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# THE CANADIAN HORTICULTURIST

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PETERBORO, ONTARIO

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# The Canadian Horticulturist

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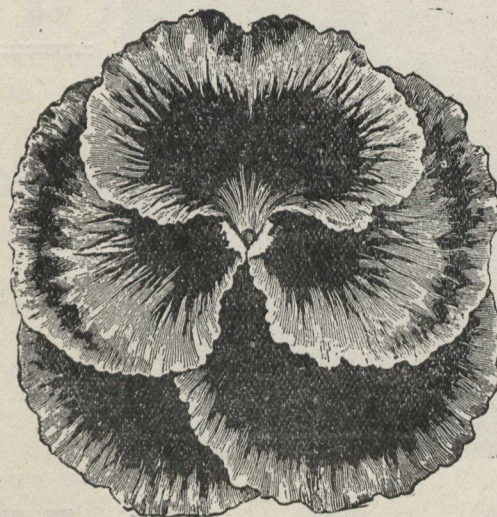
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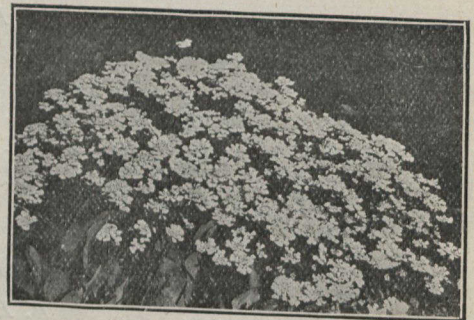
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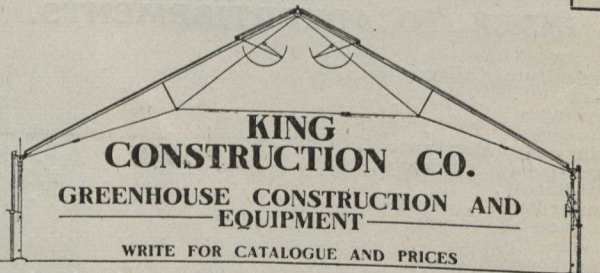
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# The Canadian Horticulturist

Vol. XXXIII

JANUARY, 1910

No. 1

## Practical Principles for Profitable Peach Production\*

Charles E. Bassett, Fennville, Michigan

**B** EING a commercial peach grower in the Michigan fruit belt, I shall attempt to give briefly only the common principles and practices of the leading growers of our section. We attempt no fancy methods—every dollar expended and every hour's work devoted to the business is looked upon as an investment. With most of us, peach production is a "bread and butter" affair. Your own experiences with local conditions will enable you to judge just how far our methods can be followed successfully in your several orchards.

### SOIL AND LOCATION

While a good loam is our ideal soil, we have good orchards on nearly all kinds of soil. We do demand, however, that all peach lands shall be well drained, both as to air and water, and, as moderate elevations tend to furnish both a good air circulation and water drainage, high or elevated lands are preferred.

### PREPARATION OF THE SOIL

The ground to receive our baby trees must be well stocked in advance with suitable food to give them a vigorous start. Plowing under clover or other nitrogenous crops, before setting the trees, furnishes humus, which is especially valuable in making the ground spongy—capable of holding large quantities of water.

### VARIETIES

The choice of varieties is largely a local matter. Select those which do best in your locality and which supply the demands of your market. The large plantings of peach in Georgia, Texas, etc., have caused us to discard the early varieties, especially the clings. In our section the best commercial orchards include such kinds as the Yellow St. John, Engle's Mammoth, Conklin, Fitzgerald, Elberta, Kalamazoo, New Prolific, Smock and Salway—all yellow varieties. The Champion is one of the leading white kinds, but our market calls for large, high-colored, yellow peaches. Such kinds as the Barnard, Crosby and Gold Drop are excellent in quality, but are too small, under ordinary cultivation, to be wanted by our buyers. Despite its poor quality, the size, color and ship-

ping ability of the Elberta, make it the leading market peach.

### CULTIVATION

Our main object being quick and large returns, we do our utmost to force a strong, sound growth from the start by intensive cultivation *early* in the season. Corn is commonly grown the first two seasons between the trees, the loss of fertility occasioned by the feeding of the corn being partly balanced by the corn's shade to the trees from the scalding rays of the sun. The trees are headed low—not over eighteen inches from the ground—and this calls for special tools in cultivating. The extension disc harrow and the extension fine tooth drag are some of the best tools after the second

### Ensures Success

I would not be without THE CANADIAN HORTICULTURIST for twice the price of subscription. I do a little work in my garden in my leisure time, and I find a great many helpful hints in its pages to ensure success in this work.—W. E. Seery, Fredericton N. B.

year, when the trees are given the whole of the ground. Cultivation must be kept up each week to save soil moisture and make more plant food available by bringing the small particles of soil in contact with the air.

### PRUNING AND THINNING

Just as a fond parent corrects in his infant child any faults that may appear, so the true lover of trees, from the very first season, rubs off any buds that appear where a limb or twig is not desired, and he thus forms a correct head. A common mistake is to leave the forming of the head of the tree until it is three or four years old, when good sized limbs must be cut off, leaving large scars that are hard to heal and which often leave a weakness. Allowing unnecessary limbs to grow is also a great waste of plant energy. In fact our former methods of horticulture seem to have been based upon the principles of *forestry* rather than upon those of *fruit* production. The engineer who would attempt to run a ten horse-power engine with a five horse-power boiler would be

no more lacking in judgment than is the fruit grower who permits his tree to over-balance the root system that is called upon to sustain it. Build up that root system by continuous and intelligent feeding and then restrict the labor of the tree by severe and annual pruning and thinning. Prune so as to open the tops, so that God's free sunshine may reach all of the fruits and so paint upon their cheeks those beautiful colors, which are so eagerly sought after by the purchasers of our products.

We prune our bearing orchards during the dormant period, preferably in March, after the hardest freezes are over. Many get good results by spring or even summer pruning, and one of the most profitable orchards I have ever seen has always been pruned in the fall! However, I am inclined to attribute the fine results in the latter case to the *severity* of the pruning, rather than to the *time* when it was done. Much of the thinning can be done by severe pruning, but even after that has been done the expense of picking off the surplus peaches by hand will often be considerable. This thinning is essential and *must be done before the pit hardens*. The production of seed is a most exhaustive process and the trees must be given all possible relief, by reducing the number of fruits. Stronger and longer lived trees, larger sized fruits and doubled profits will thereby result.

### DISEASES AND INSECTS

Curl leaf develops during cool, moist weather, but a thorough spraying of the dormant trees in March with a solution of two pounds of copper sulphate (blue vitriol) to fifty gallons (wine measure) of water is a sure preventive. Since we have been using lime-sulphur to destroy the San Jose scale on our trees, we find that it is equally as effective in controlling the leaf curl.

Yellows and "little peach" are deadly diseases of unknown origin. There is no known cure and the only safe course is to cut down and destroy by fire all diseased trees *as soon as discovered*. These diseases can only in that way be held in check, but "experimenting" with these diseases has cost many a grower his entire orchard.

The annual "grubbing" of the base of the trees, to destroy the borer, is also

\*A synopsis of an address given at convention of Ontario Fruit Growers' Association, Toronto, last November.



necessary—sometimes twice in the season. Many a sick looking peach tree will upon examination be found to be nearly girdled by the peach borer, whose work can be discovered by the gummy substance that exudes from the injured roots. Mounding the earth up around the tree and then removing the earth after the period of egg laying has passed is a method of some value and many report good results from applying gas tar to the base of the tree, thus shutting out the borer. The plum curculio is often quite destructive to the peach, but clean cultivation will generally destroy the pupa.

#### FERTILIZERS

Stable manure is all right to secure rapid wood growth, but its continued use in large quantities produces wood that is soft and tender—easily injured by the cold winters. However in our exclusive fruit section, we do not have enough stable manure on our farms to make it possible for us to do much of this kind of "damage." Fertilizers that are rich in potash and phosphoric acid are most valuable, such as unleached wood ashes and ground bone. We find great profit from the use of commercial fertilizers, the foundation of which is usually muriate of potash and ground bone from the packing houses.

#### COVER CROPS

About the middle or last of August we sow some cover crop in the orchards. Oats and barley have been very good, but the sand vetch is now most popular, as it makes a mammoth growth and also adds considerable nitrogen to the soil, it belonging to the class of legumes. When it first begins to grow, this cover crop acts as a "robber" crop, taking up the soil moisture and available fertility at a time when we want the trees to stop growing and to ripen their new wood. Later this cover crop acts as a blanket, to hold the leaves and snow, preventing bare spots on exposed knolls and the consequent deep freezing and root injury. In the spring this cover crop furnishes considerable humus to be turned under and thus improve the mechanical condition of the soil. Clovers would be even better for this purpose, as they furnish considerable plant food, but they have to be left too late in the spring if they get much growth, and they are then robbing the trees of food and moisture at the time when the trees should be making their best growth. We also find it difficult to get a catch of clover under large bearing trees.

Finally, adopt the most intensive methods to produce the largest and handsomest specimens, pick and pack them carefully and as near ripe as your market will permit, pack honestly so that you can guarantee every package, market through some co-operative system that will eliminate as many middle men as possible and, above all things, be "in

love with your job" and "Johnny on the spot," and you will be safe in looking for a neat balance on the right side of the ledger at the end of each season.

#### Fall Cultivation

J. Arthur Johnson, Grimsby, Ont.

I read the article on fall cultivation by Mr. R. W. Starr of Wolfville, N. S., that appeared in the November CANADIAN HORTICULTURIST, and agree with him in some points, but in others

the need of it on sandy land, as the ground falls close together when plowing and after a good rain the ground is pretty well united. The extra expense of cultivation also is saved. But I think this method of cultivation might be well applied to heavy ground which usually breaks up in lumps when being plowed.

I agree with Mr. Starr as to leaving the fall plowing until the leaves have fallen. This year in our orchard after the leaves had fallen the ground was completely covered. This also acts as



A Business Peach Tree—Low-Headed to Facilitate Labor and Open to the Sunlight

The tree illustrated is ideal in shape, according to Mr. J. W. Smith, of Winona, Ont., upon whose farm it is growing. It is four years old and is seven feet high and twelve feet wide. Trees in this orchard averaged five baskets each last season. At the last convention of the Ontario Fruit Growers' Association, Mr. Smith strongly advocated the low-heading of peach trees, by which system all the peaches can be picked without ladders. By this method, there should be No. 1 peaches at bottom of the tree as well as at the top. Pruning is done chiefly in winter. The limbs are thinned out to allow sunlight to enter and the air to circulate freely. Mr. Smith, who stands in the illustration, is one of the most successful peach growers in the Niagara district.

I differ. His method of fall plowing from five to six inches deep, I cannot agree with.

In the first place plowing six inches deep brings the air space too close to the main roots of the trees. In a great many of the peach orchards of the Niagara district, the main roots are not much more than six inches from the surface of the ground; therefore, it would leave the roots too much exposed. My second and most important reason is that plowing to the depth of six inches would cut off all the fibrous roots which are the main feeders and thereby weaken the trees. My method is to allow the fibrous roots to come close to the surface so that they may get stronger nourishment and also the benefit of all the showers.

As to the cultivation on fall plowing, I have never practised it, as I never saw

a root mulch and helps to add humus to the ground as well as to destroy all the insects and pests that may be harboring near the surface.

I agree, also, as to the time of putting on manure and fertilizers. The fall is the best time, as the summer seasons are very dry and the fertilizers cannot give good results in dry weather. My method is to spread the manure on the ground in the fall and to plow it under to a depth of three inches. This gives the trees a chance to start a vigorous growth in early spring and to produce a good crop of first class fruit and still leave the tree in healthy condition for the coming winter.

It is said that soda-bordeaux and Paris green will kill poison ivy—an excellent proof of its danger to fruit trees.



# Windbreaks for the Prairie

Norman M. Ross, Chief of Tree Planting Division, Indian Head, Sask.

FROM the horticulturists' point of view, windbreaks on the prairie are an absolute necessity. It is true that even in the open a considerable amount of success may be attained in the growing of many of the coarser vegetables and bush fruits, but without a certain amount of shelter it is absolutely impossible to look for profitable return from the garden, or to hope for any degree of satisfaction in the growing of flowers and the more tender flowering shrubs.

There is probably no part of Canada, where finer vegetables, flowers and small fruits can be grown, having consideration for the comparative shortness of the growing season, than in the prairie provinces. We are at present only beginning to realize the horticultural possibilities of the plains. It is not so very many years since the general impression was held that even trees could not be grown. Now we hear reports from scattered points throughout the west of the successful maturing of standard apples. The most successful grower, Mr. A. P. Stevenson, of Dunston, Man., has several hundred trees in bearing in his orchards. Several farmers in southern Manitoba have also had success and now we hear from points further west—from Saskatoon in Saskatchewan and Edmonton in Alberta—that apples have been brought to maturity.

In travelling over the country one sees well laid out city parks and farm homesteads surrounded by well kept lawns and ornamental grounds where a few years ago the "old timers" would have scoffed at the idea of such planting as a waste of time and money. We know that, provided good windbreaks are established, the soil properly worked and suitable varieties naturally adapted to local conditions, selected for cultivation, the horticulturist has abundant scope for his energies with every assurance of success. A discussion as to the best varieties for windbreaks, the manner of laying them out to best advantage, the respective advantages of wide belts or sin-

gle rows, with numerous other points, can hardly be gone into fully in a short article.

The main windbreak round a farm steading should naturally be composed of tall growing varieties of trees. What might be termed the secondary windbreaks—that is, for protecting the vegetable and flower beds and lawns inside the main belt—might better be of lower growing shrubby varieties.

Where the main belt is to consist of several rows—that is, from ten to twenty or more in width—it has been found best to plant a mixture of varieties, the following being most usually recommended: Manitoba maple, green ash, acute-leaf willow, American elm, white birch and Dakota cottonwood. This main belt should be placed well back from the buildings and ample room allowed for subsequent development.

## SHELTERS FOR GARDENS

In planning shelters for gardens it must be remembered that after the trees attain some height it will not be possible to grow flowers and vegetables within ten to fifteen feet of the trees unless plenty of water is available for irrigation, which is not a usual condition on the prairies. For a single row making tall growth and effective shelter within three or four years the acute-leaf willow is most satisfactory. Cuttings should be set about one foot apart and as the break grows up the tips of the side branches may be cut or trimmed about twice during the season. This soon forms a very thick break most suitable for a vegetable garden.

Where one already has a good main belt, but also desires small breaks within, we should advise the *Caragana arborescens* as being most easily propagated and generally suitable for a medium-sized hedge. This plant stands trimming well and makes an extremely thick hedge. It may be kept down to about four feet high or if allowed to grow will reach a height of ten to twelve feet in a very few years. The common

lilac is also very suitable, though not making such a rapid growth as the *Caragana*.

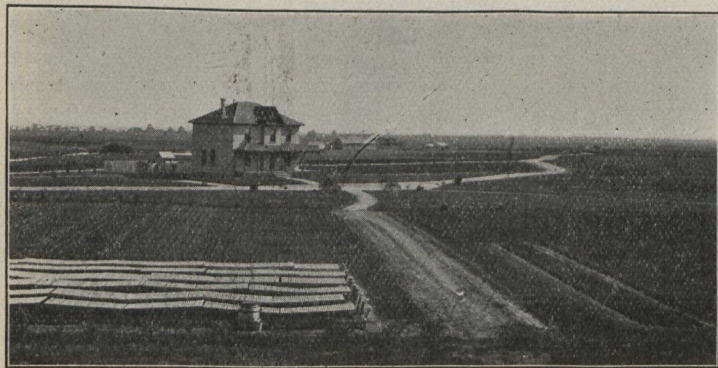
## VALUE OF EVERGREENS

The evergreen conifers will make the most ideal windbreaks, but they are rather slow to become established and would not be of much benefit as shelter until probably eight or nine years after planting, presuming that plants about four years old or twelve inches to eighteen inches are used to set out. However, the enormous advantage of the evergreen varieties over the deciduous kinds of the same height, as windbreaks, cannot be gainsaid. It would be well worth while for any settler on the prairies to set out such varieties as, white spruce, Scotch pine and Jack pine where young stock can possibly be obtained. The white spruce is the best variety. It is a native and hardy. The growth is compact and the lower limbs remain green to the ground in later years.

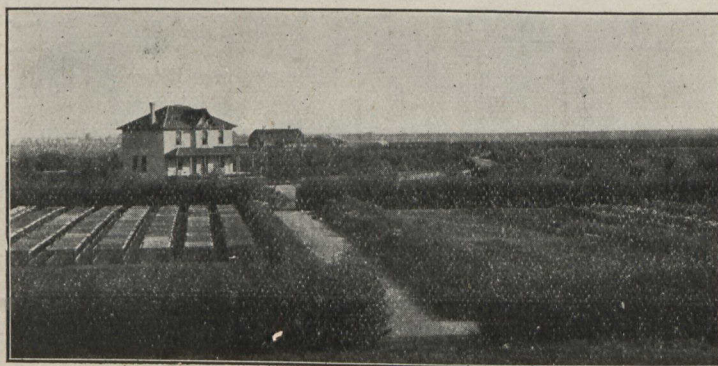
The Scotch pine appears hardy and rather quicker growing than the white spruce, though in later years it becomes straggly and the lower limbs die off. The native Jack pines have the advantage of being very hardy and fairly rapid growers, but will not compare with the white spruce either in appearance or in effectiveness for shelter purposes.

In growing evergreens on the prairies however, experience would indicate that to get the best results one must first provide some other shelter. This shelter must be sufficient to hold snow on the young conifers for the first two or three winters, but must not be so close to them as to overshadow or check their growth in any way.

In any plan then for permanent shelter belts on a farm or around gardens, it would be advisable to make arrangements for planting evergreens with a view to their being, eventually, the final windbreaks; the faster growing deciduous varieties being gradually cut out as their usefulness decreases, or as they commence to take up too much room,



View at Nursery Station, Indian Head, Saskatchewan, in Spring of 1905



From Same Viewpoint in August, 1907



thus threatening to crowd out the more valuable evergreens or rob other neighboring plants of food and moisture.

### Planting on Pacific Coast

W. J. L. Hamilton, South Salt Spring, B. C.

Whilst apple trees will grow well under almost any conditions in British Columbia, it pays to plant them in properly prepared soil. Land cannot be plowed or subsoiled too deeply for the apple. The best conditions are probably

### Preparing Land for Planting

In the November CANADIAN HORTICULTURIST Mr. W. E. Corman of Stoney Creek, Ont., contributed a few notes on this subject. Mr. Corman gives further information in the following: "Subsoiling fifteen inches deep allows the roots to spread out at a depth that the frost will not penetrate to injure the trees and it allows the feed, that goes down, to be more evenly distributed to the roots and the

in fact, I have heard, though I cannot quite vouch for the truth of it, that roses are so much hardier the deeper their roots go. The hose will keep off all kinds of bugs better than insecticides, and keep the bushes at the same time, fresh, green and healthy. Some kinds of h. p. roses do better than others in different soils and situations but these the grower will have to find out for himself.

Plants are like children. They are very responsive to proper treatment; if you love them, love them practically and naturally, not in a sickly, sentimental sort of way, and you will have your expectations more closely realized.

### Wall Flowers

I have had some wall flowers since the summer of 1908 but they do not bloom. I put them out last summer. They were healthy but produced no flowers. Please give some information about wall flowers.—S.P., Stayner, Ont.

It is very difficult to keep wall flowers over for a winter and flower them successfully the following season. If the plants were healthy and vigorous last spring when you planted them out, they should have flowered towards the end of summer. I have succeeded best with wall flowers by sowing the seed indoors early in February or March, growing the plants on inside in small pots or boxes and planting them out about the middle of May. If the plants were not in flower in the fall before frost, they could be dug then, put into pots or boxes where they will flower during early winter in the window. I have wintered old plants over in a cold frame by covering them with leaves and putting some boards over the leaves, and planting them out the following spring. Much depends upon how they come through the winter.—Wm. Hunt.

### Treatment of Phlox

I have several clumps of phlox which come up nicely in the spring but when the buds come the plants seem to dry up and the flowers never open. The soil is rather sandy but we always dig in plenty of well rotted manure and we keep the plants watered. How should these plants be grown?—Mrs. L.G.K., Owen Sound, Ont.

It is quite possible that the soil the phlox is in is too sandy. A clay loam suits phlox best. If the clumps spoken of have not been divided recently, I should recommend dividing them early next spring and planting them in a fresh place. A clump or division having ten or twelve shoots of growth would do well for transplanting. The end of April or early in May is the best time for this. If the leaves turn yellow in the summer it is likely caused by an attack of red spider, a small insect which attacks the under side of the leaves. A good spraying with cold water every day in very hot weather will prevent attacks of red spider and materially help the plants.—Wm. Hunt.



One of British Columbia's Displays at the National Apple Show, Spokane, Washington, in November

obtained by deeply plowing, breaking up, and thoroughly cultivating a good thrifty two year's red clover sod.

Thus prepared in the fall, the trees, always yearlings for choice, can be set out about November on the Pacific coast, and will be well established by next spring, when the slowly decaying clover will supply the nitrogen needed to start thrifty growth.

### Grafting Fruit Trees

Please give some information about top grafting fruit trees. Tell how to select and when to get the scions, and how to keep them. I understand the fitting fairly well. Give also formula for a good grafting wax.—J. S., Egmondville, Ont.

Take the scions from one year's growth on trees of the variety that is to be propagated. It is best to take them before real cold weather sets in, but they may be taken at any time. Keep them in the cellar buried in the sand. Select scions from trees of known worth. The ingredients for a good grafting wax are: Resin, four parts; beeswax, two parts; tallow, one part; by weight. Watch THE CANADIAN HORTICULTURIST for an article on this subject that will appear soon.

From six to eight tons of straw are required to mulch an acre of strawberries properly.

drought does not have the same effect on the fruit in a dry season. Plant the trees twenty feet apart each way, which allows the roots to spread and not run into the roots of other trees.

"Sow buckwheat about the first of June and disc it down about the first of August and let it go until the following spring and repeat the same. This buckwheat forms a blanket for the roots and keeps the ground from freezing to any great depth and it holds the buds back in the spring until all danger of frost is over."

### Protection of Roses

A. H. Ewing, Woodstock, Ont.

There is a great deal of common sense in what "Amateur" says on this subject in the November CANADIAN HORTICULTURIST. I have never done more than put branches in amongst the roses (hybrid perpetuals) in order to gather the snow over them and, though the growth always gets frozen back more or less according to the severity of the winter or the amount of snow that falls, they have never been frozen back lower down than was necessary to trim them in the spring.

I can't quite agree with "Amateur" with regard to soil. Roses will do very much better and produce much finer bloom in a clayey soil than in a sandy soil and the deeper the soil is the better;



# How to Grow and Manage Azaleas

C. M. Bezzo, Berlin, Ontario

**T**O see a good specimen of azalea during the looming period is to determine at once to possess one.

This accounts for the fact that, notwithstanding the reputation this plant has of being hard to grow, thousands are bought every year for the conservatory and the window garden. True, it is somewhat fastidious regarding what it eats and the way it drinks, but humor it in these little peculiarities and it becomes at once one of the most docile and accommodating plants to be found in the whole floral kingdom.

The azalea demands a soil of peat or wood-dirt. Peat is that soil which is found in swamps, the accumulations of hundreds of years of decayed vegetation. A good compost, or soil for this plant is made as follows: One quart of peat, wood dirt or leaf mold; one quart of loam made from rotten sods or good garden loam; one pint of clean sharp sand; one pint of thoroughly rotted cow or sheep manure; one ounce of hardwood ashes. We have given the component parts in their order of preference. Any further substitutions are not advisable. The manure used must be thoroughly decayed (about two or three years old is the best), and it may be allowed to dry, when it will pulverize and mix more readily with the other materials. Clay, hard soil or fresh manures are things the azalea will not tolerate; and unless the proper materials are obtainable much time and labor as well as disappointment will be saved by throwing the plant away. Persons living in the cities and larger towns may find it somewhat difficult to gather for themselves peat, wood dirt and leaf mold; but nearly all these, together with the various fertilizers, can be ob-

tained from almost any dealer in florist's supplies.

## POTTING

Having prepared the potting soil the next thing is to pot the plant. If the plant has come by express and has the ball of earth intact about the roots and is dry, stand it in a saucer of water and let it absorb all the water it can. By this process you are able to gauge how much water it has taken up. Note carefully the quantity of water the roots and plant will absorb, as this knowledge will be of considerable value when watering in the future.

Select a pot about one size larger (not more) than the plant has been growing in. Into this put about one inch of draining material. For this purpose charcoal is good, as it helps to keep the soil from souring, but pieces of broken crock, coal cinders or pebbles may be used. See that it is coarse enough to leave crevices through which the water may freely pass. A thin layer of sphagnum or moss, the kind used by florists, spread over the top of this material will prevent the earth washing down and blocking the drainage.

This careful preparation for draining off all surplus water is absolutely necessary. Owing to the peculiar root formation of this plant and the kind of soil in which it grows it is very liable to root unless all surplus water is drained away. Where good drainage has not been provided for, the water becomes stagnant and the earth sour, generating a low poison which is distasteful to some plants and sure death to others. Among the latter is the azalea.

Having made provision for the drainage, place in sufficient soil to bring the plant to the proper height in the pot, al-

lowing for about half an inch of space between the finished soil and the top of the pot. Press the soil down firmly.

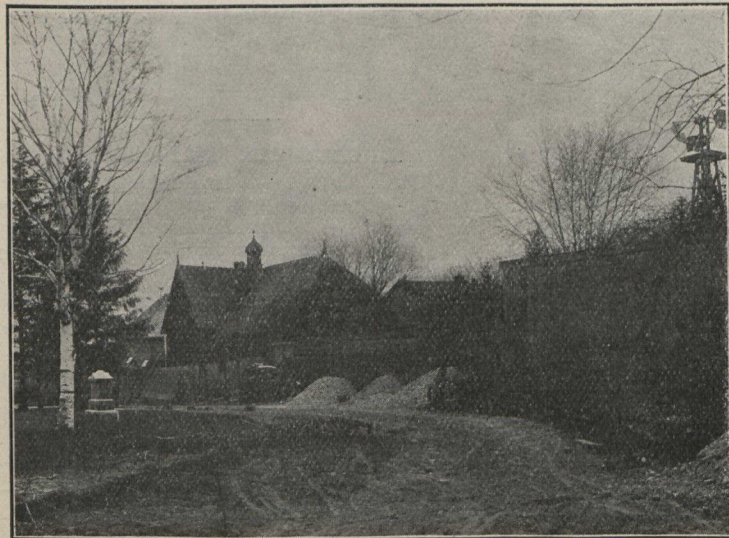
If the plant has the old earth about the roots, place it in the centre of the pot and fill in the space between the plant and the pot with the soil prepared for the purpose. The soil in this space must be packed quite firmly, else the water when applied will glide away from the roots into this loose earth and out through the drainage and be lost. Pack it firmly and raise it slightly at the outer edge, leaving a depression in the centre which will retain the water until it has a chance to penetrate to the roots of the plant.

If the plants are of the mailing size and with the roots denuded of earth, sift the earth carefully about them, pouring water on occasionally to settle. After potting set it away for about a week in a dark closet. Bring it gradually to the light and in about a week from the time it is brought from the closet it will be ready for direct sunshine.

## WATERING

The root formation of the azalea is somewhat peculiar and it is because of this peculiarity that so many failures are recorded. Unlike most other plants, its roots are a mass of fine fibrous threads all matted and tangled together, and the difficulty is to get water to penetrate this mass. Many deaths from thirst might be recorded and yet the owners water them every day; the water passing off between the pot and the ball of roots, leaving the inside quite as dry as before.

While watering from the bottom is not a method which we would recommend generally, the azalea is such an



A Corner of Mount Pleasant Cemetery, Toronto, that was Transformed Last Season from Unsightliness to a Place of Beauty

This cemetery is one of the best kept in Canada. The landscape effects are a credit to its superintendent, Mr. W. H. Foord.



exceptionally peculiar plant in this respect that its whole treatment must be an exception to the general rule. Fill the saucer of the pot full of water. If the plant takes it all up, replenish, and repeat until it refuses to take up any more.

If at any time you are unable to get the soil to hold a sufficient quantity of water by pouring it on the top or feeding from the bottom to convince you that it is thoroughly saturated, set the pot right over the top in a basin of water and let it soak. With good drainage, if the soil is allowed to dry before another watering, these soakings will not hurt it, but they should not be given except as a last resort.

Do not use cold water. Let it set in the sun until it becomes lukewarm, or

add sufficient hot water to make it the desired temperature. Tepid water is not only better for the plant, but it will penetrate the soil about the roots more readily than when cold.

Use rain water; never water the azalea with water from the well or hydrant if it is hard. Lime in any quantity is injurious to this plant and the water of some wells contains a sufficient quantity of lime to kill the azalea in a short time. Do not water too often. The roots of this plant must not be kept wet or they will rot. When watering do it well, then give no more until the plant begins to get thirsty.

Space will not allow further discussion in this issue. Next time, pointers on the periods of growing, blooming and resting will be given.

## Feeding House Plants

By "Planta"

IT should never be forgotten that plants need food just the same as the different members of the animal kingdom, and especially is this the case with house plants, which have to be for various reasons kept in as small pots as possible for as long a time as possible.

In the first place, a soil should be used that will retain its feeding properties for some time, and for this purpose bone meal should be used when potting. This dissolves into plant food very gradually and therefore gives a supply for a considerable period. The finer the bone the quicker the action.

The soil used for many plants requiring a loose open soil will soon become depleted owing to water easily draining through, carrying with it the plant food for these and the former when they show they need it other methods can be employed. Occasionally a little household ammonia in rain water can be used as a stimulant, but care must be taken not to give it too strong and only to a growing plant in good health.

There are also several kinds of plant food sold by seedsmen. These are done up in packets generally with full directions and have been used with varied success. Never give a plant liquid manure or stimulant, however, when the soil is dry.

Florists, owing to the quantity of plants they have to water, are mostly obliged to water with "hard" water, but soft rain water is better and most dwelling houses have a handy supply. Tepid (not hot) water is better than cold water.

A very good plan of feeding plants is to soak them in a tub of water with some liquid manure mixed with it. It makes a little more trouble, but it thoroughly impregnates the soil with plant food. Put enough liquid made from old rotted cow manure into a tub of rain water to make it the color of ordinary

tea. Plunge the pots into this to just below the rim and let them soak there for an hour or two; then take them out and allow to drain for a short time before putting into their proper places. They will not need watering again probably for two or three days or even more, according to the temperature of the room they are in. It is a good thing to have some of this liquid manure always on tap if the material for making it is available.

Strong growing plants can take up much more food and take it oftener than the weaker ones; therefore, be careful not to overfeed the weaker ones.

As a general rule, pot plants into larger pots in the spring or during summer. Palms will grow in small pots for years if judiciously fed.

Do not forget that plants want air, both leaves and roots. To air the roots loosen the top soil frequently with an old fork or something of the kind. Don't expose the plants to cold drafts. An occasional washing or hosing of the leaves will keep the leaves free from dust and insects.

Do not on every occasion stand your plants out in the rain. Thousands of plants have caught their death of cold through this, and no amount of feeding will bring them back to health again when they begin to look sick from this cause. With all these injunctions use plenty of judgment, common sense and love.

A few cacti add interest to the collection of house plants.

An occasional stirring of the surface soil in flower pots is beneficial.

Do not allow the house plants to suffer from lack of water. Some kinds in sunny windows need water every day.

## A Two-year-old Garden

The accompanying illustration of an aster bed was secured last season in the garden of Mr. W. A. Greenslade, Peterboro. The bed contained nearly 300 asters all grown from seed saved by Mr. Greenslade.

In the same garden, there were thirty-three varieties of sweet peas ranging in



Asters Grown at Home from Seed

color from white varieties to black Michael. Many gladioli, dahlias, roses and other things combined to make the garden most attractive. Mr. Greenslade starts most of his seeds of annuals in a hotbed and in the house.

Vegetables have a prominent place in this garden. Last summer, Mr. Greenslade picked his first tomatoes on July 31. He had a large yield of the Ponderosa variety, the specimens averaging nearly fourteen ounces each and one of them weighed over seventeen ounces. The tomato seed is started in the hotbed and transplanted to the open ground three feet apart. The plants are trained on stakes. His first potatoes were harvested on July 22. This is the second year for this garden and Mr. Greenslade states that he received his knowledge of how to grow these things successfully from THE CANADIAN HORTICULTURIST.

## Liatris and Hibiscus

If seeds of Liatris or Blazing Star are sown in September will they produce flowering plants the following season? Will *Hibiscus Moscheutos* sown in July bloom next season?—M. W., London, Ont.

Neither of the plants mentioned will produce much flowering result next season, although a few flowers may be obtained. Both plants being of a perennial nature, will grow and flower for several years after once becoming established. From the fact that both of them produce their flowers rather late in the season, it may be possible to get a few flowers the first season after sowing. Much depends in this respect upon the growth and culture.—Wm. Hunt.



## Some Herbaceous Perennials Worth Growing\*

THE following notes on herbaceous perennials are made upon plants growing at the Central Experimental Farm, Ottawa: There are some very desirable herbaceous perennials which are new or not well known in this country. A very desirable plant is the wild monk's-hood (*Aconitum uncinatum*: Syn. *A. Volubile*). This monk's-hood is more or less climbing in its habit of growth and reaches a height of five to six feet. The flowers are violet in color and quite attractive. It blooms at Ottawa from late in July to late in September. Another plant belonging to the Campanulaceæ of graceful habit and attractive flowers is the gland bellflower (*Adenophora Potanini*). It is a native of Turkestan, grows to a height of two to three and one-half feet, and blooms at Ottawa from late in July to late in September. The flowers are pale, bluish violet suffused with white. The hardy marguerites, or Shasta daisies, as they are sometimes called, are very desirable plants, both for effect outdoors and for cutting. New varieties are being introduced from year to year. Among the most desirable tested at Ottawa are *Chrysanthemum lacustre* Top Sawyer; *C. maximum elegans*; *C. maximum* Duchess of Abercorn; *C. maximum splendens*. These have flowers much resembling the ox-eye daisy but much larger, some of the flowers being three inches or more across. They bloom from July to October.

The autumn blooming Heleniums are well known, but those which bloom in early summer are not so well known. One of the finest plants of recent introduction is *Helenium Bolanderi* Golden Queen. It grows two feet high and blooms from early in July to near the middle of October. The flower is deep golden yellow with a dark centre. *Helenium Hoopesii* is another American species blooming in June which is not well known but which is a very desirable perennial. The flowers are orange yellow.

The Hemerocallis or day lily is a very popular old-fashioned flower, and few of the newer varieties are better than the common *Hemerocallis flava*, but for variety and length of blooming season some others should be planted. Among those of comparatively recent introduction is *H. aurantiaca major* reported last year. One of the finest of the newer varieties is one of American origin called Florham, with a large golden yellow flower. Some of the best of recent introduction in Great Britain

and Europe are: Flamid, with orange flowers; Gold Dust, orange, bronze on outside; Orange Man, bright orange; and Sovereign, orange yellow, bronze on outside. All said to be of hybrid origin. These bloom during the month of June. A very late blooming day lily and quite distinct is *H. citrina* with canary yellow flowers. This blooms in August and September.

Among the most graceful and attractive herbaceous perennials introduced in recent years are *Heuchera brizoides* and its varieties. *Heuchera brizoides* is a hybrid between *H. sanguinea* and *Tiarella purpurea*, introduced by V. Lemoine, Nancy, France. The plants are much more graceful than *H. sanguinea* and far freer bloomers. A collection of these was planted at the Experimental Farm, Ottawa, in 1909. Those which have bloomed in other years are *H. brizoides* with rosy pink flowers paler at the base, and *H. brizoides gracillima*, of somewhat the same color but more graceful in habit than the former. They bloom from June to September.

Although *Incarvillea Delavayi* has been out for some years, comparatively few know this beautiful flower yet. The plant grows from two to two and one-half feet high and the flowers, which are much like gloxinias in appearance, are borne on a stalk coming from the ground. The flowers are rosy magenta brown and yellow in the throat. The blooming season is June to July 13 at Ottawa. *I. grandiflora*, somewhat like the above, has not proven so hardy.

The marsh mallows or rose mallows, *Hibiscus Moscheutos*, are perennials which should be better known. They are hardy, and being from five to six feet in height, their large flowers are seen to good effect in late summer. They bloom from early in August to October.

Several of the *Thalictrums* or meadow rue are effective border plants, but one of the newer and most effective species is *Thalictrum Delavayi*, a native of China. It grows from two to three feet in height and the pendulous flowers are lilac and purple in color.

The *Trollius* or globe flower is one of the most attractive spring flowering perennials, yet it is seldom seen in Canadian gardens. Some of the newer varieties are very fine. Two of the best of these are *Trollius europæus* Orange Globe, with semi-double, orange yellow flowers, and *T. asiaticus plenus* (*T. japonicus plenus*) with rich, deep orange, semi-double flowers.

### The Front Lawn

E. Morden, Niagara Falls, Ont.

To fill the narrow lawn space that we often find in urban situations with scattered shrubbery is a very common mistake. A mass of shrubbery and vines banked up against the dwelling or its veranda with its resultant rotten wood and dampness is often objectionable.

The vine-clad cottage is poetic and perhaps allowable if the cottage is antiquated and ugly. Where much dust prevails the erection of a nearby screen separate from the house itself is a good idea.

Where narrow lawns exist two neighbors may plant a contiguous shrubbery with good results; where lawns are wider, as is commonly the case in rural localities, one owner can mass a shrubbery-group at the side of the lawn, and thus leave a free open space in front where the lawn mower and mayhap lawn tennis may feel at home.

The illustration on this page will make my plan clearer. Here we have a large variety of shrubs interspersed with rare



An Interesting Mixed Border of Shrubbery, Conifers, Perennial and Annual Flowers  
Home and lawn of Mr. Jas. C. Morden, Niagara Falls South, Ont.

\*Extract from the report of the novelty committee (Mr. W. T. Macoun, Prof. H. L. Hutt and Miss M. E. Blacklock) of the Ontario Horticultural Association, made at the Toronto convention last November. The portions of the report that mentioned annuals, cannas, gladioli and other plants, will appear in a later issue.



## What Amateurs Can Do in January

evergreens interesting at all seasons of the year. Room is found for annual, biennial and perennial flowers along the front of the shrubbery and all of these are cared for with a very moderate amount of labor.

In the shrubbery may be noticed a Wisconsin weeping willow. These hardy willows fill a long-felt want. It will be seen in the shrubbery a short distance to the right of the street maple which is partly shown near the sidewalk.

This view is a rural one, and the concrete sidewalk in front is rather exceptional. It is on Lundy's Lane, quite near to Niagara Falls.

### A Specimen Brugmansia

S. J. Jackson, Bowmanville, Ont.

The specimen of *Brugmansia* illustrated is about nine years old and stands nine feet high. When photographed it had forty-seven blossoms measuring about twelve inches long and six inches in diameter at the bell end. When in bloom this plant requires an abundance of water and must have good drainage.

We have a number of these plants and we give them a period of rest from the first of December to the first of April. We winter them in a cellar with dahlias, cannas, etc., and give them a little water occasionally to keep them from drying out.

The *Brugmansia* can be grown from seed or cuttings. It should be re-potted in spring. The plant illustrated is in a tub about the size of a candy pail. The *brugmansia* is very highly perfumed in the evening.

**The Formal Garden.**—To mention the formal garden to some people is as a red rag to a Spanish bull. They are up and at you in a moment. Yet the formal garden is gaining way in England—not the stiff Italian garden, which is nine-tenths architecture, and one-tenth flowers and plants; but the principles of the formal garden, as such, are gaining way. Evidence of this meets us in much of the recent work that has been done by the best exponents of garden design at the present day.—*Journal of Horticulture*, London, Eng.

After the bulb flowers indoors begin to show, the pots may stand in a saucer of water all the time.

**G**UARD the window plants against frost. Keep them away from the glass on cold nights. In rooms where the temperature becomes very low at night there is danger of plants on window sills being nipped. This can be prevented either by moving them to a warmer part of the room or by placing sheets of newspapers between them and the glass. For most window plants a temperature of sixty-five to seventy degrees Fahrenheit during the day, and fifty to fifty-five at night will give best results.

House plants kept in rooms that are not ventilated occasionally will not do well. Open the window or door for a little while on fine sunny days, but avoid direct drafts on the plants.



A *Brugmansia* That Produced Forty Seven Blooms

Grown by Mr. S. J. Jackson, Bowmanville, Ontario

Most window plants do best in an atmosphere that is fairly moist. Keep a pan of water on the radiator or stove to keep the air moist. Occasionally sprinkle the foliage of the plants with clean water.

Apply fertilizers in small quantities. Use liquid manure or commercial fertilizers. Further information on this point and on other factors in window gardening is given in an article on page 6.

If aphids appear on the plants apply a strong solution of tobacco water. Red spiders can be kept in control by sprinkling the foliage with water. Scales on the leaves may be washed off with strong soap suds. Mealy bugs may be brushed off with a small brush or piece of stick. Keep the plants growing strongly and in a healthy condition, and insect pests will not be so troublesome, as they are on plants that are weak and sickly.

Pot bulbs should be grown in a tem-

perature that is as nearly uniform as possible. To secure uniformity, take them away from the window at night.

Try some annuals indoors in boxes and plant drooping kinds about the edges to hide the sides.

Commence now growing plants for Easter. Among the useful ones for the purpose are hortensia, greenhouse spirea and freesia. Buy the roots and bulbs at once and pot them. Keep the hortensia and spirea in a cool place for a few weeks and then bring them into warmth. It is not necessary to keep the freesia in a cool and dark place. Unlike other bulbs, it may be placed in the light almost as soon as potted.

Commence planning for next season's outdoor garden. Send to the seedsmen and nurserymen for their catalogues. Make your selections and order early. Plan the garden on paper. First measure the plot that is available and draw a diagram to scale. You will find the work interesting and it will enable you to secure better results than if you were to leave the planning until time for planting.

During warm days this month look for eggs and cocoons of insects on the trees and bushes. Destroy all that you find. Large numbers of pests can be killed in this way.

During odd times make stakes for use next spring. Paint them and have them ready for use when wanted.

There is still time to mulch the strawberry bed if the work has been neglected. Freezing will not hurt them and the snow will be a benefit, but be sure and apply the covering as soon as you can. It is the alternate thawing and freezing in spring that does the damage.

### Pruning Moss Roses

What is the best time and the best way to prune moss roses? They produce lots of wood and few roses. The ground is a clay loam.—W.N., Chatham, Ont.

The best time to prune moss roses, or any of the hardy roses, is early in the spring as soon as the growth buds show signs of starting (usually about the first week in April). The time of pruning depends upon the season. Moss roses should be pruned by cutting away or shortening the last season's growth, leaving about three or four inches of the base of the growth made last year. With strong growth or canes of new growth starting from the bottom near the root, these can be cut back to about twelve or fifteen inches in length. All weak growth should be removed if the bushes are very dense and thick with growth. To secure good roses a growth of good strong wood is necessary.

The chief requirements of cacti are ample drainage and a sandy soil.



# Celery Under Glass\*

B. H. Thorne, Wooster, Ohio

**A** FEW years ago I began to think that the time would come when there would be an overproduction of lettuce and began to experiment in a small way with several vegetables in order to find out whether they would be suitable for greenhouse crops and to get some knowledge of them before trying them on anything like a large scale. Celery is one of these vegetables and although I have not yet passed from the experimental stage to the commercial stage, I believe that it can be made a very profitable crop when used as a spring crop to come into the market in April, May or early June.

Young celery plants grow slowly during the winter and in order to get plants for planting in March or April, the seed must be sown in November or early December. It takes two or three weeks for the seed to come up and the seedlings grow so slowly that they are hardly ready for the first transplanting before February.

I sow the seed in flats, cover lightly with soil and cover the flats with glass until germinated. They stay in the flats until about an inch high and then are transplanted about two inches apart into other flats or a bed. When the plants get about five inches high or before they get at all spindly they are transplanted again into their permanent quarters.

The kind of plant wanted in your market will be the ruling factor in deciding the distance apart to plant in the beds. Six inches apart will give a plant twenty to twenty-four inches high with narrow stems; seven inches, a somewhat shorter plant, and heavier stems; and eight inches, a still shorter plant and heavier stems. But then six inches gives four plants per square foot, seven inches three plants, and eight inches only two and one-fourth plants per square foot.

## VARIETIES

The varieties tried have been Golden Self-Blanching, Snow White and White Plume. Plume is not to be considered, at least in warm weather, because it makes too many seed stalks and there is too great a variation in the size of the plants. There is certainly great room for improvement in this variety before it can be used in the greenhouse. G. S. Blanching makes excellent stalks but grows slowly and is subject to heart rot. Snow White has been the best so far; it grows about as fast and as tall as Plume and has not made any seed stalks or rotted at the heart.

Although both Snow White and W. Plume have made a fair percentage of

trimmed stalks seven inches in circumference and twenty-four inches high to the tip of the leaves at six inches apart, I believe seven inches is a better distance to plant.

Celery grows quite fast in the spring months after it gets a start and if the blanching is begun soon enough it can be ready for market in about eight weeks. To grow quickly celery needs frequent heavy waterings.

## BLANCHING

Blanching is the most critical part of celery growing under glass. It must begin as soon as possible for each day's delay in getting the blanching papers on means that the crop occupies the bed that much longer and may even delay the crop until the home grown outdoor comes in.

The stalks refuse absolutely to blanch by the new celery culture meth-

as the average outdoor celery and much better than muck-grown celery.

## PRICES

As to the price of greenhouse celery I can't say from actual sales but, as it is of better quality, finer looking and fresher than any shipped from the south in May and June, I see no reason why it should not bring fifteen to twenty cents per square foot. In fact, I have heard of one grower who got ten cents per stalk, planted seven by nine inches.

## INSECTS AND DISEASES

As to the diseases of celery, Prof. Selby tells me that it is subject to the rosette but, I believe, not so much as lettuce. With the exception of heart rot I have seen no diseases. Celery seems to be a favorite with red spider but when quickly grown and blanched spider does very little damage.



Field Grown Celery Blanched with Paper, Showing Method of Wrapping and Tying  
Illustration reproduced from *Market Growers Journal*.

od of close planting. The blanching must begin when it is time for the first merchantable stem to appear.

The blanching is done with two sets of papers, one about six inches high and the last twelve or fourteen inches. The papers are made up in the workroom of a smooth, hard, dark colored paper that dries quickly after being wet. The papers are made so that the edges overlap about half way round and large enough to put the hand and arm through and tied with one and two strings. In putting on the paper it is slipped over the hand and arm, the plant grasped with this hand and the paper pulled down over the plant with the other hand. The plant is blanched while it grows and is ready for market as soon as large enough. The papers, if cared for, can be used several times.

A greenhouse celery plant is certainly good to look at and is pure white from tip to base. The quality is as good

## When to Plant Ginseng

Should ginseng be planted in fall or spring?—W.S., Goderich, Ont.

Spring planting should not be attempted by the inexperienced beginner, but it is not impossible. It could be done probably during the week immediately after the ground thaws out, but the time is too short and the soil is then full of water and in a very bad condition to work. When the ground is free of frost and the hot sun warms the soil it starts the root into action. It is one of the first plants to break through the ground in the spring. Ginseng should be planted in fall.

The solution of the market problem in growing vegetables is largely a matter of pluck and energy.

Factory shavings make fairly good insulating material for cold storage buildings, but they should be dry.

\*A paper read at the convention of the Greenhouse Vegetable Growers' Association of America, at Ashtabula, Ohio, in October.



# The Canadian Horticulturist

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January, 1908.....	7,650	January, 1909.....	9,456
February, 1908.....	7,824	February, 1909.....	9,310
March, 1908.....	8,056	March, 1909.....	9,405
April, 1908.....	8,250	April, 1909.....	9,482
May, 1908.....	8,573	May, 1909.....	9,172
June, 1908.....	8,840	June, 1909.....	8,891
July, 1908.....	9,015	July, 1909.....	8,447
August, 1908.....	9,070	August, 1909.....	8,570
September, 1908.....	9,121	September, 1909.....	8,605
October, 1908.....	9,215	October, 1909.....	8,675
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## EDITORIAL

### ARRANGE A TRIP TO ENGLAND

In one of the weekly reports of the Dominion Department of Trade and Commerce, Mr. W. A. MacKinnon, Canadian Trade Commissioner, Birmingham, England, suggested that Canadian fruit growers would do well to follow the example of their brethren on the continent, by organizing a touring party to visit the chief ports and markets of Great Britain. The suggestion should receive serious consideration. Every year a few of our most enterprising growers visit the Old Country individually to learn the situation there at first hand. Would it not be better for these men to arrange to go in a body? A number of growers together would receive greater attention from the British dealers and others interested than would be accorded to them as individuals. They would be able to gain more valuable information in this way than they could if travelling alone. Such a deputation would leave an impression on the trade in Great Britain that no individual, no matter how large his interests, could give. Intending visitors to the Old Country in the interests of our fruit industry, should consider the advisability of taking this step.

Should this suggestion meet with approval, THE CANADIAN HORTICULTURIST would willingly act as a medium of arrangement. Let us hear from those interested.

### THE PILFERING OF FRUIT

Since our editorial reference in last issue to the pilfering of fruit by express company employees, we have received additional letters giving specific instances. These will be published later. We would be glad to receive still further evidence. Names of contributors will not be published without permission.

The express companies, if they would, could locate the guilty employees. Inspection of packages at time of delivery with a system of receipts between growers, agents and messengers on trains, easily furnishes a means of detection. For instance, when fruit packages are received in good condition by a messenger and receipted for by him and reach the transfer messenger or the agent at destination, showing evidence of pilfering, there is only one person guilty and that is the messenger. The importance of this responsibility should be impressed upon the express companies by the Railway Commissioners.

### BRITISH COLUMBIA INSPECTION

There was some talk last spring that the British Columbia government intended to establish a fumigation station at Golden, for the benefit of growers who desired to import eastern stock. That this should be done has been pointed out in these columns many times. Our contention is backed up by scores of letters from British Columbia and by the editorial backing of the inland press of that province. The general and unbiased feeling in the matter is summed up in the following extract from a letter received from Mr. R. R. Bruce, Wilmer: "Golden is the natural place for it, as it is the eastern gateway of British Columbia. With the present fumigation station at the coast, there would then be the minimum of delay to any fruit stock coming in either from the east or from the west. The establishment of such a station

would tend to a more rigid fumigation."

THE CANADIAN HORTICULTURIST has been accused of advocating the establishment of such a station in the interests of eastern nurserymen. While we recognize that eastern nurseries would benefit, we are championing the interests of the fruit growers of British Columbia, hundreds of whom are readers of this magazine. We are not concerned about where the growers purchase their stock, but feel that those that desire to purchase in the east should be given a fair chance to do so with some degree of certainty about the stock arriving in good condition. Inspection stations at both Vancouver and Golden would give all a fair chance and there would be no discrimination.

Another feature of British Columbia inspection methods is the double and triple fumigation that stock is subjected to. This is referred to at greater length in a letter from Mr. M. J. Henry that appears page 12 of this issue. The provincial government would do great service to its fruit industry by remedying these matters before the opening of next season.

### QUEEN VICTORIA PARK

It is announced that the services of a skilled gardener, who was trained in Kew Gardens, London, England, and was more recently in the service of Cornell University, have been secured for Queen Victoria Park at Niagara Falls. This is welcome news. The need for the appointment could scarcely be greater. It is fourteen months since this was first brought to the notice of the public of Ontario by THE CANADIAN HORTICULTURIST. Our early editorials were attacked by interested parties at Niagara Falls. Our readers will now see, by the action of the park commissioners, that the stand we took was warranted. Now that something definite has been done by the park commissioners to bring about an improvement it is our desire to lend all assistance in our power to the furtherance of the work.

The appointee comes well recommended. It is expected that he will be able to show great improvements in the horticultural and landscape features of the park. There is room for careful thought and lots of work. Queen Victoria Park can be made the best park on the continent.

Ignorance begets the medicine man. That civilization has advanced little in this respect from the days of the red-skin to the present age of white man supremacy is evidenced each year by something new in the "tree-doctor" line being launched upon the farmer and fruit grower. Lo, the poor farmer! The Halifax Chronicle reports that a Boston firm landed one of the usual "Yankee nutmegs" on the farmers of that province last season. "A patent 'Katch All' was sold, warranted to remain moist and sticky and capable of stopping every slug that touched it. After about \$4,000 of it had been delivered, the farmer woke up to the fact that while it might make fair roofing, or act as a substitute for bitulithic paving, it offered no obstruction to the crawling canker."

Fruit growers in Ontario and their sons should attend the short course in fruit growing to be held at the Ontario Agricultural College, Guelph, January 25 to February 5. It promises to be of unusual value. The demonstrations in apple packing and in the preparation of spraying materials will be a distinct advance on last year's work on these subjects, and in addition the officers expect to have both hand and power spraying outfits in operation before the



class. The course is planned very largely for apple growers, both present and prospective, and no interested person can afford to miss the up-to-date information which will be brought forward in lectures and demonstration. Tender fruits come in for their share of attention, however, and there are besides, many subjects which are of interest to all fruit growers. Opportunities of this kind should not be missed.

In spite of the fact that some eastern apples sent this season to British Columbia were condemned and destroyed for disease, Ontario apples sold in Vancouver at \$10.00 a barrel. How much did the Ontario growers get out of it?



## PUBLISHERS' DESK

In keeping with our policy of constant advancement, a new cover design has been adopted for THE CANADIAN HORTICULTURIST. It is hoped that our readers will appreciate the change. This design will be carried throughout the year with a different illustration each issue. Instead of running descriptions beneath these illustrations, as heretofore, descriptive matter relating to same will appear, when necessary, in this column. The first item in the index of each issue also will tell something about the cover cuts.

Our February issue will contain articles on spraying fruit trees and on spraying materials. Short letters from our readers on their experiences in spraying will be welcomed. Tell your results with some particular spray mixture and give directions for its application. Send photographs of spraying scenes.

## Plan to Visit Great Britain

Since page 10 went to press, a letter has been received from Canadian Trade Commissioner MacKinnon, Birmingham, that contains a formal invitation to Canadian fruit growers to visit England. This strengthens the suggestion that is made in the editorial on page 10, and is a further inducement for united action in this matter. Our fruit men will appreciate this courteous invitation and those that can do so should make definite arrangements for the trip as soon as possible. Mr. MacKinnon's letter is as follows:

"The following is an extract from a letter just received from the secretary of the National Fruit Growers' Federation:—

"I am instructed by the Council of the Federation to offer to Canadian fruit growers a most cordial invitation to visit some of the chief fruit plantations of England. If this visit is arranged, and my Council sincerely hope it will be, they will feel greatly honored at this opportunity of welcoming Canadian fruit growers."

"This follows a suggestion made in one of my reports to the Department of Trade and Commerce, published in the weekly report of August 30, to the effect that Canadian fruit growers ought to imitate the example of those on the continent and visit the ports and markets of this country. A prominent member of the Federation brought the matter to the notice of the president, who himself proposed to his Council that an official invitation be sent, so that if such a party is organized, they should visit not only the markets, but one at least of the chief fruit growing districts."

## Box Packing Methods in British Columbia

W. J. L. Hamilton, South Salt Spring, Vancouver Island

SUCH a thing as an apple barrel is unknown in British Columbia as we find the box method of packing much more satisfactory. But the art of packing apples in boxes is not learned in a day. As a matter of fact, skilled apple packers are few and far between at the present time in this province. We have only one size of box, namely ten by eleven by twenty inches inside measurement; so it requires some skill and experience to pack without slackness, all the varied sizes to which the different varieties grow.

I do not propose to enlarge on the methods of packing. These are admirably treated of in a bulletin issued by the Dairy and Cold Storage Commissioner at Ottawa, which I can confidently recommend to my readers.

I desire to call the attention of beginners to some points in which care should be exercised if best prices are to be realised. "Fancy" apples should be all perfect specimens of nearly even size, just enough difference in size between the ends and middle of the box to allow a "crowning" or rise towards the middle of the box of three-quarters of an inch to ensure that, when the apples settle into place, no slackness will appear, as nothing tends to bruise fruit more than any slackness of pack. Only new clean boxes should be used and these should be lined with paper provided for the purpose.

It is advisable to wrap each apple separately in wrapping paper of the proper size, and the apples should be suitably arranged in layers packed so tightly that standing the box on end gently will not disarrange the completed layer. It is well to note on the end of the box, amongst the rest of the information called for, the number of apples the box contains.

The diagonal pack is the most desirable, next to that, the "offset", whilst the straight pack (rows running parallel to the sides of the box) is the least satisfactory. This is because each apple rests directly on the top of the one below it, so that it is much more likely to be bruised injuriously than if, as in the other forms of pack, it nestled into the spaces between the fruit of the layers below.

All "fancy" grade apples should not only be perfect in form and color, but they should be free from disease, worm marks, or bruises, and they should be good specimens of the variety as regards size. The greatest care should be exercised in packing, so that not only are the very best prices realised but the credit of the province as a quality fruit producer is maintained. A little patriotism of this sort is not only commendable but profitable.

In packing other grades, like care should be maintained and in every case the grading should be somewhat better than the legal definition of it that is called for. Many will object that this leaves too many culls. This is true, especially in orchards that have not been properly sprayed and cared for. I am however, trying to introduce in British Columbia, a scheme whereby our fruit will come into its own and realize the price its high quality merits, which it has never done yet.

One point of this scheme is the evaporating of the culls, whereby they and the No. 3 grade (which has no right to damage the good name of the province by being on the market at all) can be evaporated and sold at a higher price than can be obtained for the No. 3 as boxed at present.

Other points in this scheme are, the combination of all the scattered co-operative

fruit growers' associations under one head, preferably the British Columbia Government; the erection of cold storage plants at central points to receive the fruit once it is boxed, where it can be held for top prices; the establishment of agents throughout the world to sell this fruit for us; and, above all, the provision of a school to instruct the young men of the province, who desire it, in the art of grading and boxing fruit so that they can go out into the fruit districts as officials of the co-operative associations to train local packers and to affix a government brand on all boxes according to their quality, as a guarantee to the purchasers that they get what they pay for.

## Cold Storage of Fruits

A portion of an address given by Mr. J. A. Ruddick, Dairy and Cold Storage Commissioner, Ottawa, before the Ontario Fruit Growers' Association at its last convention, appeared in the December issue of THE CANADIAN HORTICULTURIST. The second instalment is published herewith. Mr. Ruddick's remarks on the pre-cooling of fruit and on the construction of cold storage warehouses and cooling rooms will appear later.

### COLD STORAGE MAY BE OVERDONE

The cold storage of apples might easily be overdone. It would be quite practicable, for instance, to preserve any of the early fall apples if placed in storage at the proper time, for several weeks or even months, but it would not be good business to do so, because the trade would be shy of such varieties out of season. It would be unbusinesslike to attempt to carry inferior varieties into the season for better ones.

### SEASON MAY BE EXTENDED

By degrees, however, the season for superior varieties might be considerably extended. The Rhode Island Greening is a good type of this class. The season for the Greening has been extended for six weeks or two months in the United States by means of cold storage, with the decided advantage that it misses the competition of cheaper varieties. The question of variety should be carefully considered in selecting a stock for cold storing.

### THE FUNCTION OF COLD STORAGE

The proper function, then, of refrigeration in connection with our fruit, is twofold. First, the rapid chilling of early apples and tender fruits, and their preservation in transit; and second, the storage and early checking of the ripening process in late apples intended for long keeping. When the cold weather comes on, natural temperatures can be utilized but the damage is done before that time arrives, especially in those seasons when warm weather prevails late into October or November.

In these two fields, there is a great opportunity. Of course, there is always the further advantage of being able to carry surplus stocks over a period of glut in the market. There is particular need for cold storage in those warmer localities where late apples approach more nearly the stage of full ripeness on the trees. There is this to be said also, that apples which are well matured and highly colored keep better in cold storage than greener and more immature ones do.

But it would be a mistake to suppose that all Canadian apples require cold storage.



## Nova Scotia Fruit Growers Meet

In the cooler districts at least a portion of the late or slow maturing varieties may be preserved for early marketing if properly handled in ordinary frost-proof warehouses. While cold storage would lengthen the season of all apples, the gain in value would not be equal to the expense in all cases.

As one whose duty it is, as a public officer, to give all reasonable encouragement to the use of cold storage, I feel that it would be unfortunate if these things were not well understood and clearly recognized before there is any large expenditure made in this connection.

### PACKAGES IN COLD STORAGE

The question of package is of some importance in the cold storage of apples. In the case of the early varieties, for which quick cooling is important, the box package on account of its smaller size and, therefore greater extent of surface as compared with bulk, and the openings at the edges, undoubtedly facilitates the attainment of the object in view. With later varieties for which quick cooling is not so important, the barrel carries no serious objection.

### WRAPPERS AND COLD STORAGE

All apples will keep better if wrapped in paper. The wrapper helps to prevent the bruises which may result from the handling and the pressure of tight packing, and it also prevents the spread of mould spores or other germs of decay from one apple to another. The wrapper offers the further advantage that it prevents, to some extent, the collection of moisture on the surface of the apple when it is changed from a low temperature to a comparatively high one.

The wrapper is obviously more useful on early and tender varieties than on later and firmer ones. Circumstances and labor resources must guide the individual in determining how far it will pay to carry the matter of wrapping.

## British Columbia Inspection

Editor, THE CANADIAN HORTICULTURIST: As the inspection stations are run at present, the Dominion agent has the first "whack" at any importation of nursery stock and it is fumigated by him. It is then passed over to the provincial inspectors who apparently ignore any previous fumigations and, if any sign of pests or disease, is either fumigated again, dipped in solutions or destroyed. What is left is handed over to the consignee and if it survives he has something to show for his money; if not, he has the experience.

Why in the name of common sense cannot these two stations be consolidated into one general station, and if the stock is reported clean on inspection, why should it be fumigated at all to its detriment? All United States and eastern Canadian stock, I understand, has to be fumigated before leaving the home nursery.

No one wants to get any disease or pest-infested stock into British Columbia, but nurserymen are not mind readers enough to tell what the demand is going to be a year or two in advance, and if he is doing any amount of business and wants to fill his orders complete, he either has to buy what he is short of and burn up or sell cheap his surplus, or go out of business. Under the present regulations he might as well go out of the nursery business and get into some respectable one.—M. J. Henry, Vancouver, B.C.

In find THE CANADIAN HORTICULTURIST not only interesting but the most useful and helpful paper that I can get anywhere.—C. J. Pearson, Ottawa.

THE 46th annual meeting of the Nova Scotia Fruit Growers' Association, held at Kentville, Dec. 1 and 2, was one of the most practical meetings in its existence. For the first time the subjects of thinning fruits and the use of lime-sulphur as a winter spray were discussed and the experiences of practical growers as to the necessity of these two practices in up-to-date orcharding were given.

### THINNING FRUITS

R. J. Messenger, Bridgetown, gave a talk on the benefits of thinning in his own orchard in which he cited the case of one tree of Baldwins among others which had in previous bearing years given a heavy crop of apples, 80 per cent. No. 2's and under. This year after thinning the tree packed 75 per cent. No. 1, 20 per cent. No. 2 and 5 per cent. No. 3. Thinning saved time in picking, packing, and saved the vitality of the tree and also we get more dollars for the smaller number of barrels shipped of the thinned fruit. Quite a number gave willing testimony in favor of thinning, among them, R. S. Eaton, G. C. Miller, F. H. Johnson and Mrs. Sangster.

### SULPHUR SPRAYS

Mr. L. D. Robinson of Berwick gave an interesting talk on winter sprays, dealing chiefly with the lime-sulphur solution. In the discussion on this paper it was the general opinion that about 18 lbs. sulphur and 20 of lime was about the right proportion of ingredients, that the water should be boiling, that the sulphur should be added first, then the lime, and that it need not be applied hot as long as it was slightly warm. Boil about 35 minutes to an hour. It should be used only as a winter spray at this strength.

Capt. C. O. Allen reported having received several barrels of Niagara Brand prepared lime-sulphur last spring and had distributed some. Those who had used it spoke of its beneficial effects in cleaning up the tree. The impression seemed to be that the commercial article was not as efficient as the home-boiled lime-sulphur.

### PROPOSED CHANGES IN FRUIT MARKS ACT

The question of a definite size to be mentioned in the Fruit Marks Act for minimum No. 2 and No. 1 of the principal varieties of apples was taken up by Inspector Fitch. He thought the present definition using the word "medium" was too vague and allowed of too much variation, that different minimum sizes would have to be established for the different varieties according to typical size, e.g., Baldwins, Greenings, Gravensteins, etc., minimum No. 2, 2 1/4 in., No. 1, 2 1/2 inches; Nonpareil, Golden Russets, etc., 2 1/8 and 2 3/8; Spys, Blenheims, Kings, etc., 2 3/8 and 2 5/8, and so on. Since grading in this way would throw out a great many small perfect apples he recommended a definition for No. 3 and the barrelling of many of these smooth apples from 2 1/4 to 2 inches and marking them No. 3. The latter then would be for a small price a good apple for the poorer classes. He deplored the sending away of such trash as was now often shipped under the brand of No. 3.

After some discussion in which the speakers were about equally divided as to the advisability of definite size, the matter was left in the hands of a committee to consider and report at next meeting.

### MOISTURE IN ORCHARD SOILS

F. T. Shutt, Ottawa, chemist for the Dominion Experimental Farm, gave a very able address on "The Control of Moisture in Orchard Soils." Some of the points of the paper were that the growing of grass or

grain in any orchard was bad practice on account of the great amount of water given off and taken from the soil by these crops, that intertilled crops might be practised in young orchards, that tillage should begin in orchards as soon as possible in the spring, that orchard soil should be cultivated to form an earth mulch as soon as plowed and that ground should not be plowed and left without further cultivation.

### PLANT DISEASES

Prof. H. W. Smith of Truro spoke at some length on plant diseases. He strongly urged the necessity of stringent legislation for the prevention of the importation of plant diseases. The professor gave the life history and habits of some of the more common fungi and urged the adoption of all means possible to prevent the spread of disease, such as burning all diseased plants and parts of plants, dead trees, etc., and the plowing under of leaves upon which might be found the spores of such fungi. The aphids which had caused us so much trouble this year he was glad to say had a natural enemy which would probably keep it in check.

### MISCELLANEOUS

Prof. M. Cumming of Truro spoke hopefully of the work of the college of agriculture. From Prince Edward Island alone 125 men were coming to the short course and an increased number from Nova Scotia and New Brunswick. He hoped to see the maritime provinces fully united in the interests of agricultural education.

A. S. Barnstead attended one of the meetings and spoke of the work being done by the department of labor and immigration. They were trying to get before the people of Great Britain the desirability of coming out here and settling and they were endeavoring to get the better class of British workmen to come. Any who are in need of farm help should apply as early as possible to this department.

Robert Thompson of St. Catharines, Ont., gave a very interesting talk on "Co-operation," telling us how successfully it had worked out in his association. Mr. Thompson took part in many of the discussions and proved a great help to the meetings.

The officers for the ensuing year are: Pres. E. E. Archibald; vice-pres., R. J. Messenger; sec., S. C. Parker, Berwick.—R.J.M.

## The Grimsby Fruit District

Linus Woolverton, Grimsby, Ont.

In my note about the Niagara peninsula which appeared in the November CANADIAN HORTICULTURIST, I should have explained that those high prices at which peach farms are being sold about Grimsby include buildings, and in some instances, the year's peach crop.

Location too has much to do with values here, and the fruit farms of 10 or 15 acres in extent which lie close under the protection of the mountain and face the H.G. & B. trolley so that fruit may be shipped from one's private platform, bring the highest prices.

It is only of recent years that the old settlers in the Niagara district have begun dividing up their farms and offering parts for sale. There are two reasons—one the high prices offered and the other the difficulty of cultivating to advantage too many acres in fruit, especially in these days of high wages.

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## Quebec Pomological Society

**A**N interesting discussion together with a large exhibit of fine fruit rounded out the excellent program of the Quebec Pomological and Fruit Growing Society, making the two days session at Macdonald College (Dec. 8-9) one of the most instructive in the history of the association. Regret was expressed on every hand that President G. Reynaud of La Trappe was, through sickness, not able to be present. It is earnestly hoped that the paralytic stroke under which he is suffering will prove only temporary and that soon he will again be able to carry on his valuable work at La Trappe. His excellent presidential address read at the meeting produced a general feeling of his presence and we cannot but feel that soon he will be with us again in his usual vigor.

The association has been especially favored by the presence of the Hon. Sydney Fisher, minister of agriculture for the Dominion, Hon. J. L. Caron, minister of agriculture for the province and Hon. J. L. Decarie, ex-minister of agriculture, now provincial secretary, and Mr. G. A. Gigault, deputy minister for the province. Addresses were delivered by these gentlemen which proved instructive and inspiring. The Hon. S. Fisher mentioned the fact that the color and aroma of Quebec fruit could not be excelled. He had just come from the Nova Scotia Winter Fair, and particularly noticeable was the high color of the Quebec fruit as compared with that from the east. A fairly large display of fruit was staged there but not so good as that exhibited here. His remarks were timely and interesting.

Hon. Mr. Decarie gave as his motto "The farm through the school." His efforts have been directed towards a betterment of rural conditions. His wish is that such conven-

tions become more general and that the people of the province take advantage of this and similar institutions to advance their interest in order to become equipped to battle with the problems of life.

Hon. J. L. Caron, himself interested personally in fruit growing, expressed himself as willing to do whatever he possibly could to advance the interest of the association and the province in general.

### OFFICERS ELECTED

The following officers were elected: Hon. patron, Hon. S. A. Fisher and Hon. J. A. Caron; hon. pres., R. W. Shepherd, Montreal; hon. vice-pres., Prof. G. Reynaud, La Trappe; pres., Prof. W. S. Blair, Macdonald College; vice-pres., A. D. Verreault, Village des Aulnaies; sec-treas., Peter Reid, Chateauguay Basin; and nine directors.

On accepting office Professor Blair thanked the members of the Convention for the honor conferred upon him. He hoped to be able to give more time to the useful work in the parts of the province away from the immediate neighborhood of the college than heretofore.

### RESOLUTIONS

The secretary's report showed good standing financially and increase in membership. The following resolutions were adopted:

"That this society shall offer to pay the railway fare of one delegate from each local horticultural society to the annual winter meeting of the society for the year 1910, with a view of inducing a better representation of the fruit growers' interests of the province.

"That in the opinion of the association it is considered advisable to make an exhibit of fruit from this province at the Royal Horticultural Show, London, next fall, and

that the secretary be delegated to confer with the government regarding same."

A resolution of regret was passed unanimously at the loss to the convention and the society through illness of President Reynaud, with the hope that his illness is only temporary, and that soon he will be restored to full vigor again to continue his good work as horticulturist of Oka Agricultural Institute.

A resolution, expressing regret at the loss sustained by the society through the death of W. L. Davidson of Davidson's Hill, Que., one of the most active and esteemed members of the association, was spoken to in feeling terms by various members.

### UNIFORM JUDGING OF FRUITS

The advisability of adopting a uniform system for judging fruits was brought up by W. T. Macoun. The opinion of the convention was that some definite action should be taken and with this in view a committee was appointed to confer with other similar Canadian associations in the matter.

### ADDRESS BY HON. SYDNEY FISHER

Hon. Sydney Fisher gave one of his characteristic able addresses dealing especially with the possibilities of the province in the development of high-class dessert fruit. The province is especially adapted to the growing of Fameuse and McIntosh, two of the best fruits in the world, and they can be grown to the highest state of perfection right here. It requires hard work and constant attention to detail in fertilizing, spraying, packing, marketing, etc., but nothing of value is accomplished without this effort on the part of the producer and the satisfaction in being able to develop fruit second to none will well repay for the energy expended.

### INSECT PESTS

The association had the pleasure for the first time of welcoming Dr. C. G. Hewitt,

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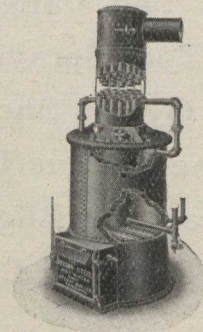
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entomologist of the Dominion Experimental Farms. He presented a valuable paper dealing especially with the codling moth and plum curculio. Dr. Hewitt made an excellent impression on the members of the association through his clear and comprehensive manner of treating his subject. J. M. Swaine, entomologist of Macdonald College, presented a very valuable illustrated talk on insect pests, and answered many questions in discussion.

MISCELLANEOUS ADDRESSES

One of the best papers at the convention was that by J. C. Chapais on "Forestry and the Orchardist." It was most timely and practical. The value of co-operation amongst fruit growers was also ably put forth by G. A. Gigault, deputy minister of agriculture. Mr. Gigault as provincial representative spent some time during the past summer studying conditions in the Hood River district of Oregon, and other western sections. He pointed out the great advantages derived there through co-operation in raising the standard of the fruit grown and in the manner of placing it on the market. Alex. McNeill, Chief of Fruit Division, Ottawa, although unable to be present through illness, sent a valuable paper on box packing. Professor Lochhead gave a fine address on "How Plants Feed and Grow."

Father Athanase of La Trappe presented a valuable address on the growing of asparagus in orchards. Mr. S. L. Kinney, South Hero, Vt., gave an inspiring address, relating the effect of the recent New England Fruit Show on markets and consumers. At that exhibition some 400 barrels and 1,000 boxes of fruits were on exhibition. He recommended that similar exhibits be made at different commercial centers in various parts of Canada. W. T. Macoun, Ottawa, presented a valuable paper on plums. Ex-

tracts from this paper will appear in a later issue.

J. A. Ruddick, Dominion dairy and cold storage commissioner, gave a fine illustrated address on fruit growing in different parts of America, showing views of orcharding in Nova Scotia, British Columbia, Oregon and California. Dr. Robertson added to the interest of the convention by his characteristic inspiring address.—W.S.B.

**Vegetables at Toronto Show**

At the Ontario Horticultural Exhibition in Toronto in November, there was an excellent display of vegetables. In the report of the show that appeared in these columns, only brief mention was made of the vegetables, owing to the lack of space. To supplement this we wrote to Mr. Geo. Syme, jr., of West Toronto, who was the judge, for his opinion of the exhibits. His reply is as follows:

"In the capacity of judge I had a good opportunity to compare the vegetables with other years, and I found that they compared very favorably. The cabbages were not as good as last year but were very fair. The cauliflowers were only medium, except some that were shown by Mr. Wm. Harris of Humber Bay, which were very good. The celery was about as good as usual. The salads were fine. Potatoes and onions were good. The Swede turnips were the best that I ever saw. Carrots, parsnips and leets were very good for such a dry year. Squash, marrows and citrons were better than last year. Tomatoes, egg plants and peppers were poor. Kale, leeks and artichokes were fine. The general arrangement of the display was very good and the committee deserve great credit."

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**APPLES**

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Covent Garden Market

**LONDON, ENGLAND**

We sell entirely by Private Treaty, the only method which gives equal satisfaction to both buyer and sender.

Advances made against Bills of Lading

We sell only on Commission therefore have no bought stuff to make the fancy prices of.

SHIP TO US ONCE AND WE ARE CERTAIN TO MAKE A REGULAR SENDER OF YOU



## NOTES FROM THE PROVINCES

### Prince Edward Island

J. A. Moore

Snow and high winds blocked our roads the day before the Fruit Growers' meeting. On the two days of the convention, Dec. 2 and 3, rain and fog were continuous so that the attendance was very small, but notwithstanding all these drawbacks a very successful meeting was held.

The snowstorm and hurricane had also stopped communication with the mainland so that we had none of the horticultural experts from Ottawa; only Mr. Vroom, Dominion Fruit Inspector for Nova Scotia arrived by the time the convention was half over. However, we are always glad to meet Mr. Vroom and we consider him one of the most practical men we have ever met.

The exhibit of fruit, while not as large as we have seen (for reasons above mentioned), was by long odds the best in quality in the history of Prince Edward Island's winter fruit shows. Mr. Vroom said the fruit exhibited was the finest he had ever seen on Prince Edward Island, and a look at the apples should prove to the most skeptical that apple-growing should be a very profitable industry here.

Alexander and Wolf River, Wealthy and Dudley, Baxter and King, Spy and Baldwin, Ben Davis and Stark, Gravenstein and McIntosh Red, Ribston and Golden Russett, Bellflower and Wagener, were all shown grown to perfection. Perfect specimens of Baxter of high color and enormous

size were shown by A. E. Dewar and J. A. Moore who also were the only exhibitors of fruit in boxes and barrels.

Other exhibitors with splendid displays were A. M. McRae, Edward Wood and John Smith of Pownal; D. P. Irving, M.P.P., Vernon; A. Essory, Milton; J. A. Annear, Lower Montague; and McIntyre & Son, New Perth. It was emphasized that although we can show excellent plates of Spy, King, Mann and Baldwin, these varieties are not profitable for Prince Edward Island.

The Co-operative Fruit Company organized by the fruit growers is doing good work. They have bought material for boxes and barrels, got them made up and furnished to members at cost, thus effecting a great saving.

Mr. Vroom gave an address on co-operation, which at the start, he said, should be officered by men who not only knew their business but were willing to give a good deal of their time to put it into successful operation. There should be co-operation in buying, planting—large blocks of similar varieties—packing and selling. He did not think Prince Edward Island grew more apples at present than enough for home consumption and he did not see why merchants should import when they could get apples like those before him. There should be several centres for packing as local freight rates are too high to bring them all in to Charlottetown to pack.

The commissioner of agriculture, Hon.

## 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

## C. P. Newman

Box 51, Lachine Locks  
QUEBEC

# Niagara Brand Lime-Sulphur Spray

MADE IN CANADA

NIAGARA is the Standard of Value for Fruit Tree Sprays. It is used by the most successful Fruit Growers in every Fruit District of the Pacific North-west, and in many of the Eastern States, and has already proven its worth in Ontario.

### THERE IS A REASON WHY

NIAGARA is made under special treatment (of which we have secured all rights for Canada). The only known process by which is made a permanent and reliable solution of lime and sulphur of sufficient strength to meet all requirements.

Anybody can make a spray which may do sometimes. The process by which NIAGARA is made insures the best work at all times.

NIAGARA is the best known remedy for **Apple Scab, Leaf Curl**, and most all forms of fungi, **San Jose Scale, Oyster Shell Bark Louse, Blister Mite, Aphis, Bud Moth**, and all **Sucking Insects and Parasitic Life**.

**Potato and Tomato Blight and Mildew of Grape** have been successfully treated.

NIAGARA Brand Lime-Sulphur Solution has been proven by the highest authorities, after several years' work, equal to Bordeaux as a fungicide, and far less dangerous to use. It is also cheaper and always ready to use.

### ARSENATE OF LEAD

ARSENATE OF LEAD has almost entirely supplanted Paris Green as a poison for Codling Moth, and other insects requiring a poison treatment. Such dissatisfaction as may have arisen because of burning or failure can be attributed to an improperly combined arsenate. NIAGARA BRAND ARSENATE OF LEAD is specially prepared with a view to **efficiency** and **safety**.

**PRICES**.—Because of manufacturing ourselves, and buying materials in large quantities, we are prepared to offer these Sprays at a much lower price than obtained last season.

**PUMPS**.—We are Canadian Agents for the famous BEAN SPRAY PUMPS—hand and power. Also a full line of Hose, Nozzles, etc.

**SPRAY BOOK**.—We are preparing a book, which we trust will be of value to the Fruit Growers, which will be mailed to you upon request.

## NIAGARA BRAND SPRAY COMPANY, LIMITED

BURLINGTON, ONTARIO

NIAGARA SPRAYS are also made by:

NIAGARA SPRAYER CO., Middleport, N.Y.

BEAN SPRAY PUMP CO., Cleveland, Ohio

OREGON SPRAY CO., Portland, Oregon

MEDFORD SPRAY CO., Medford, Oregon

HOOD RIVER SPRAY MFG. CO., Hood River, Oregon

REMEMBER—Wherever Fruit Excels NIAGARA SPRAY is used.



John Richards, led the discussion which followed and showed himself in full sympathy with the work. He said he had visited British Columbia last fall and had eaten apples in the Okanagan Valley but did not think the flavor nearly as good as our own home-grown fruit.

Several growers spoke of beneficial re-

### 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.

sults from the use of the lime-sulphur solution sprayed on to the trees cleaning them of bark lice and making the foliage glossy and the whole tree healthy and thrifty. The formula used was about 25 lbs. of lime and 15 to 18 lbs. of sulphur to 40 gallons of water.

So with very little of expert theory but a great deal of interchange of ideas on practical work, the meeting of Prince Edward Island Fruit Growers' Association came to an end. Prof. Theodore Ross, the energetic secretary was also of great benefit to the convention.

### New Brunswick

For the production of roots and all vegetables of the highest quality for culinary and market purposes, New Brunswick stands unexcelled on the American continent. The reputation which our potatoes, as

well as our turnips and garden vegetables enjoy everywhere they have been sold, shows that with proper business methods, we can secure the highest prices on every market where it is possible to place them.

Recent experiments in Ontario show that the maritime province potatoes used as seed give a much larger yield than Ontario grown seed, and when this fact becomes generally known, there should be a permanent demand for New Brunswick potatoes in that province and perhaps elsewhere for seed purposes. The same high reputation the potatoes of Aroostook county, Maine, have throughout the United States, may be obtained for New Brunswick potatoes throughout Canada. In spite of the high tariff against them, our potatoes almost every year find a sale in the Boston market where they are distributed more or less for seed purposes. New Brunswick turnips from Charlotte county and the St. John Valley have gone forward in considerable quantities to Boston where they grade highest in quality.—From Report of New Brunswick Agricultural Commission.

### Annapolis Valley East, N.S.

Eunice Watts, A.R.H.S.

Meetings were held last month in connection with the proposed railway which is to run through the richest section of the apple belt in northern King's county. This fruit land under the shadow of the North Mountain consists of heavy loam and clay; and though very productive, the farmers are at a disadvantage when it comes to hauling their produce over muddy roads which are almost impassable in wet weather.

The executive of the Nova Scotia Fruit Growers' Association met at Kentville on Dec. 8, when they inspected a number of



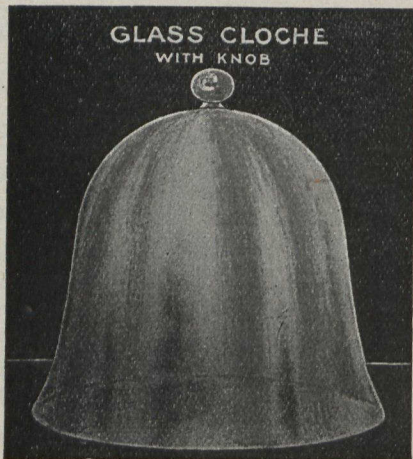
This shows the H.P. Spramotor arranged for spraying potatoes, three nozzles to a row and four rows, two spraying from the sides and one from the top, adjustable as to height and width up to 40-in. rows. Nozzles absolutely will not clog. 12-gallon air-tank, automatic and hand controlled; 100 lbs. pressure guaranteed with 12 nozzles open. An acre can be sprayed in 20 minutes. Has agitator clean-out pressure relief into tank, and nozzle protector all under control of the driver from seat. For 1 or 2 horses. Fitted for orchard, vineyards and grain. This ad. will not appear again in this paper.

### Heard Spramotor Co.

1397 King St., London

## BELL GLASSES

FOR GREENHOUSES AND GARDENS



Expert growers in Great Britain use thousands of Bell Glasses. They are of great assistance in growing seedlings or protecting plants from late frosts. The use of Bell Glasses makes a difference of from two to four weeks in the growth of plants.

Send for descriptive circulars and prices to—

## PILKINGTON BROS.

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Toronto, Montreal, Winnipeg, Vancouver

Mention The Canadian Horticulturist when writing

## Feed Your Land

WITH GOOD MANURE AND GET

GOOD RETURNS

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SURE GROWTH COMPOST

— IS THE BEST —

Supplied to the Largest Nurserymen

and Fruit Growers in Ontario

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farms in order to select an experimental station for horticulture. After a long discussion it was finally decided that the Sharpe farm would be the most desirable for the government to purchase. This property consists of 357 acres in the vicinity of the Dominion Atlantic Railway, being near the county town, and near to notable orchard lands.

Recent reports from England quote Nova Scotian apples as follows: No. 1 Baldwins, 13s. 9d. to 14s.; No. 2, 12s.; Greenings, No. 1, 14s. to 15s. 3d.; No. 2, 12s. 6d. to 14s. 6d.; Kings, 15s.; Stark, 14s to 14s 3d.; Davis, No. 2, 10s to 10s. 9. In the same report Canadian apples are making a much higher price in the British market.

In the western part of King's county new cranberry bogs are being made very rapidly. Much land which was good for neither pasture nor cultivation is now being turned to profitable use, and the owners who would have almost given this bog land away in former years, now think that they are going to reap a fortune.

**Annapolis Valley West, N. S.**

R. J. Messenger

The apple situation has been far from satisfactory this month (December). Apples have been going forward in great numbers and meeting lad markets. The demoralization of the markets early in the season still continues and probably will recover very slowly. There are a great many more apples to go forward than usual and these are ripening very early so it is just a toss up whether to rush them forward and run the risk of a poor market or keep them longer and run the risk of them getting too ripe and losing from that reason. The very warm weather all through the fall still continues at this writing (Dec. 9). Apples on the

trees are good to eat, scarcely injured by frost. Apples in warehouses are suffering also.

The crop has been clean this year and of good quality. Buyers were busy early in the season and are now either trying to back out or are more or less quietly repenting.

The question of the experimental fruit station has been settled as far as choice of location goes. The matter was left in the hands of the executive of the fruit growers' association to decide on a site. This was done at a meeting of the executive committee held in Kentville on Dec. 8. This committee unanimously decided upon a farm just outside of the limits of Kentville. It now rests with the local government to buy the property and establish the station.

Returns from apples are from \$1.20 to \$2.00 for Greenings, Baldwins, etc. Baldwins as last year are a popular variety and will probably compare favorably with any of the varieties in price. It is hoped that winter varieties will do better later.

On his visit on Dec. 6 to the Cattle Show

at the Agricultural Hall, Islington, England, the King visited the British Columbia government's fruit display. His Majesty expressed great admiration of the exhibit and asked numerous questions concerning it.

**The FARMERS' GARDEN**  
 A Seed Drill and Wheel Hoe is indispensable—not only in a village garden but on the 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 market 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.**



**Planet Jr.**

The greatest time-savers and labor-savers ever invented for the farm and garden. They frequently do six men's work, and do it better than by ordinary methods. Over two million farmers and gardeners have found this out by actual use. You can't afford to be without a Planet Jr.

No. 17 Planet Jr Single-Wheel Hoe is a most handy and effective tool for garden cultivation. A fine tool for working close to crops.

No. 81 Planet Jr Horse-Hoe, Cultivator and Furrower is a great implement for cultivating and hilling crops up to 4 feet apart. Compact, strong, and steady-running. Get the Planet Jr 56-page catalogue for 1910. It is free. Write today.

S. L. Allen & Co Box 1106 Philada Pa



Are you troubled with WIREWORMS?  
 IF SO

**APTERITE**

WILL RID YOUR SOIL EFFECTUALLY.

Read the following:

Longton Bridge, Preston  
 March 22nd, 1909

Dear Sirs:—

I have much pleasure in stating that I find your Apterite most effective for destroying Wireworms. I had 1,000 tomato plants in one house, and I used a little Apterite to the base of each plant when planting, and I must state that it killed the Wireworms; I believe it also fed the plants, as I had a beautiful crop of tomatoes, each plant carrying, on an average 9 1-2 lbs. of fruit. The Apterite seemed to make the plants much shorter jointed than in the other houses full of tomatoes, and they were not dressed with your Apterite. On some soils, I believe Apterite to be of use as a manure, as well as a pest destroyer. It is economical, effectual, and safe.

Yours faithfully,

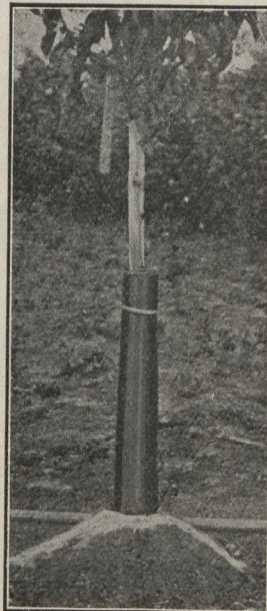
(Signed) Henry J. Griffin.

Full particulars from

**WM. COOPER & NEPHEWS**  
 TORONTO, ONTARIO

**PROTECT YOUR TREES**

Against Rabbits, Mice  
 and other Vermin



Tree protected by Wooden Veneer and banked up with earth to prevent entrance of pests at bottom.

Many young orchards are greatly injured each year by these pests. Wrap the trunks with

**WOODEN VENEERS**

and damage will be prevented. These veneers will protect also against sunscald.

Send at once to

**THE OAKVILLE BASKET CO.**  
 OAKVILLE, ONT.



**Kootenay Valley, B. C.**

Edgar W. Dynes

A syndicate composed of a number of fruit growers in the vicinity of Nelson have issued a statement with regard to their

**Imperial Bank**

OF CANADA

HEAD OFFICE—TORONTO

Capital Authorized, \$10,000,000.00

Capital Paid-up, 5,000,000.00

Reserve Fund 5,000,000.00

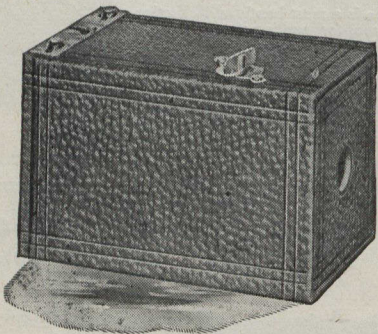
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Drafts, Money Orders and Letters of Credit issued available in any part of the world  
Special attention given to collections

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

**Anybody Can Kodak****The No. 1****BROWNIE**

Pictures, 2¼ × 2¼. Price, \$1.00

If you feel somewhat interested in photography, but are not just sure whether you will really care for it after you have taken it up, there's a very inexpensive way of making the experiment. The Dollar Brownie offers the opportunity. The Brownies are not expensive, but they stand the supreme test—they work. The pictures are 2¼ x 2¼ inches and the camera is truly a capable little instrument for either snap shots or time exposures. The price is so small that at first thought you may consider this camera a toy. The fact is that its production at this price is only made possible because it is made in the Kodak factory, the largest and best appointed camera factory in the world.

The Brownie Cameras all load in daylight with Kodak film cartridges, have effective lenses and shutters and are capable of really high-grade work. They are made in both the box and folding form at prices ranging from \$1.00 to \$12.00.

The Book of the Brownies, tells all about them, and may be had free, at any dealers or will be mailed upon request.

CANADIAN KODAK CO.

LIMITED

TORONTO, CAN.

operations for the past year. Their expenses of organization were only five per cent. and the returns received from shipments of strawberries and other small fruits were very satisfactory. The net average returns on strawberries were \$2.15 a crate of 24 boxes and the raspberries realized \$2.65. Cherries brought from ten to twelve cents a pound according to the way the fruit was packed.

Creston fruit growers propose to erect a large warehouse near the railway station for the purpose of storing fruit. It is expected that this district will ship at least a dozen car loads of fruit next year.

At a meeting of the Creston fruit growers an interesting discussion took place with regard to the formation of a provincial fruit growers' information bureau. The idea seems to be to have a central bureau with which fruit districts shall be in constant communication during the shipping season. It is also suggested that this bureau keep in touch with the great fruit market centres on the prairie in order that too much fruit may not be sent to one point and too little to another. It has been suggested that the

government undertake the expense of operating such a bureau.

Some reference was also made to poor packing methods. While in some instances there were individual growers whose packing methods were all that could be desired the great majority still used a very antiquated and slovenly style of packing. It was agreed that a great deal of further education was necessary along these lines.

Mr. R. M. Winslow, head of the provincial horticultural department, made a trip through Kootenay in November on a trip of inspection. Mr. Winslow has been recently appointed to the position he occupies and this was his first official trip through this part of the province. He was particularly struck with the progress and apparent prosperity of the Doukhobor colony at Waterloo. A \$25,000 irrigation system has just been installed on their colony. It will be so situated as to irrigate all their tract of 2,900 acres. The fruit trees which they planted last spring are making a very satisfactory growth.

Renew your subscription now.

**Planet Jr.****reduces your labor; increases your crops**

A Planet Jr farm or garden Cultivator often does three to six times the work of one man with ordinary implements; and cultivates the ground so thoroughly that you get more and better crops. You are actually losing money without a Planet Jr. Strong and substantially built. Fully guaranteed. Lasts a lifetime.

**New No. 14 Planet Jr. Double-Wheel Disc-Hoe, Cultivator and Plow** has three adjustable discs on each side, a pair of new-idea pronged cultivator teeth that run shallow next the row, steels for plowing, furrowing, and covering, and a pair of leaf-litters.

**No. 8 Planet Jr. Horse-Hoe and Cultivator** will do more things in more ways than any other horse-hoe made. Plows to or from the row. A splendid furrower, coverer, hiller and horse-hoe, and unequalled as a horse-cultivator. Write today for the 56-page 1910 Planet Jr catalogue of 55 different tools. Free and postpaid.

S. I. Allen & Co  
Box 1106 G  
Philadelphia  
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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 old 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.

**WM. EWING & CO.,** Seedsmen  
MCGILL ST., MONTREAL**SEEDS**



**Awards at Royal Show**

At the Royal Horticultural Show, London, England, the first week in December, the following prizes were won by British Columbia fruit:

British Columbia for apples, a gold medal; Kaslo district, silver and gilt banksian medal; Salt Spring Island, silver and gilt knightian medal; C. T. Cooney, silver knightian medal; Stirling & Pitcairn, silver and gilt banksian medal; Mrs. J. Smith, silver and gilt banksian medal; Okanagan district, silver and gilt knightian medal; Victoria district, silver and gilt knightian medal.

New Brunswick won a silver and gilt medal; C. N. Peters, Queenstown, N.B., silver medal; F. A. Hibbard, Burton, N.B., silver medal; J. P. Beyea, Lower Gaagetown, silver medal.

**English Gooseberries**

Editor, THE CANADIAN HORTICULTURIST: The article on growing English gooseberries in the November issue deeply interested me. We have never had any trouble with the industry and we have tried quite a planting of Whitesmith and Crown Bob.

These varieties we were warned not to buy because English gooseberries could not

be grown in this country. We had no difficulty whatever in keeping the fur off of them by early spraying with potassium sulphide, and we harvested an extremely big crop of handsome, large berries.—H. B. Fullerton, Director, Agricultural Development, Long Island Railroad Company, Huntingdon, N.Y.

I am well pleased with THE CANADIAN HORTICULTURIST.—I. G. Walker, Nanaimo Co., B.C.

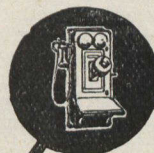
A 14 kt. Gold Fountain Pen free for only two new subscriptions to The Canadian Horticulturist.



**YOU** must analyze the parts of our No. 1317 Telephone Set to fully appreciate its superiority. For example, a farm 'phone demands an extra loud gong—you're liable to be quite a piece away when it rings and it's of little use unless you always hear it. The gong we use is made of brass—a big one—and produces fully 50 per cent. more noise than any other gong for farm use. The gong posts are mounted directly on the ringer frame so that even the warping of the instrument cannot change the adjustment.

*At your service  
"Sir—Anywhere"*

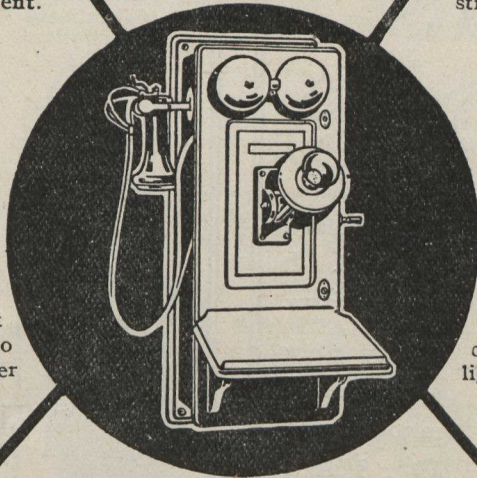
**THAT'S** what a telephone says to every man on whose wall it hangs. It's a good servant—is a telephone—a mighty good servant and always ready and waiting for you the moment you want it. And not only is it there for business, but it stands for pleasure as well. Think what a convenience,—what a deal of comfort,—it would be for you in the long, lonesome winter evenings, when the snow is piled mountain-high in every path and road. Or suppose you needed a doctor on one of those evenings—just suppose. Well, if you have a telephone—but you know the story. There's only one way for a story like that to end if your telephone's a good instrument—if it doesn't get out of order—if it doesn't fail you at the critical moment—in short, if it's a "Northern Electric." You save a trip to town—a long wait—a never-ending journey back—and—perhaps—a life.



**NO. 1317** is equipped with our new No. 48-A generator—a generator whose efficiency is greater, and which will ring a greater number of telephones on a longer line than any generator on the market. Thousands of these generators are operating on lines more than 30 miles long with as many as 40 telephones on the same line. Indeed, in one case, on a line approximately 75 miles long, there are 75 sets. While this is really too great a load, it is of interest as indicating the wonderful strength of this generator. Consider this.

**Our Newly  
Designed  
No. 1317 Type  
Telephone  
Set**

is also equipped with our new type No. 38 ringer, a very sensitive and efficient ringer operating with only one-third to one-fourth the current required for other ringers in use on farm 'phones. The cabinet, or wooden part of this telephone is the very finest quality and finish of quarter-sawed oak—in point of mere appearance this instrument is an ornament to any wall. Of course this means nothing, unless the service it gives is of the very best; but, consistent with satisfactory service, good appearance is always desirable.



**And Some  
Of Its  
Principal  
Exclusive  
Features**

such as the fact that the armature is normally short circuited so as to give it complete protection against damage by lightning. The act of turning the crank, automatically connects the generator to the line—and this circuit is again broken as soon as the crank is released. All magnets are made of a special steel so as to insure their retaining their strength indefinitely. Remember this is a five bar generator and fully fifteen per cent. more efficient than any other generator on the market. Specially adapted for use on long heavily loaded rural lines.

**Write for our Free Book**

The whole story of rural telephone is yours for the asking. Simply tell us that you want it.

Ask us to send you Bulletin No. 0000, and let it tell you not only all about our telephones for farm use, but also of the steps it is necessary to take in the formation of a rural 'phone company. This book tells how simple it is—how very little money is required and places

you in a position where you can go right ahead yourself in your own community and organize among your own neighbours. Write to us to-day for the free book—remember, the story is yours for the asking.



**THE NORTHERN ELECTRIC  
AND MANUFACTURING CO. LIMITED**

Manufacturers and suppliers of all apparatus and equipment used in the construction, operation and maintenance of Telephone and Power Plants. Address your nearest office.  
MONTREAL TORONTO REGINA VANCOUVER WINNIPEG  
Cor. Notre Dame and Guy Sts. 60 Front St. W. 918 Pender St. W. 599 Henry Ave.





### Shipping Peaches to England

In recent years a few attempts have been made by Ontario fruit growers to place peaches upon the British markets in good condition and to sell them there with a profit, but not until the past season did the government enter into the proposition. The fruit branch of the Ontario Department of Agriculture sent 25 cases to London. Each peach was wrapped in paper and surrounded with cotton batting. The peaches were in fair condition on arrival, despite the fact that they were not shipped in cold storage, from the starting point, St. Catharines, to Quebec, that there was no cold storage from Liverpool to London, and that the fruit was delayed a few days at Liverpool before being shipped to London. Reports from various Old Country sources on the condition of the fruit and on the feasibility of working up a market there for peaches, have been received. Extracts from some of them are as follows:

Harrod's, London: "Packing will have to be different before Ontario peaches can be sold in London. Did not think much of them."

Army & Navy, Victoria St., London:

### FOR SALE AND WANTED

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

WANTED—A capable man, married preferred, to take charge of a Nursery and Fruit Farm in the Province of Quebec. Must understand the propagation and cultivation of Nursery Stock and be qualified to manage successfully large and small fruit orchards. An excellent opportunity for the right man. Apply stating age, experience, salary expected, etc., to C. S. Clark, Box 278, Montreal.

"Very good when opened; flavor fine. Could dispose of them easily if they came in better shape. They must be packed more carefully. Want to know the cost of peaches laid down here."

Whiteley's, London: "Packing is not good. Could sell them if packed like the French or African peaches. If this peach could be put on the English market at 2½d. could sell lots of them."

Fortune & Mason, Piccadilly, London: "On exhibition three days. Sold some at six pence each. Flavor was fine. Packing is bad. Recommend them being shipped in small boxes, single tier."

Canadian Pacific Railway, London: "Had several enquiries as to whether they were wax or real. Color very much admired."

Grand Trunk Railway, London: "All went bad between Saturday night and Monday morning. Several people admired them in the window on Saturday."

*Journal of Horticulture*, London: "Fruit is large, exquisite in flavor and rich in color and bloom. Arrived in splendid condition."

*Gardeners' Chronicle*, London: "Peaches arrived in very satisfactory condition. Unless they can be placed on the market at a cheaper rate than 6d., each they will scarcely succeed in competing with outdoor peaches grown in this country."

*Fruit Grower and Fruiterer*, London: "Ontario fruits have established an excellent reputation but that peaches in such quality as those which are now on show, and of which the markets are promised an ample supply in due course, would ever be possible has not, we think, been altogether appreciated."

*London Daily Mail*: "Fruit is large, richly colored and of an exquisite flavor."

*London Times*: "The fruit, although not specially packed arrived in good condition."

"While some of the reports are not very very flattering," writes Mr. P. W. Hodgetts chief of the fruit branch, Toronto, "still they give sufficient encouragement for us to believe that certain of our varieties of peaches can be landed in Great Britain, and sell at a nice profit to the growers here. If South Africa can land this fruit in Great Britain in good condition I see no reason why our Ontario peaches should not, with a handicap of only half the time, arrive in just as good shape."

"I have received some correspondence from the agent of the Dominion Express Company in which is shown that to get a refrigerator service from Liverpool to London, payment would have to be made on 30 cwt., which is the minimum for refrigerator cars there. In addition the cost of icing, which amounts to about 15 shillings, has to be borne by the shipper. At the same time the agent there points out that it is hardly necessary to send peaches forward in refrigerator cars in Great Britain, at the time of year, when such goods would go forward."

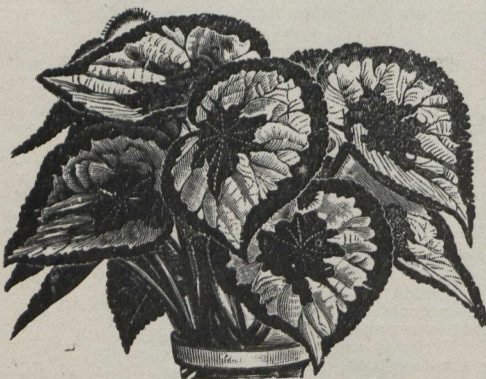
Shipments of peaches were sent to England also by the Biggs Fruit and Produce Co., Burlington, Ont., and by Mr. Hamilton Fleming, Grimsby, Ont. Mr. Fleming's peaches did not arrive in good condition. Further reference to these experimental shipments of peaches will be made in next issue, together with some notes on packing and packages, made by Mr. W. A. MacKinnon, Canadian Trade Commissioner, Birmingham, in one of his reports to the Department of Trade and Commerce at Ottawa.

Copies of the index to THE CANADIAN HORTICULTURIST for 1909 are now available. They will be sent to all persons that ask for them.

## STEELE-BRIGGS'

# SEEDS

Are known everywhere for their purity and reliability. Send for our fine illustrated Catalogue for 1910. It tells all about the good things for the garden and farm.



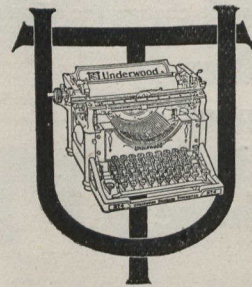
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**Pilfering by Express Employees**

Editor, THE CANADIAN HORTICULTURIST: I note a small item in your editorial column relative to the "pilfering of fruit by employees of express companies," with certain remarks thereto. Permit me to point out that that will go on indefinitely unless taken up by some of those "who have gotten together" and a case or two made thereof.

The 'morals' of Canadian express companies are of themselves low for nothing is done to detect and punish the culprits. It is cheaper and easier to just tell the complainant that "their agent reports goods delivered in good order." They know very well that the matter will end there no matter how clear a case is against them for the reason of expense to the individual to carry it further.

The matter is a serious one morally on the one side since the employees know they can rob such packages with impunity and laugh at the public. On the other hand, it is detrimental to the business of the fruit growers and should not be allowed to sink into oblivion with the well merited remarks made by you.

I would also point out that the companies need not go to the expense of "spotters" provided their methods of business are systematised; for it is then easy to determine on which division the pilfering has taken place.—A. Bonar Balfour, Port Dalhousie, Ont.

**The Apple Situation**

P. J. Carey, Dominion Fruit Inspector, Toronto

Contrary to expectations of too many of the operators, the apple crop has turned out to be almost a large one, taking it all over the Dominion. The talk of a "short crop," caused the usual recklessness on the part of the dealers. A careful estimate taken, say December 15, would seem to show in store in Ontario some 300,000 barrels, with about 275,000 in Nova Scotia. The very disappointing returns from the Old Country for the last month cannot be said to be due to the fact that the shipments were large, as much as to the wretched condition in which some of the cargoes arrived.

The weather conditions again this season contributed no little share in bringing

about the unsatisfactory results. Large quantities of the best of the fruit were allowed to remain on the trees until, in many cases, the early part of November in order that it may get size and color. The color did not seem to come but the frost did.

It is the practice of many who store apples, and one perhaps hard to avoid, to rush to the market (as soon as storing is done) all odds and ends, soft varieties, frosted, and otherwise damaged fruit. No matter where one would go in apple districts, gangs could be seen hustling out this class of stuff, perhaps to a greater extent this season than for some time before, and many a barrel was in a wasty condition before leaving the packing house. It is no wonder then that prices at the other end did not show a profit; just at a time too when the trade wants fancy fruit for the holidays, and also the right time to lay the foundation for the good stuff to follow.

With prudent handling from now on there seems to be no reason why the quantity to go forward should not bring at least fairly paying prices.

**Picton Horticultural Society**

At its annual meeting held in November, the Picton Horticultural Society elected the following officers: Pres., P. C. Macnee; vice-pres., R. Davison; sec-treas., W. D. Ross; and six directors.

It was decided that the society as a whole should take THE CANADIAN HORTICULTURIST. In discussing the merits of this publication Mr. Ross said that the best results could not be obtained from the bulbs that they received as premiums from the society, if they did not know the proper way to grow them. THE CANADIAN HORTICULTURIST is very helpful in this respect and it often contains the experiments of other horticulturists. He said that it is important that every member of a horticultural society should take THE CANADIAN HORTICULTURIST.

Allow me to congratulate you on the constant improvement in THE CANADIAN HORTICULTURIST.—C. N. Vroom, St. Stephen, N.B.



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"Black Knight" is a joy to every woman who takes pride in her home.

It enables her to have the stoves always clean, freshly polished and brilliantly black.

"Black Knight" is ready to use—easily applied—and a few rubs brings a mirror-like polish.

"Black Knight" does away with all the hard work and dirty work of stove polishing.

If your dealer should not have "Black Knight", we will send you a large can, postpaid, for 10c.

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No Misses  
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No Troubles

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Mention The Canadian Horticulturist when writing

**SUTTON'S SEEDS**

We take pleasure in announcing that we have made arrangements with MESSRS. SUTTON & CO., Reading, England, to distribute their world-renowned Seeds to their Canadian friends who so desire. Catalogue will be loaned upon application. All orders for Spring 1910 delivery should be in our possession by February 1st, 1910, to insure early delivery.

**THE CENTRAL NURSERIES**

At the front as usual with a well assorted stock of Apple, Pear, Plum, Cherry Peach, and Ornamental Trees, Shrubs, Roses, Small Fruit Plants, Evergreens, etc. All well grown and reliable. Carefully handled; well packed and O. K. We ship direct from nurseries to planters. For satisfaction, get our prices by mail before placing your orders, it will pay. Established 30 years. Write us.—

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108 A

### How Pure Seeds are Secured

The great care that is being taken by some of our leading seedsmen to ensure the sending out to their customers of nothing but pure seed was illustrated recently to a representative of THE CANADIAN HORTICULTURIST who called at the store of J. A. Simmers, King street, Toronto.

A number of employees were noticed at work sorting seed by hand. The seed in question was being hand picked, and all poor seeds discarded. Mention being made of the work involved in such a process led Mr. Hermann Simmers to show our representative through the establishment. In the upper part of the building germination tests are conducted in the open air as well as under glass. Samples of seeds are carefully counted and planted in soil under label, and a record is kept of the percentage that germinate. In addition to the above method, the most up-to-date seed germinators are used for indoor testing, including such as those used by the seed division of the Dominion Department of Agriculture.

In order that all the seeds may be thoroughly clean, they are all put through fanning mills, varying from small hand mills to power mills, according to the seed to be cleaned.

Large seeds, such as peas, beans, etc., are hand picked whenever necessary. The expense involved in the work is very heavy. "We believe," said Mr. Simmers, "that the public now recognizes how essential it is that nothing but the best possible quality of seed shall be sown and that the seedsmen who recognize this fact and who endeavor to furnish such seed will be repaid. For that reason we are putting forth every possible effort to ensure the seed we send out being absolutely pure."

Taxidermy is now taught successfully by mail by the N. W. School of Taxidermy, 5151 Elwood Bldg., Omaha, Neb. This school guarantees success to its students, or no tuition is charged. Write to the school to-day and get, free, the beautiful illustrated book entitled "How to Learn to Mount Birds and Animals." Mention THE CANADIAN HORTICULTURIST.

That the book "Great Crops of Strawberries and How to Grow them," issued by R. M. Kellogg Company, improves with each annual issue, is evidenced by the edition for 1910 that has just been received. This work is of great value to strawberry growers. Every reader of THE CANADIAN HORTICULTURIST should take advantage of the offer of a free copy of this book. Address R. M. Kellogg Company, Box 570, Three Rivers, Michigan.

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All cogs and machinery covered.

Lever and High Speed Balance Wheel operating together simply cut the work of washing to the lowest possible point.

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### Presentation to Mr. Goldie

A pleasing event occurred in Guelph on December 10, when Mr. James Goldie was presented with a beautifully bound illuminated address by a number of his horticultural friends. The address was made up in book form and was a very artistic production. The presentation was made at Mr. Goldie's beautiful home. It was merely a little token of recognition from some of the most prominent horticulturists of the province who took this pleasing manner of expressing their appreciation of what Mr. Goldie has done and is doing for horticulture in Ontario.

With a few gracious words, Mr. Goldie expressed his thanks. Among other things, he expressed the desire to see a botanical garden established in some central place, preferably Guelph, where flowers could be shown in an ideal state of culture. He would particularly like to see native flowers, ferns and shrubs in the collection.

The presentation was made up by subscriptions from Mr. Goldie's old friends in Hamilton, Oakville, Toronto and Guelph. Among those present were Messrs. H. R. Frankland, Roderick Cameron, John Chambers, King and Stevenson, Toronto; Messrs. Wm. Ross, T. M. Hill, Wm. Hunt, Prof. Hutt and Miss Rose, Guelph; and Mr. J. W. Butchart, Jordan Harbor. The Hamilton and Oakville friends were unable to attend but sent their regards.

Mr. Goldie is 88 years old and has been a student of nature and gardening throughout his life time. His great love for flowers and plants and his unbounded enthusiasm in the study and practice of horticulture have made him a master in the art. It is fitting that this presentation was made in order to show, in a small measure at least, that his worth as a man and his work as a horticulturist have been and are appreciated.

### Spokane Apple Show

The largest exhibition of its kind that has ever been held in the world was the second National Apple Show held at Spokane, Wash., in November. There were more than 1,500,000 apples on display, comprising 2,160 entries from 23 states of the union and two provinces of Canada. British Columbia made a good showing but did not do as well as last year.

The sweepstakes prize of \$1,000, together with the title of quality apple king of America, was won by Tronson & Guthrie, Eagle Point, Ore., with a car-load of Spitzenburgs; also won \$250, first in class, Spitzenburg exhibit of 630 boxes. The second sweepstakes, \$500, went to W. W. Sawyer of Sunnyside for a car of Grimes' Golden; also won \$250 for first in class of unnamed standard commercial varieties. Space will not allow further mention of the prize winners with the exception of the successful Canadian exhibitors who were as follows:

McIntosh Red, 10 boxes, H. W. Collins, Carson, B.C., third. Northern Spy, 5 boxes, R. Sweeney, Kelowna, B.C., first, \$50; Coldstream Ranch, Vernon, B.C., second, \$15. King of Tompkins, 5 boxes, James Spiers, Kaslo, B.C., third. Foreign country groups, one barrel or three boxes, any variety, H. C. Mallam, Kelowna, B.C., first, \$100; Salmon Arm Farmers' Exchange, Salmon Arm, B.C., second, \$50.

McIntosh Red, single box, J. J. Campbell, Willow Point, B.C., first, \$10, and fruit trees. Four-tier Winter Banana, single box, A. D. Lowe, Vernon, B.C., first, \$10 and trees. Wagener, single box, H. W. Collins, Carson, B.C., second, \$5, and diploma. Golden Russets, single box, R. E. Harris, Kelowna, B.C., first, \$10, and trees; Wm. Cockle, Kaslo, B.C., second, \$5 and di-

ploma. Northern Spy, single box, C. Goldman Ranch, Vernon, B.C., second, \$5, and diploma. Pyramid of 50 big apples, H. W. Collins, Carson, B.C., third.

### Toronto Vegetable Growers

At the annual meeting of the Toronto branch of the Ontario Vegetable Growers' Association, the following officers were elected for the ensuing year: Pres., George Syme, jr., West Toronto; 1st vice-pres., Albert Shuter, Bracondale; 2nd vice-pres., Robert Somers, Todmorden; sec-treas., Frank F. Reeves, Humber Bay.

President Delworth gave a very able address on the past year's work. He noted the fact that the provincial executive had visited Ottawa during the season and interviewed the minister regarding the Fertilizer Act and also asked to have vegetable seeds placed under the Seed Control Act. As a result of this visit an amendment to the act has been introduced, the minister of agriculture placing vegetable seeds under the Seed Control Act, especially as regards germination.

The secretary was instructed to get all possible information in respect to a by-law concerning vehicular traffic in Toronto; the rigid enforcement of this "keep to the curb" by-law being particularly hard on gardeners and all horse traffic, especially during the season of slippery weather.

The meetings of the past year have been

well attended, owing a great deal to the interest taken in the awards for different vegetables shown at each monthly meeting, the vegetables chosen for these monthly meetings being those in season at the time.

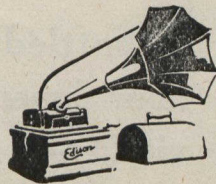
At the annual meeting of the Ottawa branch of the Ontario Vegetable Growers' Association held on Dec. 4, the following officers were elected: Pres., Wm. Trick, Ottawa South; vice-pres., J. M. Fuller, Aylmer, Que.; sec-treas., W. J. Kerr, 253 Bell St., Ottawa; provincial director, W. Hull, Billing's Bridge, Ont. The president and secretary were re-elected. At the meeting, James Cox, provincial director, gave his report of the Toronto convention. Mr. W. T. Macoun, of the Central Experimental Farm also gave a report of that meeting.

The London branch of the Ontario Vegetable Growers' Association held its annual meeting on Dec. 4. The following officers were elected: Pres., F. G. Fuller, vice-pres., Wm. Trott; sec-treas., S. D. Dawson, Tamburings, R.R. No. 4. There are over 100 members on the roll and the association looks forward to pleasant and profitable meetings this year. "Co-operation" is the password of the London branch. The members intend buying together this year as they did last, but on a much more extensive scale, such goods as berry boxes, fertilizers, insecticides and so forth.

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An Edison Phonograph can be bought for your price whether it is \$16.25 or a higher price up to \$162.50, all playing both Amberol and Standard Records.

But you cannot measure the Phonograph by money. Whether the price is \$16.50 or \$162.50, it is not much to pay for an instrument that will last a lifetime, which will furnish you good music every day, which will furnish you better entertainment than you can buy in any other way, which will teach your children to love the best music, which will bring into your own home what other people pay large sums and go a long distance to hear.

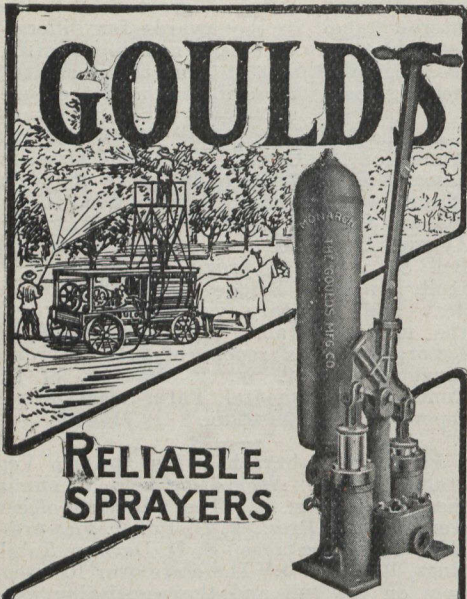


Edison Standard Records	40c
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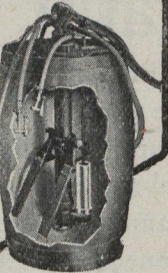
for both Hand and Power—all simple—all working parts brass to withstand wear and the chemical action of the solutions. Don't be caught experimenting with a cheap sprayer—see that the name Goulds is cast on the pump. Its presence is the assurance you are buying the very best Sprayer made. It guarantees satisfaction and reliability. Write for book.

**"HOW TO SPRAY, WHEN TO SPRAY, WHAT SPRAYER TO USE"**

It is full of interesting information and contains many valuable formulas for spray mixtures. Copy sent free on request.

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17 W. Fall Street  
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We build Pumps for Every Service



**Uniform Judging of Fruits**

The score cards for judging fruits that are proposed by the Nova Scotia Fruit Growers' Association and that were published in the December CANADIAN HORTICULTURIST have been approved of by most pomologists who have seen them. The following comments have been received among others, by Mr. R. W. Starr, Wolfville, N.S., who had most to do with drafting the score cards:

Prof. W. S. Blair of Macdonald College.—"I am glad to know that some definite move is being made to develop a uniform system of judging fruits. I have gone carefully over the scale of points submitted, and do not see how they can be improved upon. It seems that everything is covered by the proper number of points."

Prof. H. L. Hutt, O.A.C., Guelph.—"The scale of points proposed by your association is a good one and a move in the right direction. I believe that the values you have assigned to the various points are nearly as they should be. I think there is one point omitted, however, and that is the polishing of specimens. This should be discouraged as the bloom is part of the fruit and perfect specimens of certain varieties show it more or less clearly. At the Ontario Horticultural Exhibition in Toronto, I judged all of the plate collections of apples and although I had not time to adopt your score card in judging all specimens, I made use of it in close cases, and as far as I know the results were entirely satisfactory."

In a letter to THE CANADIAN HORTICULTURIST Mr. W. T. Macoun, horticulturist at Ottawa said: "The score card prepared by the Nova Scotia Fruit Growers' Association to be used in judging fruits is a very good one, the explanation of the terms used being a very good thing."

THE CANADIAN HORTICULTURIST received the following letter from S. B. Hatheway, secretary of the New Brunswick Fruit Growers' Association: "We have no meeting scheduled for our executive until February, but I have submitted the proposed score

card to the members of same, and find that all are favorable towards it. My own opinion is that it is not only practical and useful, but will establish a uniform standard, especially in eastern Canada, and also be an incentive for the exhibitor, professional or amateur, to show high scoring fruit only. It is probable that the New Brunswick Fruit Growers' Association will adopt the proposed cards."

**A Book You Should Have.**—Readers of THE CANADIAN HORTICULTURIST, who have not already done so should write to the Northern Electric and Mfg. Co., of Montreal, and secure a copy of the book on rural telephones and telephone systems for farm use which they are offering to give away. This book treats of a subject of vital importance to every farmer. To-day is the day of modern machinery, labor-saving devices and home comforts and conveniences of all kinds on the farm, and the farmer, who neglects to avail himself of every opportunity at his command is placing himself in a position where his neighbors will quickly surpass him. The use of the telephone on the farm has already been proven to be not only a tremendous convenience, but a very, very valuable time and money saver as well. Moreover through its use the farmer is enabled to be in touch with a thousand and one matters appertaining to his business, which otherwise would cost him heavily through ignorance of their conditions. This booklet not only tells about the advantages of telephones, but also gives the farmer a great deal of valuable information in regard to the steps necessary to take in organizing a telephone company in his own community. We believe that this book, Bulletin 2216, ought to be in the hands of every farmer, and would strongly recommend those of our readers, who are not already familiar with its contents to send for it at once.

Send photographs and notes on spraying for next issue.



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OXO is the goodness of prime beef in the most appetizing form.

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Sells like Sixty  
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**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

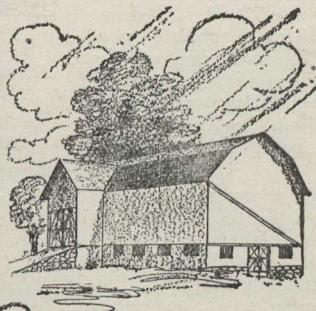


# A Straight Talk to Farmers

By a Farmer

Subject:

## The actual test or the doubtful guarantee--WHICH?



When it comes to buying shingles, which counts most with you—twenty-five years of actual wear and tear or a leaky guarantee?

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"Eastlake" Steel Shingles have proven their durability by the actual test of time.

A quarter of a century ago scores of public and private buildings were roofed with "Eastlake" Metallic Shingles.

These roofs are in excellent condition and certified as such by practical building inspectors.

Think of it! For over twenty-five years scores of "Eastlake" shingled roofs have withstood the ravages of all kinds of weather—the lightnings and torrential rains of summer—the hail, snow and sleet of winter, and yet they are in perfect condition to-day.

Isn't that conclusive evidence that "Eastlake" Steel Shingles make a permanent roof?

The "Eastlake" is the ONLY steel shingle that can boast of such a record.

### A Paper Guarantee-- What It Stands For

Did you ever stop to figure out one of those so-called metal roofing guarantees?

Did you ever discover really what is guaranteed?

You find that it is merely a claim—and claims alone will never satisfy the shrewd buyer.

He rightfully demands proofs. He wants to know on what grounds the claims are based.

Unless the article has successfully undergone an actual test, a paper guarantee appears a joke.

Many times it is a cloak to hide some weakness of the roofing it guarantees.

Ask your lawyer about it. He will tell you that, stripped of its exceptions

and provisions, all high-sounding phrases, little else remains.

### It really guarantees nothing.

Kind of risky when the guarantee is as leaky as the roof it guarantees.

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**STEEL SHINGLES**  
Lightningproof, Stormproof and  
Rustproof

You're not asked to buy the "Eastlake" on any paper guarantee—not asked to believe a single claim which the shingles have not proven.

You're only advised to buy the "Eastlake"—if you want a permanent roof, because the durable and weatherproof qualities of "Eastlake" Steel Shingles are positively known. They have been proven by actual wear and tear test.

Some day you intend putting a lightning, fire and stormproof roof on your house or barn. Then you should write to-day for this free booklet, "Eastlake Metallic Shingles." It contains information that will interest you. Send a post card at once—if you don't you will forget.

—The Philosopher of Metal Town

All kinds of sheet metal building materials—ceilings and walls, siding, cornices, corrugated iron, conductor pipe, etc.—you can have a catalogue simply for the asking. Mention it on your post card.

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## POULTRY DEPT.

Conducted by S. Short, Ottawa

The scarcity of fresh eggs at this season, which is the rule with few exceptions amongst poultry keepers, brings up the question of rations. The general opinion, from the discussion on the subject by the members of the Ottawa fraternity, seems to be that mixed grain is better than one variety, that it should be fed in clean litter, such as forest leaves or straw to promote exercise and vigor, and that there should be plenty of vegetables—mangels preferred—or beets, cabbage, turnips, small potatoes, or carrots. Also some animal food should be given in the shape of ground bone or home-cooked meat from the stock pot. Some few did not feed soft feed but the majority were in favor of feeding sufficient to about half satisfy the fowl at mid-

day. My own opinion about soft feed is that it is a good ration for fowls in a warm house, and for active fowl like Leghorns, Minorcas, and birds of that type. For heavy fowl in a cold house I think whole grain is better, and that soft food should be fed sparingly to laying fowls.

To summarize, the following rations and equipment are recommended and if fed intelligently and systematically should produce good results if the fowl are of the proper age and the house at all comfortable. Mix grain in the following proportions: 40 per cent. wheat (good); 20 per cent. oats; 20 per cent. barley; 20 per cent. corn (whole).

Give one pound of this to every six birds in the morning, throw into fresh litter, a sparing feed of ground meal (soft food) at noon, and the same quantity of grain as the morning fed in the evening. Add to the above, once or twice a week, an ounce of ground bone for each fowl, or meat supplied in any convenient way. Give fresh water daily.

There should be an unlimited supply of grit and oyster shell. This is very essential. The grit supplies the stones for the gizzard, through which all the grain passes, and is there ground up. As soon as the stones are worn smooth they are expelled and fresh, sharp ones are swallowed by the fowl to take the place of those discarded so that if no grit is supplied, the fowls are in danger of having indigestion which is sometimes fatal, and will always prevent the hens from laying. The oyster shell is also a necessity to supply lime for the shells of the eggs. The layers are able to eat different substances containing lime and manufacture it into egg shell. If there is no lime supply, the shells are very thin and are easily broken. If eggs are broken, the hens will invariably eat the eggs chiefly to get the shell and this forms the egg-eating habit, which soon spreads through the flock, and if so, is exceedingly hard to cure until the fowls leave the winter quarters and get out of doors again.

Some discretion must be used as to the quantity of food supplied. The hens should go to roost with their crops quite full and yet not leave food around for rats or mice. If their crops are felt just after they have gone to roost, the fullness or otherwise will indicate whether to increase or decrease the rations.

**Cooper's Spray Fluids.**—The approaching spraying season renders it imperative that progressive fruit growers should obtain all possible information concerning the many brands of commercial spray fluids upon the market. From time to time we have published in these columns during the season of 1909 various endorsements from prominent fruit growers of Messrs. Wm. Cooper & Nephews V1, V2 and V3 Fluids. From the mass of evidence collected it appears conclusively that this well known firm have at present spray articles which rival anything of the same nature. As is well known, for ease of application they are unrivalled. We recommend our readers to apply to Messrs. Wm. Cooper & Nephews for their very complete list of experiments conducted during 1909 by uninterested and unprejudiced fruit growers.

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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 Association ..... Feb. 7-11.  
Victoria, British Columbia Fruit Growers' Association ..... Jan. 28.  
Winnipeg, Western Horticultural Society ..... Feb. 17-18.

### EXHIBITIONS.

- Calgary, Alberta Provincial ..... July 4-9.  
Denver, Colo., Colorado National Apple Exposition ..... Jan. 3-8.  
Winnipeg, Industrial ..... July 13-23.

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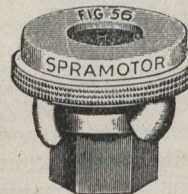
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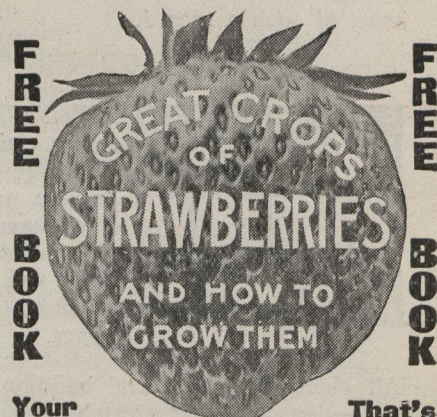
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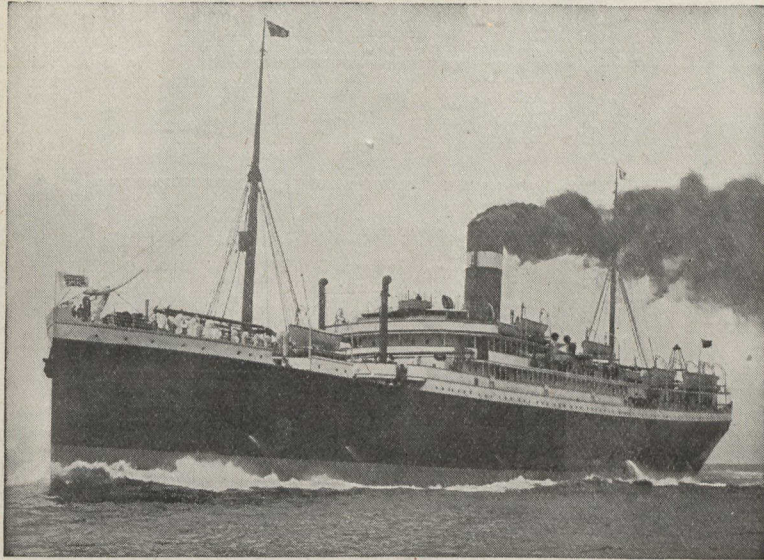
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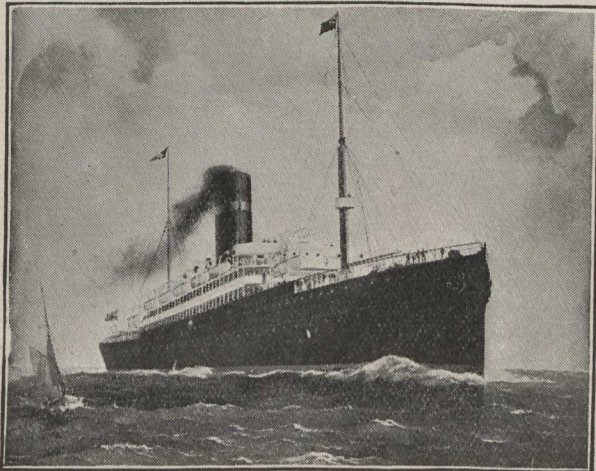
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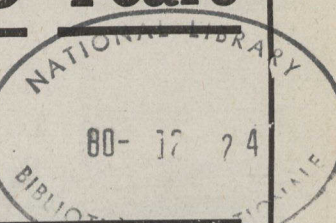
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