of other crops. A few of the more optimistic ones continued planting to some extent, and those have been harvesting fine crops the past two seasons. But the acreage of bearing orchards is still quite

*Extracts from a paper read last November in Toronto at the Convention of the Ontario Fruit Growers' Association.

limited in Essex county. There are perhaps only 170 or 180 acres in bearing in what might be called the Leamington district, including the Albuna and Olinda locations, and I know of no large orchards in the county outside of this territory. There are perhaps 80 to 100 acres more just coming into bearing. The greater portion of these orchards are being well cared for in pruning, spraying and cultivation and are in good condition to produce a crop next season.

The San Jose scale is quite bad all through this district but is being fairly well held in check.

There were probably 25,000 more peach trees planted in this vicinity last spring and, so far as I can judge from extensive enquiries, there will likely be as many more planted in the spring of 1910, while numerous others are planning to plant heavily the following season. It will take several years yet, however, to get the acreage of peaches that we had in this vicinity previous to the disastrous freeze of 1899, but the great majority of the trees that were destroyed at that time were not old enough to have produced fruit to any extent.

Scarcely any tree fruits are being planted in this vicinity except the peach. Farther west along the shore some peaches are being planted but to no great extent.

The varieties that are being planted mostly are St. John, Engol, Elberta, Banner, Golden Drop and New Prolific.

While quite a few of the trees being planted are grown locally and some are purchased from nurseries in the Niagara dis-

trict, the greater portion of them are imported from nurserymen in Michigan. The chief reason for this is the fact that, a few years ago quite a large quantity of trees were purchased from nurseries in the Niagara district, which proved so very unsatisfactory that our growers got the idea that our eastern nurserymen thought that anything that looked like a peach tree was good enough to send to Leamington.

During the past two or three years, however, some of my neighbors and myself have been getting some trees from near Fonthill which have been very satisfactory. If they will continue to send us this class of trees they would possibly win this trade back again, if it is not supplied locally, which is quite probable.

In Lambton county, particularly along the Lake Huron shore north of Forest, the people are becoming quite enthusiastic over the growing of peaches. Mr. D. Johnson of Forest, who is well known as a leading fruit grower of western Ontario, has an orchard of 15 acres just coming into good bearing and he intends planting ten acres more next spring. Mr. Johnson informs me that several of his neighbors have peach orchards that are producing heavy crops annually—that there is over 100 acres of peach orchard in that locality, about half of which has been in bearing for several years, the balance just coming into bearing. He states that in all probability there will be about 100 acres more planted next spring with heavy succeeding plantings.

At Arkona, 12 miles inland, they are also growing peaches to a limited extent. Mr. E. D. Morningstar has about 10 acres in bearing also a young orchard, while several others have smaller orchards. However, the crops there are more uncertain

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than along the lake and it is unlikely that enough will ever be grown there to materially affect the market.

In the county of Kent, particularly along the lake shore there is a tract of land that is well adapted to peach growing. A few are being grown there but they are not planting very extensively as yet.

Peach Trees on Plum Roots

Editor, THE CANADIAN HORTICULTURIST:—You ask for my experience in growing peaches on plum stocks. It is rather limited, but may be of value.

When so many peach trees were killed by root freezing a few winters ago in the vicinity of Leamington, where we had our experimental station, it was suggested at a meeting of the experimental board that we try to get some peach trees budded on plum, knowing that plum roots would be hardier and perhaps might stand the winter better. We tried to get them at several nurseries both in Canada and the United States without success. Finally I volunteered to grow some if the board would furnish me the plum stocks.

Accordingly in the spring of 1907 they sent me 1,000 (500 Americana and 500 Myrobolan) which were carefully planted and budded the same season. Those on the Americana stock made a vigorous growth in the summer of 1908, fully equalling those

grown on peach roots alongside of them. While the buds had taken equally as well on the Myrobolan, they made but a feeble growth and were not more than half the size. The trees, about 300 of each, were delivered at the experimental farm, Jordan Harbor, to be distributed among the different stations last spring. Reports on how they succeed in the future will be given when results are available.

I myself planted a few and had two fine peaches from one the first year of planting. Judging from these results, I should use the Americana stocks if I were going to grow peaches on plum stocks.—A. M. Smith, Port Dalhousie, Ont.

Shipping Peaches to England

Last season experimental shipments of peaches from various sources in Ontario were sent to England. Comments respecting some of them were published in the January issue of THE CANADIAN HORTICULTURIST. These shipments have been referred to also in the reports of the department of trade and commerce, Ottawa. In one of these reports, Mr. W. A. MacKinnon, Canadian Trade Commissioner at Birmingham, refers to a shipment made by the Biggs Fruit and Produce Co. of Burlington, Ont., and gives the following general advice to persons interested in this trade:

"The Package.—See that it is sound, and

the advertisement which it carries conspicuous.

THE FRUIT

"All over-ripe, bruised, cut, or otherwise blemished specimens must be absolutely excluded. If those selected are to remain sound and carry well, they must be handled more gently than eggs, receiving neither jar nor under pressure. Peaches for export should be picked as much as possible with the palm rather than with the fingers, and placed on a layer of cotton wool or excelsior in the picking basket. All details of wrapping and packing should be carried out with the same delicate care. It all adds to the cost, but there is no use saving expense on that side and landing damaged peaches here.

WRAPPING

"Waxed or some paper impervious to moisture is advisable, though the kind of paper used by California shippers, some of which is treated with antiseptics, should be sufficient if decay and other moisture can be absolutely excluded. Outside the paper, a ring of cotton or wood should surround every peach as a buffer between it and others in the same package. In some of the government trial shipments in 1899 a belt of wood wool was folded in tissue paper making a band from one and a half to two and a half inches wide and successfully used. This of course occupies valuable space, but would appear to be necessary.

COLD STORAGE

"The peaches were in excellent condition, the flavor appearing almost uninjured, so that it is to be concluded that they had come through ideal temperature conditions.

"The whole matter may be summed up by stating that scrupulous care in the matters of selection, protection and temperature is required."

At the Colorado National Apple Exposition held at Denver last month, 16 states were represented and, while the exhibits were small in comparison with those from Colorado, the character of the fruit was such as to leave doubt in the minds of the judges where honors really belonged. Georgia sent 15 boxes and Oregon, Washington, Montana, Utah and New Mexico about 30 boxes each. Then there were mixed exhibits also from Maryland, Pennsylvania, Michigan, Iowa, Kansas, Nebraska, Missouri, Idaho and California.

At a meeting of the directors of the Ontario Horticultural Exhibition held in Toronto last month, it was decided to broaden out that show along similar, but more restricted, lines to that of the Spokane and other western shows. The Ontario Fruit Growers' Association has decided to duplicate any grant from a county to put up an exhibit, up to the extent of \$50 each, provided such exhibit contains a certain quantity of fruit in commercial packages. This and similar ideas will be worked out during the summer in order that the Ontario Horticultural Exhibition next fall will be greater than ever in extent and influence.

Last month a number of horticultural societies in Ontario had the pleasure and privilege of hearing some excellent illustrated addresses by Miss Louise Klein Miller, curator of school gardens, Cleveland, Ohio. Much information was given that will help to make our homes, schools and municipalities more beautiful. The places visited by Miss Miller were Windsor, London, Guelph, Galt, Toronto, Ottawa, Smith's Falls, Perth, Brantford and St. Catharines.

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Leo Slezak, the great tenor, now sings for you in the Edison Phonograph the same famous arias from the Grand Operas that the New York audiences pay \$5.00 a seat to hear. Just how great a singer Slezak is, is told in the following remark, quoted from the New York World the morning after a recent appearance of Slezak at the Metropolitan Opera House: "Caruso now has a rival."

Slezak has made ten records for the Edison, comprising the principal tenor songs from the more prominent roles of his repertoire—so that, while the New York opera goer pays \$5.00 a seat to hear Slezak in one opera, with the Edison Phonograph and Amberol Records you get Slezak at his best in his ten best roles, including Otello, Lohengrin, Tannhauser, Rhadames in Aida and Rodolfo in La Boheme.

Only on Amberol Records can you get a full length rendering of these great arias—and only on the Edison Phonograph do you get Amberol Records. Hear these great Slezak Records at any Edison dealer's today.

Edison Phonographs \$16.50 to \$240.00 Edison Amberol Records (play twice as long) \$.65
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The Potato Situation

Wm. B. Leavens, Chisholm, Ont.

The potato, at the present time, is the only cheap article of food in general use which, from the grower's standpoint, is very unsatisfactory. The 1909 crop was certainly a bumper one, and the price today is below that of profitable production; so it seems a very good time to stop and consider what is to be done about it.

Those who watch the market quotations at all closely have noted that potatoes are brought in large quantities from the Maritime Provinces and sold in Ontario markets at higher prices than our own will bring. There must be a reason for this and one well worth finding. I am credibly in-

formed that in the average carload of Ontario's one may find samples of half the types grown, early and late, round and oblong, red and white, smooth and rough, while it is possible in the east to get a whole train-load of potatoes of a uniform standard which certainly are worth more in any market. It would seem advisable under the circumstances to feed all the small over-large and ill-formed potatoes to the stock and only offer for sale such as the market will readily absorb at a price which yields a profit. The abundance of the crop affords growers an opportunity of getting a supply of new seed of splendid quality at a price not often reached.

It would be an excellent plan for our farmers' institutes to take an hour in the

discussion of potato-growing with particular reference to the growing of only such varieties as will conform in shape, size and quality to the demands of our larger markets.

A Serious Potato Disease

A bulletin entitled, "A Serious Potato Disease Occurring in Newfoundland," has been issued by the Central Experimental Farm, Ottawa. It was prepared by H. T. Giissow, the botanist. The substance of the bulletin is given in the following summary:

"1. The disease known as 'Potato Canker,' 'Black Scab,' 'Warty Disease,' and 'Cauliflower Disease of Potatoes,' due to

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JUST send us your name and the book will go to you FREE by the next mail. Let it tell you a story you ought to know—let it tell you all about farm telephones—about their efficiency, their simplicity, about their comparatively small cost, and last, but by no means least, about their convenience. All you have to do is to

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What is Home Without a 'Phone?

YET what use is a phone in a home if it is not absolutely satisfactory—what an aggravation it is!

We want you to know about our newly designed No. 1317 Type Telephone Set—to have you understand why it represents the achievements of telephone perfection—to tell you the story of \$10,000 spent on a single instrument to make it ideal before even one was placed on the market.

Every part of No. 1317 is as nearly perfect as it is possible for the most expert telephone engineers in America to make it.

The mouthpiece—the transmitter—is the standard, long-distance type; the ear-piece—the receiver—precludes entirely your hearing any local noises while you are listening on the wire; the generator is stronger than that of any other phone made—will easily ring more phones on a longer line than any phone on the market to-day; our new type 38 ringer is not only very sensitive and efficient but operates on from only one-third to one-fourth the current ordinarily required; our extra large brass gongs produce a volume of noise fully half as great again as gongs on other sets; the switch hook makes all contacts on the best grade of

THE facts about the farm telephone are facts with which every farmer, isolated in the country, should be familiar.

And this book tells you these facts—tells you not only all about the instrument itself—the money it will cost, the dollars it will save, but tells you everything you want to know—need to know—owe it to yourself to know—about farm telephones. Then, it goes further than that. It tells you in plain, non-legal terms, how you may organize a rural telephone company in your own community. It tells how simple the procedure is, how little—how very little—it costs to get started and how extremely insignificant is the cost of maintenance after you once get going.

After you have read this book you will know exactly what you would have to do if your community wanted to

organize and operate a little telephone company of its own—the precise steps it would be necessary for you to take if you yourself wanted to promote such a company among your own friends and neighbors. You know now without our telling you how, if you were able, to approach your neighbors with every fact—every detail—at your finger ends, you would be able to command their attention, interest and support on such a proposition.

And it won't cost you one single cent to acquire the other information—we stand ready to give it to you for the asking.

Remember, too, the information we will give you is authentic. Back of the little book we will send you stands the reputation of the "Northern Electric"—the concern which has manufactured all but 9,000 of the 259,000 telephones which are in use in Canada to-day. The telephone service about which we want to talk to you embodies not one single detail that is not right up to the minute. The telephone service that we offer to the Canadian farmer is based on our newly designed No. 1317 Type Telephone Set—the most modern instrument on the market to-day for use on rural party lines. With it, you can talk and hear just as well as with the instruments used in the largest and best telephone exchanges in the world. We know—for we manufacture all types, from 10,000 line Central Energy Systems down to bridging party lines for rural use.

But you'll get the whole story in detail in the book—better send for it now—to-day.

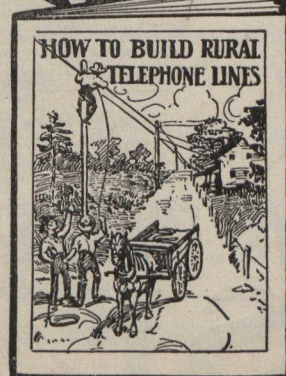
Simply send us a post card and say you want our Bulletin No. 2216 and you will get it by return mail.
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THE NORTHERN ELECTRIC AND MANUFACTURING CO. LIMITED

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the fungus *Chrysophlyctis endobiotica*, Schlib., which caused severe losses amongst European potato crops, has for the first time appeared on this side of the Atlantic, being reported from a locality in Newfoundland.

"2. Growers or consumers of potatoes must guard against the introduction of this disease into the Dominion of Canada by selecting sound potatoes for cultivation and by strictly rejecting any that appear diseased.

"3. As yet, no case of the disease has been recorded from any locality within the Dominion. In the event of the disease appearing, samples of tubers should be submitted without delay to the botanist, Central Experimental Farm, Ottawa for examination and advice.

"4. Specimens of this disease preserved in alcohol will be sent to any agricultural institution or college for the purpose of having type specimens for reference, as soon as ready.

"5. Copies of this bulletin may be had free of charge on application to the Central Experimental Farm, Ottawa.

"6. The present bulletin has been prepared as a warning, in the hope that all

potato growers, merchants, gardeners and private individuals will take immediate steps to report promptly any cases of the disease which may come to their knowledge, and so join in preventing the spread of this serious malady which has unfortunately assumed such dangerous dimensions in Europe."

At the annual meeting of the Hamilton branch of the Ontario Vegetable Growers' Association the following officers were elected for 1910: Pres., R. H. Lewis, Hamilton; vice-pres., M. Button, Hamilton; sec.-treas., Thos. Tregunno, Hamilton. The provincial directors are R. H. Lewis and E. J. Mahony. An excellent programme of meetings has been prepared, copies of which may be had on application to the secretary.

Brown-tail Moth.—The Dominion entomologist at Ottawa has sent out a warning to importers of nursery stock from abroad in reference to the possibility of introducing the brown-tail moth on such stock. Nurserymen are asked to inform the entomolo-

gist if they are importing or already have imported nursery stock this season from abroad, and the place from which the stock is being or has been imported, and the time of its arrival. As it may be necessary to inspect the stock, such information should be sent at once.

Cooper's Fluids.—V1, V2, V2K and V3 fluids are manufactured by a house with a world-wide reputation of 65 years as agricultural chemists. Wm. Cooper & Nephews confidently place their products before the Canadian fruit grower as perfect scientific realizations of ideal spraying compounds. These fluids have been subjected to the most severe tests in this country, the United States, South Africa, Great Britain, France, Tasmania and wherever fruit is grown for profit. In all cases they have gained the approval of the most progressive growers. Readers of THE CANADIAN HORTICULTURIST should obtain a supply this season of these excellent preparations. The highly concentrated form into which they are sold to the public obviates all mixing and any annoying necessity of boiling or preparing. Our readers' attention is drawn to the excellent page of reports for the year 1909 regarding these articles.

Better Crops With Half The Work



You can't afford to farm without Planet Jr implements. They are the greatest implements ever invented to prepare the ground for big results and lighten farm and garden labor. Over two million farmers and gardeners are now using Planet Jrs. Strong and lasting. Fully guaranteed.

No. 4 Planet Jr Combined Hill and Drill Seeder, Wheel-Hoe, Cultivator and Plow, saves time, labor, seed and money. Almost all useful garden implements in one. Adjustable in a minute to sow all garden seeds, hoe, cultivate, weed, or plow. Pays quickly, even in small gardens.

No. 12 Planet Jr Double-Wheel Hoe, Cultivator, and Plow is the handiest implement ever made for truckers and gardeners. All cultivating parts are of high-carbon steel to keep keen edge. Specially designed to work extremely close to plants without injury. Does away with hand-weeding.

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WRITE FOR THE NAME OF OUR NEAREST AGENCY.

EWING'S THE SEEDS THAT GROW

Did you ever prepare a garden most carefully, sow the Seeds most tenderly, and then wait—and wait in vain—for most of them to come up? Then you'll realize the expensiveness of poor seeds—seeds that are too fold or too weak to germinate.

You can't tell by looking at the seeds in the store whether they will grow or not. You can't be bothered testing them.

But you can be sure of getting healthy, vigorous seeds that you can depend on by buying

EWING'S

For forty years they have been giving big, healthy results. Write for our big illustrated catalogue. It is Useful, Interesting and Free.

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SEEDS

FERRY'S SEEDS

To grow the finest flowers and most luscious vegetables, plant the best seeds. Ferry's Seeds are best because they never fail in yield or quality. The best gardeners and farmers everywhere know Ferry's seeds to be the highest standard of quality yet attained. For sale everywhere.

FERRY'S 1910 Seed Annual
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FARMERS, FRUIT, AND VEGETABLE GROWERS



WHY ARE YOU IMPORTING PHOSPHATE AND AMMONIA WHICH IS A BY-PRODUCT OFF YOUR FARMS OF WHICH YOU ARE EXPORTING MANY THOUSAND TONS ANNUALLY, (BONES) AND WHICH CONTAIN LARGE QUANTITIES OF PHOSPHORIC ACID AND AMMONIA.

KINDLY ANSWER THE ABOVE

PURE BONE MEAL IS THE CHEAPEST FERTILIZER.

THIS PLANT FOOD IS ALL FROM OUR CANADIAN SOILS AND SHOULD ALL GO BACK. SEND FOR PRICES, ETC.

THE **W.A. FREEMAN CO.** LIMITED
HAMILTON, CANADA

NOTES FROM THE PROVINCES

Western Horticultural Society

An excellent programme has been prepared for the annual convention of the Western Horticultural Society, to be held at Winnipeg, on Feb. 17 and 18. Among the papers that will be read are the following:

"How New Varieties of Seeds are Produced," by C. J. Turnbull, Winnipeg; "Care of Shrubs and Flowers on the Farm, and the Farmer's Kitchen Garden," J. J. Ring, Crystal City; "Culture of the Sweet Pea," H. J. Edwards, Winnipeg; "Bulbs for House Culture," Thos. Jackson, M.A.C., Winnipeg; "The Cooking Value of Fruits and Vegetables," Miss A. B. Juniper, M.A.C., Winnipeg; "Potato Growing," S. R. Henderson, Kildonan; "Celery Growing," F. W. Hack, St. Vital; "Adaptations in Plants," Prof. C. H. Lee, M.A.C., Winnipeg; "Pruning," D. W. Buchanan, St. Charles; "The Farm Nursery," N. M. Ross, Indian Head; and "Native Birds and Their Habits," J. J. Golden, Deputy Minister of Agriculture, Winnipeg. Addresses will be given also by President John Caldwell, Jas. Murray, Dr. H. M. Speechly, Rev. Dr. Baird, Prof. S. A. Bedford, C. D. Johnston, H. W. Thompson, T. J. Harrison, Wm. G. Scott, and others. Prof. F. W. Brodrick will give a demonstration on judging garden vegetables.

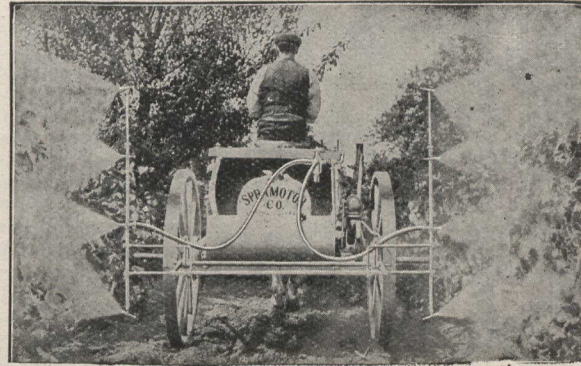
Return railway rates may be obtained for single fare to Winnipeg from any point in Manitoba and Saskatchewan as far west

as Moosejaw, and as far east as Port Arthur, Ont. Every person in the west who is interested in horticulture should attend this convention. The information that will be gained through listening to the addresses and taking part in the discussions will well

repay for time and expense. All are invited to attend. This society is doing good work for the horticulturists of the west, and should be strongly supported. Prof. F. W. Brodrick of the Manitoba Agricultural College is the secretary.

Okanagan Valley, B.C.

At the provincial exhibition, New Westminster, last fall, Kelowna, known as the Orchard City, was again more successful with fruit than any other point in the



This picture shows the **Horse Power Spramotor** spraying vineyard.

If stand pipe hits a post it folds back behind rig and rights itself, each side independently. Has auto. control for height, width and direction of nozzles. 12-gallon air chamber, nozzle protector.

The **Horse Power Spramotor** can be rigged for potatoes, orchard or weed destruction. Send for free particulars and free Treatise on Crop Diseases. **Agents Wanted.**


HEARD SPRAMOTOR CO., 1386 King Street
London, Ont.

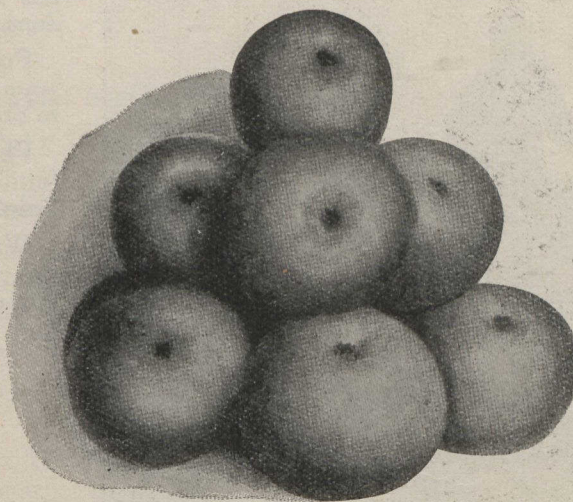
CAMPBELL'S NICO SOAP

Is a Household Word amongst the Best Fruit Growers of Canada

No **INSECTICIDE** on the market so **Effective** in destroying **Aphis** and other **Sucking** insects.

Prepared in a few minutes. Instantaneous in action. Does not clog pumps.

Its use guarantees clean, bright fruit like this 



VERMOID

A soil fumigant, **Kills Cut and Wire Worms** and all other lurking pests in the soil. Can be **applied at any season** of the year without injury to crop. Exceedingly cheap and **very effective.** Catalogues containing testimonials, etc. ready 1st Feby.

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When Ordering Your
**STRAWBERRY
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He excels in

A Choice Selection of Varieties
Uniform Excellence of Stock
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Promptness, Honesty, Reliability
and Courtesy in Dealing

Send for 1910 Price List at once

W. H. VANDERBURG
POPLAR HILL, ONT.

Okanagan valley. Mr. B. McDonald of the Farmers' Exchange packing house took a quantity of fruit to the fair, from various growers. According to the *Courier* he made 251 entries, and won 71 firsts and 197 prizes in all, the following remarkable scores being made: Pears, on plates, 51 exhibits, 48 prizes won; crab apples, on plates, 15 exhibits, 14 prizes; apples, best pack, 3 exhibits, 3 prizes; pears, best pack, 2 exhibits, 2 prizes; apples, 5 boxes each kind, 19 exhibits, 18 prizes; pears, 2 boxes each kind, 5 exhibits, 5 prizes.

In many instances all prizes in a class went to Kelowna exhibits, and this in face of competition with other points in the Okanagan valley and all the provinces. In plate exhibits, first, second and third prizes all came to Kelowna for the following apples: Winter Banana, Cox's Orange, Golden Russet, Duchess, Gravenstein, Jeffries, Wolf River, Hubbardston, Longfield, Ontario, Roxbury Russet, Sutton Beauty, Stark, Seek, McIntosh, Wagener, Jonathan, Newtown Pippin; and the following pears: Flemish Beauty, Louise Bonne de Jersey, Howell, Sheldon, Duchess, Boussock, Clairgeau, Winter Nelis, Beurre Bosc, Idaho, Vicar of Winkfield.

Manitoba

Thousands of dollars are lost by the farmers of Manitoba each year by buying worthless horticultural trees and shrubs from American nurserymen. Last fall the editor of *Farm Crops* travelled through southern Manitoba and for several days he travelled in company with a pair of American salesmen representing a well known Minnesota nurseryman. At each town these salesmen were making their deliveries, and very arrogant they were about it.

In the summer these slick talkers had

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GLADIOLI

Groff's New Named Varieties
Groff's World's Fair Collection
Groff Seedlings
Special Collections for Horticultural
Societies
Also Cannas, Dahlias and General
Nursery Stock

Catalogue upon application

CAMPBELL BROS., SIMCOE
ONT.

POTASH MEANS PROFIT

Cabbage grown with the aid of a Complete Fertilizer containing Potash (1909)



This illustration shows some Cabbages grown on the farm of Mr. Jas. Williamson, Calgary, Alta., who finds it profitable to use over 1000 lbs. of a Complete Fertilizer on this crop.

to the up to date Orchardist and Market Gardener.

The use of **Commercial Fertilizers** has been endorsed by practically all Agricultural Institutions in the Dominion.

Potash must form one of the ingredients of a "**Complete Fertilizer**" in order to obtain the most profitable returns.

Potash can be obtained of all leading fertilizer dealers in concentrated forms of **Sulphate and Muriate of Potash**.

Write us on all matters pertaining to this most important question and get copies of our **Free** publications, including:

- "Fertilizers; their Nature and Use"
- "Fertilizing Orchard and Garden"
- "Potato Crop in Canada"
- "Farmer's Companion"
- "Fertilizing Root Crops and Vegetables, etc., etc."

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POTASH SYNDICATE

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DESTROY SAN JOSE SCALE

BY USING

Originators **Salimene**. (Lime-Sulphur Solution) 1-100. At it fourteen years. An insecticide and fungicide. Better than Bordeaux Mixture.

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(Arsenate of Lead and Salimene)
Arsenate of Lead

Agents Wanted

Monmouth Chemical Co.,
LITTLE SILVER, N.J.

PERFECT POTATO PLANTING

Every farmer knows the importance of proper potato planting. Here's a machine that does it perfectly. Has none of the faults common with common planters. Opens the furrow perfectly, drops the seed correctly, covers it uniformly, and best of all never bruises or punctures the seed. Send a postal for our free book.

SAVE
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Iron Age
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Potato Planter

IRON AGE

No Misses
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'ELECTRO' ARSENATE OF LEAD

costs a trifle more than other brands, We can send you five distinct reasons why it should cost a great deal more.

IT ALWAYS PAYS TO BUY THE BEST

"ELECTRO"

is guaranteed to contain 20% arsenic at an average of 40% water.

We will send free three Agricultural Experiment Station bulletins for 1907, 1908 and 1909, giving analyses of various brands on the market

Write for full information to

THE VREELAND CHEMICAL COMPANY

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driven out among the farmers and by means of glorious pictures of big red apples they got the farmer to sign an order for from one dozen to two dozen trees and shrubs. When delivery was to be made the buyers were notified that they had to be in town on a certain date to take their order away. At Somerset nearly every farmer in the district ordered trees, and we presume it was the same all along the line. One man did not come for his order, which amounted to a dozen mixed lots of trees and shrubs, so that the agents sold it to another farmer for \$12, a reduction from \$15. The agent wanted to get the bundle off his hands. His selling argument was that that particular lot was the most beautiful bundle he had sold all season, and he was letting it go for nothing to make his delivery complete. Nothing was said about varieties, and it is doubtful if the agent himself knew what was in the lot. Anyway, he sold the bundle.

Farmers make a serious mistake when they buy trees of travelling American nurserymen. In the first place American raised trees are grown under different conditions of soil and climate to Manitoba conditions. In the second place, varieties of apples that will grow across the border are not hardy enough for Manitoba.

By buying from home nurserymen the purchaser can buy only those varieties that have a reasonable chance to grow in this climate, as no nurseryman will risk his reputation by supplying tender varieties. As most farmers do not know what are the best varieties, it is in all cases wise to ask and accept the help of the nurserymen in selecting varieties.—*Farm Crops*.

THE CANADIAN HORTICULTURIST is all right,—none better, and very few as good.—Wm. Findlay, Wellington Co., Ont.

PLANT HARDY RASPBERRIES

Quebec Grown Plants

I have a large stock of fine Herbert Raspberry plants; the most vigorous and productive of the Hardy Raspberries. And have also good stocks of the following hardy varieties:

KING, the best early, a great commercial berry.

EATON, a new variety of great promise, the largest of the reds and a tremendous cropper, the Alexander of raspberries.

LOUDON, a slow growing variety but iron clad.

One dozen of any of these, mail postpaid, well packed for one dollar.

I have also a large stock of strawberries of the newest and best varieties.

FOR PRICE LIST, DESCRIPTIONS
AND QUOTATIONS IN LOTS,
SEND ADDRESS

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QUEBEC

Feed Your Land

WITH GOOD MANURE AND GET

GOOD RETURNS

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SURE GROWTH COMPOST

— IS THE BEST —

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OF MOST PROMINENCE
are buying the NEW

'FRIEND' POWER SPRAYER

Hand Pumps, and the CELEBRATED
"FRIEND" Nozzles, Angle and Regular—
DOES THIS MEAN ANYTHING TO YOU?

"FRIEND" MFG. CO.
GASPORT, N. Y.

Annapolis Valley, N. S.

Eunice Watts, A. R. H. S.

The fifth annual Seed Fair took place on Jan. 19, at Victoria Hall, Berwick. Special arrangements were made with the D. A. Railway for excursions from the east and the west to Berwick. The money for the prizes was given by the provincial department of agriculture at Halifax. The seed branch of the Dominion department aided by paying the expenses of the judges. The Seed Fair gives farmers an opportunity of buying or disposing of good seed. The competition in fruit is always inspiring and shows our people what our land is capable of producing. Lectures were given during the afternoon and evening on agricultural

topics while the Berwick Brass Band attracted the lay folks.

On Jan. 18, the Berwick Fruit Company held a public meeting in Foresters' Hall, Berwick. Mr. L. D. Robinson spoke on the "Cultivation and Fertilization of the Orchard." Mr. Willis Huntley, a practical and experienced packer, described "Profit and Loss in Fruit Growing as learned from the Packing Table." Mr. S. C. Parker spoke on the "Size of Apples for the Different Grades." Mr. Henry Shaw who recently returned from England related his experience in the English markets.

The apple returns are very disappointing. Speculators have lost heavily, but apples sent through the packing company show better results. In the western part of the valley, the apple warehouses are full, buyers will not buy any more and the farmers have a quantity of fruit left on their hands.

At a meeting of shareholders of the Waterville Fruit Company, it was unanimously agreed that orchardists could no longer afford not to thin their apples, which should be done in July. As an object lesson, barrels thinned and unthinned fruit were exhibited.

Garden, orchard and farm implements and tools of all kinds are listed in the new catalogue of the Bateman Manufacturing Co., Grenlock, N. J. The famous "Iron Age" implements and tools are described and illustrated in a most interesting manner. These implements have an enviable reputation. They are known to all persons that keep in touch with the latest improvements and inventions for making the work of gardening and orcharding more easy. Readers of THE CANADIAN HORTICULTURIST should write to this firm for a copy of this catalogue.

OXO

spread on brown bread makes the most delicious sandwiches. A teaspoonful of OXO to a cup of hot water makes an appetizing, nourishing drink. Children love OXO.

22

"IDEAL"—The New Mammoth French Asparagus Controlled Absolutely by Ourselves FINEST FLAVOUR-LARGEST SIZE-MOST PRODUCTIVE



A Small Fortune for the Market Gardener

Nothing approaching this magnificent Asparagus has ever been introduced upon the American Continent. Until we had thoroughly tested it we could not believe its high qualities.

The cut is from a photo of one bunch of 20 stalks which weighed two pounds. After photographing, the bunch was cooked and served to four people. There was no waste, the whole stalk eatable and no woody fibre. Quality ahead of anything in the asparagus line grown. We have cut fine, eatable asparagus second year from seed. This bunch on being shown to a leading fruit and green-grocer in Toronto, created great admiration. Such bunches, he says, would retail at \$1.50 each, the beginning of the season.

WE OFFER STRONG 2 AND 3 YEAR ROOTS

Send for Descriptive Circular and Prices

STONE & WELLINGTON—TORONTO

SOMETHING NEW IN FRUIT TREES

We offer you PEDIGREED TREES. This is a New Departure in the Nursery Business. We Propagate from Selected Bearing Trees. Our Stock is High-class, and we want your trade.

AUBURN NURSERIES,
QUEENSTON, ONTARIO.

TREES! TREES!

Fruit and Ornamental Perpetual and Climbing Roses
Beautiful Hardy Flowering Shrubs
Herbert Raspberry **Perfection Currant**
Descriptive Catalogue and Price List Free
A. W. GRAHAM, Nurseryman, St. Thomas, Ont.

Northern Grown Trees

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

J. H. WISMER, Nurseryman. Port Elgin, Ontario



"Many a dollar is lost by putting off until to-morrow. Send for catalogue to-day."
—The Philosopher of Metal Town.

**No building material like this—
"METALLIC"**

is superior in every way. It is most economical—is easy and quick to lay or erect, saving expensive labor, and lasts a lifetime without continual repairs. Lightning, rain, wind or snow has no effect on "Metallic"—it is WEATHER, FIRE AND RUSTPROOF, the best material for all buildings.

Look over this list—all made from the finest quality sheet steel

"EASTLAKE" METALLIC SHINGLES. On buildings for 25 years, and still in perfect condition.

"METALLIC" CEILINGS AND WALLS. A handsome, sanitary decoration—lasts a lifetime.

"METALLIC" ROCK FACED SIDING. In brick or stone design for houses.

"MANITOBA" STEEL SIDING. The best for large buildings, elevators, mills, storehouses, etc.

CORRUGATED IRON—GALVANIZED OR PAINTED. For implement sheds or barns, fireproof and durable.

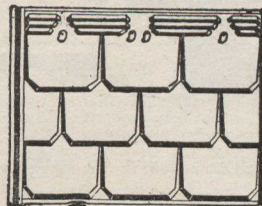
You should read our interesting booklet "EASTLAKE METALLIC SHINGLES" and our new Catalogue No. 70. A post card with your name and address will bring them to you at once.

Agents Wanted
in some
Sections.
Write for
Particulars.

MANUFACTURERS



EASTLAKE



Steel Shingles

**STEELE BRIGGS'
Flower & Vegetable
Seeds**



Are all tested for Purity and Germination. Send for our beautifully illustrated Catalogue. Free to all. It tells all about the Newest and Best varieties to grow.

Try some of our New
Spencer Hybrid Sweet Peas

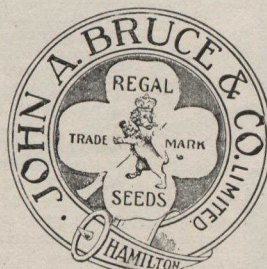
ROSES, GRAPE VINES, SHRUBS, &c., &c.

Are a distinct specialty with us

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**NEW
GIANT-FLOWERED
SWEET PEAS**

This new type, the largest of all Sweet Peas, is of the most distinct and striking character. The colours embrace the most exquisite shades and they are very free-flowering, with long strong stems. The mammoth size and waved or fluted appearance of the flowers mark these seedlings as the most interesting novelties in Sweet Peas ever developed.

Miriam Beaver. An entirely distinct colour, glowing but soft apricot, tinted, shaded and suffused with lemon. Pkt. 15c.

Marie Corelli. Wings pure rich rosy-carmine, while the standard shows a touch of cherry red. Pkt. 15c.

W. T. Hutchins. Buds show decided buff colour, when expanded a light apricot overlaid with blush pink. Pkt. 15c.

Senator Spencer. A varying combination of deep claret and chocolate, striped and flaked on a light heliotrope ground. Pkt. 15c.

King Edward Spencer. Wings rosy-carmine and standard a deep rich glossy carmine scarlet. Pkt. 10c.

Flora Norton Spencer. Beautiful bright blue, with just a tint of purple. Pkt. 10c.

Aurora Spencer. Ground colour cream white, flaked and mottled with rich orange salmon. Pkt. 15c.

Now ready, our handsome 104-page Catalogue of Seeds, Plants, Bulbs, Poultry Supplies, Garden Implements, &c. Send for it. Free.

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STOVE POLISH



You don't have to mix "Black Knight" Stove Polish.

There is no black watery liquid to stain your hands or dirty the floor.

There is no "hard brick" to scrape—no trouble—no waste—no hard rubbing.

"Black Knight" is a firm paste—ready to use—quickly applied—and shines quick as a wink.

It's as simple and easy to use as shoe polish, and a big stove can be shined with it almost as easily.

Perhaps your dealer does not handle "Black Knight" Stove Polish. If so, send 10c. for a big can, free postpaid.

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Makers of the famous "2 in 1" Shoe Polish.

Seeds

\$25

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CRANSTON'S EXCELSIOR

to be competed for at our store
Catalogue of Garden
Seeds, with particulars of
prizes, free on request.

**DUPUY &
FERGUSON**
Seedsman
MONTREAL, QUE.

Exhibition to be Held in Italy

The City of Florence, Italy, and the Royal Tuscan Society of Horticulture, have arranged an International Exhibition of Horticulture for 1911, in occasion of the 50th anniversary of the proclamation of the Kingdom of Italy. The programme contains the following classes: Ornamental foliage or flowering plants, either new, or of recent introduction; fruit-bearing plants; vegetables and kitchen-garden plants; seeds; bulbs and tubers; colonial plants; flower decoration; horticultural arts and industries; horticultural literature and instruction; packing and preserving; history of horticulture.

Besides numerous awards of merit (grand medals, and artistic objects), the committee places cash prizes and medals to the value of Lire 25,000 (\$5,000) at the disposition of

\$532,992,100 !!

That's the Value of Farm Products for Canada 1909— Isn't It Great?

OTTAWA, ONT.—An increase of \$100,000,000 in the value of Canadian crops is shown in the final estimates of the 1909 production just issued by the Dominion Census Department. An area of 30,065,556 acres of field crops has yielded a harvest which computed at local market prices, has a value of \$532,992,100, as compared with \$432,534,000 from 27,505,663 acres last year.

Canada's principle grain crops are wheat, oats and barley. This year they aggregate in area 18,617,000 acres, and in value \$263,710,000, against 16,297,100 acres and \$209,070,000 in 1908. Hay and clover from 8,210,000 acres have a value of \$132,287,700, against 8,210,900 acres and \$121,884,000 in 1908.

Rye, peas, buckwheat, mixed grains and flax, grown on 1,487,311 acres have a value of \$26,707,000, as compared with 1,525,700 acres and \$23,044,000 in 1908.

The total value of wheat harvested in the Northwest provinces is \$121,560,000 and in the rest of the Dominion \$19,760,000, as compared with \$72,424,000 and \$18,804,000 last year.

It is a showing that every citizen is proud of, whether he had a hand in the production or not. The most gratifying story told by these figures is that they represent a gain over the previous year of \$100,000,000.

We are going ahead—going ahead rapidly. That is the best message we gather from this report of our results for 1909.

But, instead of being content with these figures, let us take them only as an indication of what our real possibilities are, and let us use them merely as a mile post in our climb to better things.

Let each of us, for instance, look back over our operations of 1909 to determine whether or not we did our share toward making this showing possible.

We ought to stop and think of what has made the gains of former years possible. We must stop to realize that this gain of \$100,000,000 for 1909 is not only due to more land under cultivation; but has been brought about by better methods of cultivation; by better methods of preparing the soil, sowing the grain and harvesting the crops.

Without the wonderful strides made in the development of farm machines, a \$532,992,100-crop would be entirely out of the question.

And yet there is room for progress—the rules of 1909 farming are not the rules for 1910. New machines mean new advances

and new wealth. Do you keep abreast—are you posted about these things?

At the same time as the horticultural exhibition, a most important portrait exhibition will take place in the artistic rooms, which have recently been restored in the historical municipal palace (Palazzo Vecchio) besides other shows and amusements.

Aphine.—A new insecticide that is attracting much attention among horticulturists, is Aphine, and it appears to be "making good." Leading authorities on insects and their control as well as the florist trade press of the United States speak highly of its worth and future. Aphine will be welcomed by all growers in Canada that want an effective remedy for the "sucking" insects of the greenhouse, the garden, the park and the orchard. There is a place for a reliable insecticide for these pests. Aphine promises to fill it admirably.

and new wealth. Do you keep abreast—are you posted about these things?

About traction plowing—how to plow more acres, in less time, with less expense, for better, bigger returns:

How a good disk harrow will enable you to make better seed beds:

Why it's to your advantage to spread manure the right way—as soon as you get it—instead of spreading it after half its value is gone.

Why it will pay you to use seeding machines that put the seed into the soil so that the best germination is assured and big crops result.

About the money-saving and money-making advantages of having a good, reliable, dependable gasoline engine on your place.

What the right kind of a cream harvester means to you in increased milk and butter profits—and skim-milk calves:

Why a good feed-grinder means fatter stock: How to increase the value of the 1910 hay crop by using the right mower, baler, etc.: How to know all about harvesting machines: How to know the ear marks of a good wagon.

If any of these will help you please secure a copy of our book—"Glimpses of Thriftland." That tells the whole story briefly and in verses that you'll like. Then we have some books that are still more business-like—the I H C Almanac and Encyclopaedia, and others. Say which you are most interested in. All are free if you will write nearest branch house of the International Harvester Company of America listed below.

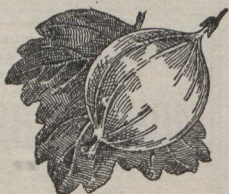
There is an International dealer near you. He will be glad to see you to hand you one of our new 1910 calendars, posters, catalogues or pamphlets on harvesting and haying machines and tools, and tillage implements or any of the machines mentioned above.

CANADIAN BRANCH HOUSES: Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg, Yorkton.

Yours for a still bigger showing in 1910

Prosperity—Prosperity for share

INTERNATIONAL HARVESTER COMPANY OF AMERICA
(Incorporated)
CHICAGO, U. S. A.



SMALL FRUIT PLANTS

Gooseberries, Josselyn, Red Jacket, Downing, Pearl, Houghton.—Currants Perfection, Ruby, Cherry, White Grape, Lee's Prolific, Champion, Black Naples, Victoria.—Raspberries, Herbert, Cuthbert, Marlboro, Brinckle's Orange, Golden Queen, Strawberry-Raspberry.—Garden Roots, Asparagus, Rhubarb, Perennial Celery.

WM. FLEMING, Nurseryman, Box 54, Owen Sound, Ontario

PEAR AND APPLE BLIGHT

We have positively
demonstrated that we

**CAN CURE
THIS DISEASE**

Write us for Parti-
culars

PEAR BLIGHT REMEDY CO.

Vacaville,
California

POULTRY DEPT.

Conducted by S. Short, Ottawa

The Incubator

This subject may seem a little premature for the time of the year but it is taken up now with the idea of reminding intending purchasers and those who own machines that it is well to be prepared to begin hatching operations as soon as the weather permits. No one need have any hesitation in attempting to hatch with an incubator. They are now in general use; in fact, large poultry plants could not do without them.

There is one important feature, the most important one, in hatching by machine as well as naturally, and that is, the eggs must be right that are put in the machine. Some beginners, having some doubt about the machine, and lacking confidence in themselves, fill the machine the first time with store or market eggs justifying such a course with the argument that the loss will be less if the hatch goes wrong. The use of eggs of that class is not fair to the machine nor to the operator. The chances are the hatch will be poor under such circumstances and the machine sometimes gets the blame. Then again, suppose the hatch is a good one of mongrel chicks. They cost as much to raise as pure-bred stock. In feeding and caring for them the owner gets interested in these particular birds and when the time comes for disposing of them it is noticed frequently that, through sentimental reasons, the mongrels are retained

and the owner misses the pleasure of owning a fine flock of pure-breds which many find the chief enjoyment of poultry keeping. Pure-bred poultry raising is now so general that no difficulty should be experienced in selling pure-bred stock. It is best to do business with a reliable breeder of some repute for he has his good name at stake and depends on the good will of his customers, so that usually he takes no chance when shipping eggs or birds. It is better to spend a little more for the eggs, if the fertility is guaranteed and they have been laid by fine birds, than to run risks with store eggs. All breeders quote low

ELM GROVE POULTRY FARM

Rose Comb Brown Leghorns, Silver Grey Dorkings, Light Brahmans, Barred Rocks, Rouen Ducks
Eggs for hatching from any of the above breeds
Guaranteed to hatch and packed to carry safely any distance. Write for catalogue.

Box 62 J. H. RUTHERFORD, Caledon East, Ont.

USE FOSTER'S POTS

THEY ARE THE BEST ON THE MARKET



WE MANUFACTURE
STANDARD POTS
FERN PANS
AZALEA POTS
HANGING BASKETS
SAUCERS AND
STRAIGHT PANS

Canada's Leading Pot
Manufacturers

The FOSTER POTTERY CO., Limited
Main St. West, Hamilton, Ont.

Mention The Canadian Horticulturist when writing

Peerless Jr. Poultry Fence

will turn large animals as well as small poultry. The top and bottom wires are No. 9 hard steel wire—heavily galvanized—to prevent rusting. No top or bottom boards necessary because the heavy wires take the place. PEERLESS JUNIOR Poultry Fence almost pays for itself in the saving made on fence posts alone. Only half the posts are required, as compared with most other makes of poultry fencing. Peerless Junior Poultry Fence is

Close enough for Poultry Strong enough for Stock

Don't let your chickens eat your hog feed nor permit your hogs to tramp all over the garden. The same fence serves both purposes. PEERLESS JUNIOR Poultry Fence can be used as an all around General Purpose Fence. The wires are held together by the famous PEERLESS lock that cannot be slipped. PEERLESS JUNIOR Poultry Fence adds greatly to the appearance and value of the property it encloses. Write today for Free Fence Book which tells all about Fences—and how to choose fencing.

THE BANWELL HOXIE WIRE FENCE CO. Ltd.,
Box C
Hamilton, Ont. or
Winnipeg,
Man.

The Fence That Saves Expense

rates for incubator lots and the order should be sent in at least three weeks or a month before the eggs are needed to give the breeder a chance to supply them on the date asked for.

Incubators can be purchased now in any of the chief cities and towns. There are a great number of makers and patterns. It is sometimes convenient to inspect the machine a neighbor is using, and in that way

a decision may be arrived at as to a good machine. The next best thing is to consult the advertisements. Preference should be given to Canadian firms and it saves freight to buy near at home. With each machine the fullest and clearest directions for its use are given and if the operator does that and fills his machine with fertile eggs, he or she will be delighted with the results.

Just sit down and write us for full particulars of the best business proposition you are likely to hear this year. Let us tell you, in plain words, how very little money will start you in the profitable business of poultry-raising The Peerless Way. Let us show you why it will pay you well to

One PEERLESS user will sell 200-000 fowl this year

Scores and hundreds—ten thousand people in fact,—all over Canada, are following The Peerless Way to their profit. More than eleven million dollars' worth of eggs were sold in Canada last year. Yet with all this output prices stay high for every sort of good poultry and eggs. The market is far bigger than the present product—and it grows bigger day by day. Poultry-raising is the best business for any farmer, any farmer's child. Pays better for the time and money invested. Profit is surer. Isn't over-crowded—and never will be.

adopt the Peerless methods, to make use of the advice and aid of the Peerless Board of Experts—pay you well, and profit you speedily.



PEERLESS users get valuable help and service free

Besides finding a buyer for our customers' poultry-products (which we do free of any cost to you) our Board of Experts stands ready always to advise, counsel, help with practical suggestions—free, entirely so, to Peerless users. These practical men have developed the greatest poultry business in Canada—The Poultry Yards of Canada Limited. Long experimenting in the hatcheries of this great plant brought the Peerless to perfection, and proved it as the one successful incubator for use in every section of the Dominion.

More than 10,000 PEERLESS users are successful —

Poultry ought to be a side-line on every farm —

The poultry-crop is the one crop that never fails. Every farmer certainly ought to make poultry a 'side line, at least—it is a certain profit for him, no matter how bad a year he may have with his other crops. And the Peerless customer need feel no worry about finding a market for all he wants to sell in the way of poultry or eggs. We look after that for him. We find him a buyer who pays the best market prices in spot cash.

Your credit with us makes it very easy to start —

Your credit is perfectly good with us. You can equip yourself fully for successful poultry-raising, and you don't need ready money to do it. We trust you; and we will make the terms so easy for you that you will never feel the outlay. In fact a Peerless Outfit pays for itself, and quickly, too.

Within a month or so from this very day you could have a poultry-for-profit business well under way. Write and ask us to prove to you that success with poultry, The Peerless Way, is possible for anybody of good sense in any part of Canada. Get the facts about it. They are facts that will probably be new to you. Send for them —its for your own benefit we suggest that you send for them at once, without another day's delay. Just use a post card, if you haven't a stamp handy—put your name and address on it—say 'Show me'—that's all that's necessary

Poultry-raising with the difficulties taken out of it—that is the reason why The Peerless Way has proved profitable for over ten thousand people, scattered all over Canada. There is not a reason on earth why it would not do as much for you as it has for the most successful of them. No matter where your farm is, you can do well The Peerless Way—and you won't need to depend much on plain farming, either.

Send right away for interesting offer and FREE very valuable information.

You will know why The Peerless Way is the way to get profit from poultry, once you have read the big and plain-spoken free book we want you to ask for. With the book will come an offer to outfit you for poultry-profit on terms that will meet your wishes and fit your means. Please write and ask for this now—make your start now—it will pay you to.

LEE Manufacturing Co., Ltd
565 Pembroke Avenue
PEMBROKE ONTARIO CANADA

We carry ample stocks in our big distributing Warehouses at Winnipeg, Regina, Calgary, Edmonton and Vancouver, for the convenience of our Western friends. Address all letters to Head Office at Pembroke, Ontario. They will receive prompt attention.



SPRAYERS

HAND-power outfits that are simplicity materialized, always "on the job," without any baulking, breaking, or frequently needing repairs. All sizes, and for one or two men.

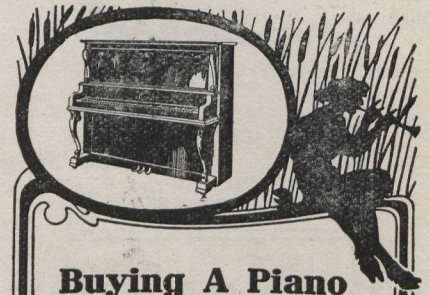
WHEEL-power machines for Strawberries, Potatoes, Mustard in grain, etc., and for all kinds of Orchard and Vineyard uses. **No Cost for Power; High Pressure** on all the nozzles required; **Simpler than Ever**; styles from a **Barrel-on-Cart** for small work to a **Tank-on-Trucks** outfit of different capacities.

GASOLINE ENGINE-power rigs that are the most compact and powerful obtainable and that **will actually do** the running of barn machinery. Get free information about any of these in which you may be interested; a post card will bring it. **We have the only Load Controller that is practical** and we use it on any of our machines.

Let us hear from you **EARLY** and so give us time to get **yours** landed ready for business when wanted—we have hundreds of others to supply.

W. H. BRAND, Jordan Station, Ont.

Fruit institute meetings will be held as follows, with subjects named, dates to be arranged later: St. Davids, spraying; St. Catharines, transportation, distribution and marketing; Jordan, peaches and berries; Beamsville, apples, pears and grapes; Winona, spraying; Fonthill, peaches.



Buying A Piano Made Easy

Perhaps you are deterred from enjoying the delights of a New Scale Williams Piano in your home, by the thought of laying out several hundred dollars in a lump sum.

This is unnecessary.

By our unique plan, you gain the piano of your choice by easy payments.

New Scale Williams PIANOS

Another great advantage to those living at a distance from the large cities, is that we ship pianos on approval, guaranteeing the instruments to please or they are returnable at our expense.

Write us for details of these two selling plans—and our beautifully illustrated catalogues of New Scale Williams Pianos and Player Pianos.

THE WILLIAMS PIANO CO. Limited
OSHAWA, ONT.

BRANCH OFFICES:
Winnipeg, Man., 323 Portage, Ave.
Montreal, Que., 733 St. Catherine St. W.
London, Ont., 261 Dundas St.

A Real Friend.—I've used the Planet Jr. labor saving tools, as they are called, for years. In fact you couldn't get me to use anything else. I've used the No. 25 Planet Jr. Hill and Drill Seeder, Double-Wheel Hoe Cultivator and Plow for some time and couldn't get along without it. It combines almost every useful garden tool in one strong, light, easy-running, simply adjusted implement. It opens the furrow, sows the seed in drills or hills, 4, 6, 8, 12 or 24 inches apart, covers, rolls down, and marks out the next row. And it works to perfection as a wheel-hoe, cultivator, and plow. This is only one of the many labor-saving implements that are the product of Samuel Allen's thought. We owe him a debt of gratitude for revolutionizing farming methods and taking away the drudgery. I wouldn't like to call any farmer or gar-



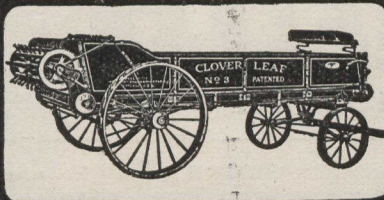
It Works Like a Kodak

No. 3 Brownie
Pictures 3 1/4 x 4 1/4. Price \$4.00

Loads in daylight with Kodak Film Cartridges, has a fixed focus meniscus achromatic lens, automatic rotary shutter, three stops and two finders. Simple, convenient and *always ready*. Well made in every detail and handsomely finished.

Handsomely illustrated booklet "The Kodak on the Farm" free at the dealers or by mail

CANADIAN KODAK CO., Limited
 Toronto, Canada



**ARE YOU SATISFIED
 WITH A 20 ACRE CROP
 FROM A 40 ACRE FARM?**

YOU know it costs as much in time, labor, seed and implements to raise a poor crop as it does to raise a good one. You know also that unless your land is kept constantly supplied with lime, nitrogen and phosphates and the ingredients of barnyard manure it becomes worn out and loses its fertility.

You know further that it costs more, and trebles your labor, to spread manure by hand than it does to use a well-made manure spreader.

Maybe you don't know that one load of manure evenly spread by a mechanical spreader is worth four loads scattered by hand—

And that your crop, whether rotation or continuous, will be increased from 20 to 40 per cent by the use of an

I. H. C. Manure Spreader

Made in two styles as follows:

The Corn King, Return-Apron Spreader.

The Cloverleaf, Endless-Apron Spreader.

I. H. C. spreaders are made of the best material—wood and steel. They have powerful steel frames and steel-bound boxes, which damp manure cannot rot.

I. H. C. spreaders are easily drawn. They can be adjusted to spread a thin or heavy coat with equal evenness.

I. H. C. spreaders are so simple in operation that a boy can do the work which used to require a strong man.

An I. H. C. spreader will save in time and labor more than enough to pay for itself in one season.

Your increased income from better crops will be clear profit.

Scientific experiment has proved that this profit will vary from \$4.00 to \$20.00 per acre.

You cannot afford to be a half-crop farmer and there is no reason why you should be one.

An I. H. C. spreader will give you the full return from your land, whatever the size of your farm.

Call on our agent in your town and talk the spreader over with him, or, if you prefer, write nearest branch house for catalogue and other information.

CANADIAN BRANCHES: Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg.

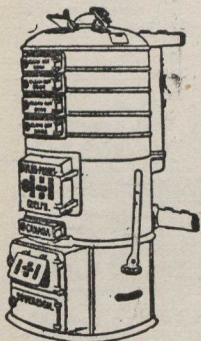
INTERNATIONAL HARVESTER COMPANY OF AMERICA
INCORPORATED
 CHICAGO, U. S. A.



THE I. H. C. LINE

LOOK FOR THE I. H. C. TRADE MARK IT IS A SEAL OF EXCELLENCE AND A GUARANTEE OF QUALITY

'SOVEREIGN'
 HOT WATER
BOILERS



'Sovereign' Hot Water Boiler

Safe
 and
 Saving
 Hot-House
 Heating

This is the boiler with the "larger first section" "individual clean out doors," and nineteen other improvements that save coal and promote efficiency.

We have testimonials from satisfied users. Write for them

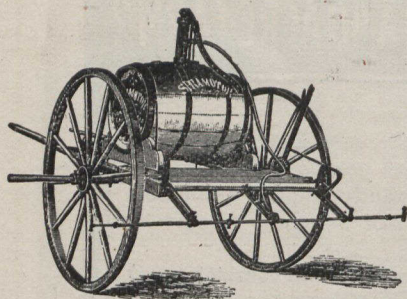
TAYLOR-FORBES
 COMPANY LIMITED GUELPH
 Makers of all classes of HEATING SUPPLIES

Tea That is Always Fresh

"SALADA" is grown in the finest tea gardens of the Island of Ceylon, picked every day and reaches you not later than fifteen weeks after being gathered. Its native purity and fine flavour are preserved in air-tight sealed "SALADA" packets. You are guaranteed tea of unvarying good quality.

"SALADA"

Ask your grocer for a package to-day. You'll like it.



The **HAND SPRAMOTOR** No. 1 or No. 2 has 4 to 8 nozzles, all brass sprayer. The wheels and nozzles are adjustable, from 26 ins. to 36 ins. Vertical adjustment from rack 16 ins. Automatic vertical nozzle adjustment, brass spramotor. Ball valves, automatic compensating plunger. Mechanical agitator.

It is mounted on a cart with strong hardwood frame. Has 52-in. wooden wheels with iron hubs and steel axles. For one horse.

Can be used for orchard, vineyard, mustard and potatoes, or for painting and whitewashing. Sold without cart as well. Guaranteed. Write for free Treatise on Crop Diseases. **Agents Wanted.**

HEARD SPRAMOTOR CO., 1392 KING STREET LONDON, ONT.

dener a back number who hasn't at least one of these implements on his farm, but I certainly think he is neglecting his own interests if he isn't progressive enough to send for the illustrated 56-page catalogue of 1910 Planet Jr. implements issued by S. L. Allen & Co., Box 1106 G, Philadelphia, which they send free upon request.—William Bates.

Nico Soap and Vermoid.—Attention is called to Blackie Bros.' advertisement on page 47. This firm are Canadian agents for Campbells of Manchester, Eng., whose preparations are world renowned. *Nico Soap* and *Vermoid* have been on the market only for two years, but in that short time are recognized by the leading fruit growers and florists as leading articles in their respective classes on the market to-day. *Nico Soap Insecticide* is simplicity itself to prepare, very efficient against aphids and all other sucking insects, and can be used when trees are in full bloom without injury to blossoms. *Vermoid* fills a long felt want for a good soil fumigant. It kills wire and club worms and other lurking pests in the soil. Write Blackie Bros., Halifax, N. S., for their booklet, which contains, besides testimonials, some valuable information.

Send to J. A. Simmers, Toronto, for their new annual seed catalogue. It will serve many purposes and will please you with its beautiful cover and well-compiled and illustrated contents. If you are interested in farming, gardening or orcharding, you should have this excellent work of reference.

I see a wonderful improvement in THE CANADIAN HORTICULTURIST since I first became a subscriber about 10 years ago.—C. W. Schierholtz, Elmira Horticultural Society, Elmira, Ont.

You can Know how a Wire Fence Will Wear Before You Buy It

There is no reason why you should take anybody's "say-so" about a wire fence.

You can test it before you buy it.

We have a simple formula for testing wire which we will be glad to send you along with samples of our fence wire. You can compare it with any fence that is made.

Our Peerless Fence made from all No. 9 English wire, is equal to all emergencies. It has more than double the strength required. On account of the superior galvanizing on this wire, it should last more than twice as long as ordinary galvanized wire. It stands the salt,

foggy climate of England for many years where ordinary galvanized wire rusts in as many months.

The Peerless Lock at each intersection of the crossbars is the most perfect device for the purpose yet produced.

This can't-slip lock grips the two wires firmly, yet permits the fence to adjust itself to any surface.

The Peerless Fence never sags nor is it affected by changes of temperature. Its spring coil formation allows for all contraction and expansion, the wires always remaining perfectly taut.

Don't buy a fence till you know it will last and give satisfaction.

Write to-day for our formula and test samples of all makes of fence. Compare them with Peerless—we're not afraid.

THE BANWELL-HOXIE WIRE FENCE CO., LTD.

Makers of Farm, Lawn and Poultry Fences and Gates.
Dept. G, Hamilton, Ont.
Winnipeg, Man.

Peerless

The Fence that saves expense

Goes Like Sixty

Sells like Sixty
Sells for Sixty-five **\$65**

A perfect engine for pumping, grinding, sawing wood, corn shelling, churning, washing machines and all farming purposes. Larger sizes for feed cutting, threshing, silo filling, and all heavy farm work.

GILSON GAS AND ENGINE
GASOLINE

FREE TRIAL—WRITE FOR CATALOG—ALL SIZES
Gilson Mfg. Co., Ltd.
5 York St., Guelph, Ont.
Canada

The FARMERS' GARDEN
A Seed Drill and Wheel Hoe is indispensable—not only in a village garden but on largest farms.
Farmers should grow all manner of vegetables and "live on the fat of the land." Should provide succulent roots for Cattle, Swine, Poultry, and save high priced feed stuff. Great labor-saving tools of special value for the home as well as the mark of garden. Send for free book.

SAVE HIRED HELP
Only One of Many Iron Age Tools

IRON AGE

The most complete tool made

BATEMAN MFG. CO., Box 516-G GRENLOCH, N. J.

STRAWBERRY PLANTS

King Edward, U.S., Battenburg, St. Louis, Barrymore, Highland, Heritage, Saratoga, Gill, Paul Jones, Wooster, \$100, Jim Dumas, Bountiful, Chipman, Golden Gate, W. H. Taft, World's Wonder, 3 W's, Hummer, and all the old reliable varieties. Price list sent free on application

E. B. STEVENSON, Maple Bank
270 Grange St., Guelph, Ont.

MR. BERRY GROWER

We can save you money on your Strawberry Plants. First-class, vigorous, well-rooted stock. Fresh dug, true to name, well-tested varieties, grown from selected mother plants including Williams, Dunlop, Excelsior, Parsons' Beauty and Good Luck.

Prices \$2.50 to \$4.00 per 1000

Our 1910 price list tells all about them. Send for it to-day

ONTARIO NURSERIES, WELLINGTON, ONT.

CHILDS' GLADIOLI ARE GARDEN GLADDENERS

They are Noted the World over for SUPERIOR MERIT

"SUPERB COLLECTION"

- AMERICA—The peer of all Gladioli. Flesh pink with lavender tinge. Each10c
- ATTRACTION—Deep, dark, rich crimson, with a very conspicuous large pure white center and throat. At once a most beautiful and attractive sort. Each.....10c
- CARDINAL—Perfect flower and spike, very large and the brightest, cleanest and most intense cardinal scarlet yet seen. Very rich and showy and by all odds the very finest light-colored sort yet seen. Each15c
- SCRIBE—A beautiful, large well-open flower and an enormous spike. Color like the fine old Eugene Scribe, tinted white, freely striped carmine. A very attractive sort. Each15c
- SULPHUR KING—Beautiful clean, sulphur yellow, finest and clearest of yellow sorts; without any doubt this is the very best yellow variety yet introduced. Each15c
- WILD ROSE—Very bright rose or blush tint, exceedingly delicate and pretty. This variety needs only to be seen to be appreciated, and we predict a great future for it. In its particular color it stands alone. Each20c
- SPECIAL OFFER—One bulb each for 50c prepaid. Fine Mixed Gladioli, 35c per doz. Catalogue free on request.

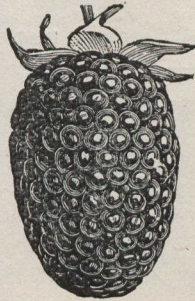
JOHN LEWIS CHILDS

Dept. W. FLORAL PARK, N. Y.

At a meeting of directors of the Niagara Peninsula F. G. Ass'n, Mr. M. Pettit, Winona, was elected president and Mr. C. E. Fisher, St. Catharines, secretary (re-elected).

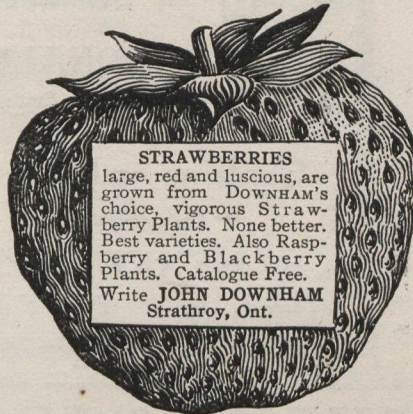
The Co-operative Fruit Co., of Prince Edward Island contemplates making a shipment of Ben Davis apples to the Old Country in March and have sent out circulars asking the members to state what quantities

GIBRALTAR AND KANSAS BLACKCAP



King and Cuthbert Raspberries, Eldorado and Lawton Blackberries, Early Ozark, Fendall, Golden Gate Three W's, July, and the best standard Strawberries. 25 strong plants, King or Cuthbert, post paid for 40c; by express, \$1.00 per 100, \$7.00 per 1000; 3000 or more at \$6 per 1000. Send for catalogue and notice our collection offers, prices, varieties, quality of stock, packing, etc.

N. E. MALLORY
BLENHEIM, - ONT.



STRAWBERRIES

large, red and luscious, are grown from DOWNHAM'S choice, vigorous Strawberry Plants. None better. Best varieties. Also Raspberry and Blackberry Plants. Catalogue Free.

Write JOHN DOWNHAM
Strathroy, Ont.

"Turns the soil better"

The Bissell

Because of their shape, plates of "Bissell"

Orchard Harrows turn over soil cleaner, better than you've been accustomed to have it done. Attach wings and Harrow extends out 12 ft. or more to cultivate under limbs of trees—closes up narrow enough to cultivate between grape vines. Combination Harrow too—reversible from "Out Throw" to "In Throw." Low seat, well-braced frame. Ask your dealer for information or write Dept. N.

T. E. Bissell Co. Ltd., Elora, Ont.

Built in sizes for one, two and three horses

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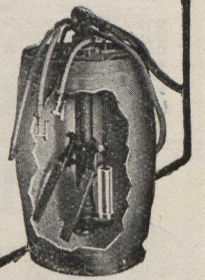
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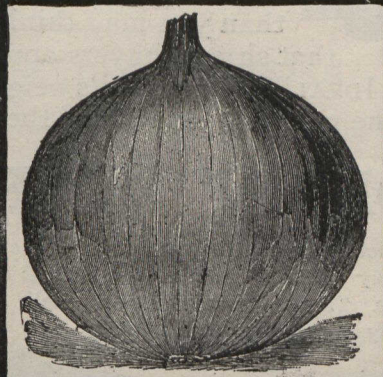
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COMING EVENTS

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.

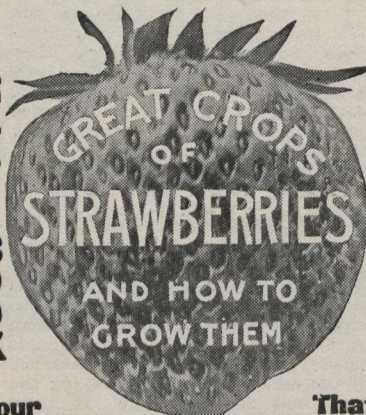
Atlantic City, N. J., National Cannery AssociationFeb. 7-11.
Winnipeg, Western Horticultural SocietyFeb. 17-18

EXHIBITIONS.

Calgary, Alberta Provincial.....July 4-9.
Charlottetown, P. E. I. Provincial,....Sept. 20-24.
Halifax, N. S. Provincial..Sept. 28-Oct. 6.
St. John, N. B., Dominion Exhibition....Sept. 5-14.
Winnipeg, IndustrialJuly 13-23.

I have been a reader of THE CANADIAN HORTICULTURIST for about a year and find it the best monthly of its kind. I have profited greatly from the many suggestions contained therein.—Geo. Baldwin, Toronto.

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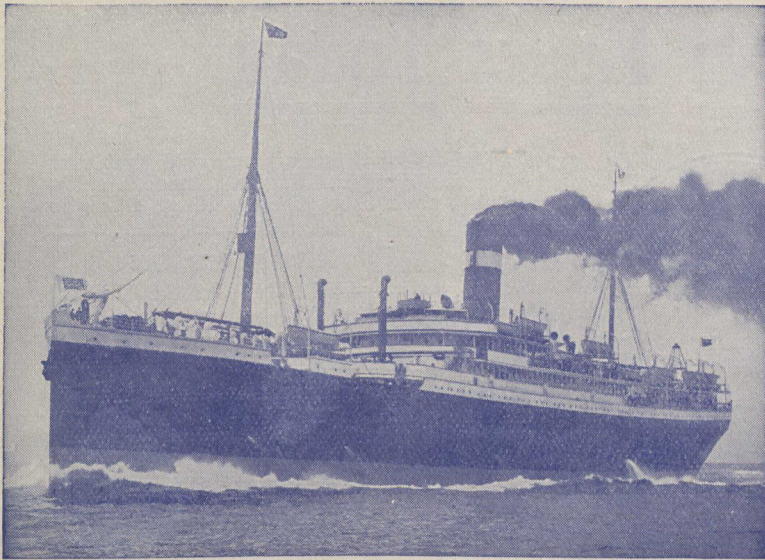
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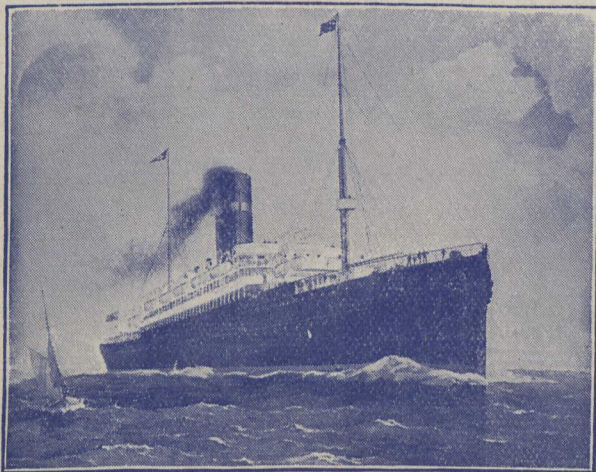
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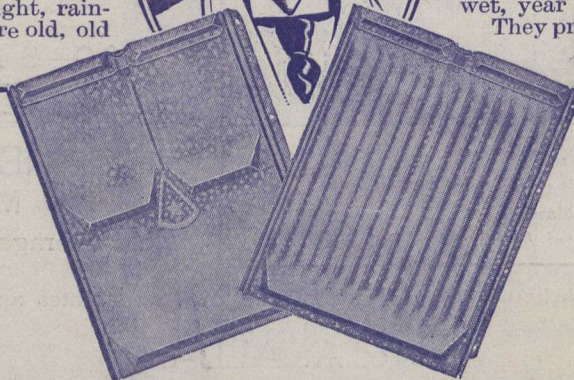
Enough steel, that, to make a pathway a foot wide and 7,576 miles long. Almost thrice the length of the C.P.R. tracks. Nearly enough to roof in a thousand acres of land! And the greater part of those Oshawa Shingles will be right on the job, good, weather-tight, rain-proof roofs, when your grandsons are old, old men. They are good for 100 years.

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The picture above, on the right, shows the new Spanish pattern Oshawa Galvanized Steel Shingle (Guaranteed). That on left is the standard pattern.

Probably 1935 seems a long way off to you. By that time, I suppose, aeroplanes will be as numerous in the skies as steamers are on the seas now. I don't believe the fall of an aeroplane upon it would harm a Pedlarized-roof.

Yet, when 1935 begins the guarantee that goes with every square foot of my shingles will still have twelve months to run.

You may not be around then. I may not be here. But this powerful Company I head will be doing business; and the price of putting a new roof on your building will still stand as a mortgage upon our assets.

Understand me clearly:

If the Oshawa-shingled roof you put on this year fails—even on the last day of 1935—to make good to the letter the plain promises of our Guarantee, there's a new roof for nothing going on that building just as soon as we can get a man there.

Think that over for a minute. Think if it isn't a pretty clear evidence of merit in roofing.

That is what I call making good with Oshawa shingles. That is what you pay five cents per year per square for.

Seems to be worth the money, doesn't it?

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