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# The Canadian Horticulturist

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## The Value of Books to the Fruit Grower*


A. Bonar Balfour, Pilrig Fruit Farm, Port Dalhousie


RESIDENT Taft in his address be-
fore the National Conservation
Congress at Kansas City, Mo.,
d of farming that "It is now
ost a learned profession," and
ignated it as "the profession of
ming." This shows that what a few
rs ago was thought good enough
y for the mentally dull or inefficient
mbers of the family has come to the
nt with attraction sufficient to inter-
the most proficient members of so-
y. In all probability, in a few years'
e, it will take the foremost rank of
occupations whereby man has to earn
living and make a competence. The
duction of food for a growing popu-
on has become a vital question.
Modern methods of rapid and easy
nsit and with a still more rapid com-
nication has broken down the isola-
of the farm. Modern machinery has
bed it of much of the drudgery, so
now the farm is no longer the abode
brawn, but of brain, and the greater
owed the brain the greater the pro-

*Catalogue of books bearing on horticultural
cts and fertilizers may be obtained free on
cation to The Horticultural Publishing Co.,
Peterboro, Ont.

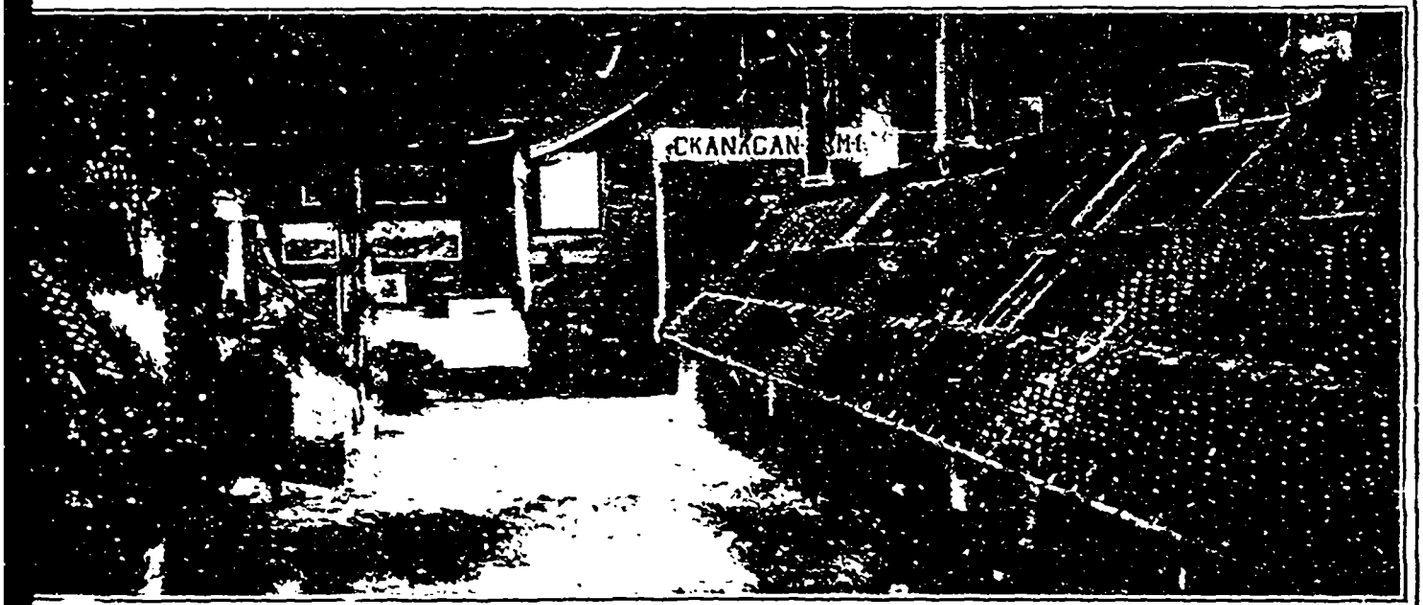
fits, and accordingly the higher the standards of living. It is said of us in our youth that we go to school not so much to learn as to learn how to learn. That is, the brain is trained into lines of thought—the greater the efficiency of the thought the better direction should be given our labors, and consequent greater profits result.

### DIFFERENT CONDITIONS

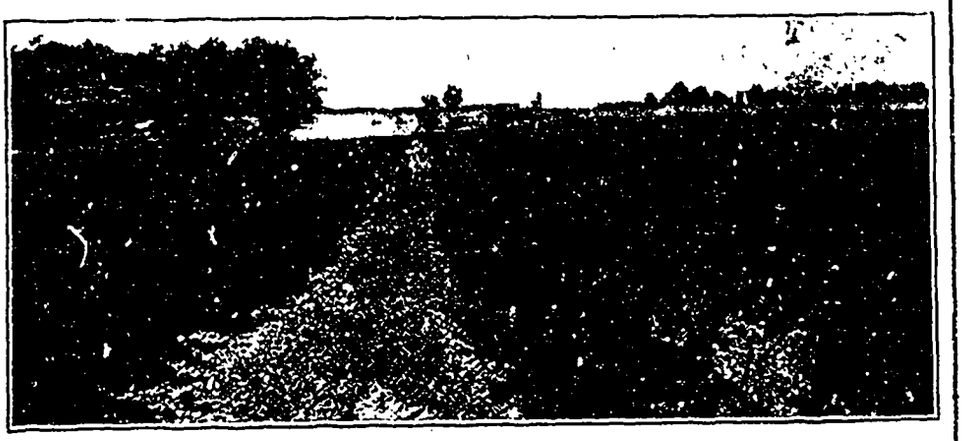
When the writer was in California, he met a young Englishman of a progressive turn of mind. He told me that in England you have to keep within your own boundaries, while in California things were different—you could go over the fence and see what your neighbor was doing. Indeed, he said, it is your duty to do so, and whatever you find he is doing better than you can do, you are expected to adopt it and work it into your own scheme of affairs. Unfortunately some of our neighbors live too far off for us to see what they are doing, but thanks to the press there is permitted us an intercommunication by means of books and periodicals.

Books that are of interest to the fruit grower in helping him in the promotion of his business for the most part treat only on one branch or phase of that business. They are written by one who in all probability has devoted the greater part of his life to the study of that one subject and not only represents years of labor, but also the expenditure of much money in the pursuit of the knowledge of the subject they represent and you owe it as a duty to yourself to study such books as are in direct line with your life work—the work by which you earn a livelihood for yourself and family and on success in which depends the quality of your comforts. Books present to you the viewpoints of others, a study of these may modify or round out your own, may increase your accomplishments and heighten your efficiency, and thereby cultivate and develop your mental and physical powers, awaken your latent energies, and open to you a new and wider horizon.

Thus it is that the fruit growing profession is elevated to the plane of the learned profession. The growing of fruits and intensive cultivation demands intensive thought—correct lines of thought are only promoted through the study of




A Portion of the Apple Show, Held Last Fall, at Summerland, B.C. The Artistic Displays are Shown on the Left and the Boxed Apples on the Right



**A Four Acre Raspberry Patch, that Produced over 9,000 Boxes of Berries**

The bushes in this raspberry patch, owned by Grover C. Murdoch, of Simcoe, Ont., were two years old last season, and produced almost $1,000 worth of fruit. The rows are seven feet apart, and the bushes two feet apart in the row.

the subject and of those that influence or bear on that subject. We now have not only books on every phase of fruit-growing, but also on varying viewpoints of each phase. Thus we have several books on "The Soil," a combination of which sifted through our own experience gives us a wider knowledge of the principles of soil management. Formerly changes in the soil were supposed to be due to chemical action; now we know that they are largely influenced by those living organisms in the soil termed bacteria. Bacteria do not all work for our good; hence it is to our interest to study these so that we may encourage those that are beneficial by such action as lies in our power to this end, and to neutralize or destroy such that are detrimental to our interests, and a very good book on this subect may be found in Lipman's most excellent work entitled "Bacteria in relation to Country Life." Then we have books on fertilizers which tell us of their history, source and action, and how they may be used to advantage. A study of plant physiology teaches us the behavior and response of plants under our conditions, and our progress rests largely with an intimate knowledge of the relation of the growth of the plant to the condition under which it is grown.

The fruit grower must ever bear in mind that it is only through a complete comprehensiveness of all of the natural forces tending to his weal or woe that he can hope to attain that larger success for which we all strive. Emerson says in his "Essays" that "there is no limit to the chapter of our resources. We have keys to all doors"—primarily our success rests with each individually. We must gather in the knowledge that others have attained, sift it through our own experience, and by test select that which is to benefit us and apply it to our own individual affairs as circumstances permit.

In conclusion, let me say that we should do no action blindly. If it is pruning we should study the why and wherefore and remove no limb without a definite aim in view—the same rule should bind us in all our work. Then, though success is primarily attained through the individual effort, we must not forget the collective effort—cooperation. In cooperation we organize our buying and selling to our own good and the general welfare of the community.

## A Profitable Raspberry Patch

G. C. Murdoch, Simcoe, Ont.

From four acres of red raspberries last season I sold almost one thousand dollars' worth of fruit. The bushes were set out in the spring of 1910 in rows seven feet and nine feet apart alternately and twenty inches apart in the row. In a large patch this is an advantage when getting out the old wood, as a team and wagon can be driven down the nine foot rows and have the brush thrown on from the seven foot rows.

The bushes were hoed and cultivated the first summer and made a fine growth before fall. In August the bushes were cut back to two feet and in October the bushes were strong and the canes large and they wintered well.

In the spring of 1911 the ground was hoed and cultivated and kept clean all summer. In spite of the severe drought of that season we picked four thousand eight hundred baskets from the patch. The old wood was removed as soon as the crop was off and the new canes cut back to about two and a half feet and not over four canes left in a hill, three was the average.

Last spring they were hoed and cultivated, and during the dry spell of June they were cultivated twice a week. We took nine thousand baskets from them last season, and in August took the old wood out and cut the plants back as usual.

I believe in taking the wood out as soon as possible after the crop is off. It gives the new bushes a chance to form thick canes that will bear the weight of heavy snow and it also removes insects and borers that are working on the old canes before these have a chance to attack the new wood. Next spring, and yearly thereafter, these bushes will receive a liberal dressing of barnyard manure. As they were set on rich ground they have not needed it yet. We did not cultivate them again last fall, as we wanted all the new shoots that came up between the rows for new plants next spring, as we intend to set out ten acres of them next season.

## Tile Draining in Winter

Joseph Tweddle, Stoney Creek, Ont.

Tile draining is the one thing most needed on the average Canadian farm, but the great shortage of labor leaves no possible chance to attend to this work except in winter. It does not appear to have occurred to the average farmer that it is possible to do this work in winter, but as a result of careful study, I have been able to continue the work till mid-winter and find it possible under ordinary circumstances, to operate throughout the entire winter.

It has been our practice to lay out the drains and plough out a deep double furrow before winter sets in. Having the surface well drained I proceed to protect the drain from freezing by covering it with a little coarse manure, of which a good load will protect a long stretch of ditch. This class of work, owing to the vigorous exercise, is not uncomfortable in moderately cold weather. It is very healthy and provides work for the winter months thus enabling the farmer to keep a better class of labor.

A good strong sub-soil plough is used after the ditch has been opened. It stirs up the subsoil to a depth of ten or twelve inches. This is done by going two or three rounds with a good steady team, using a six or eight foot double tree, which makes it safe for the horses, and prevents damage to the ditch. This provides for the use of unskilled labor under the farmer's superintendence in shovelling out the loose earth. Repeat the sub-soiling and shoveling until the desired depth is secured. This makes a very cheap method of carrying out the work.

I have succeeded in cutting four and a half feet deep by lengthening the chain from the horses to the plough making a ditch not over eighteen inches wide at the surface and four to six inches at the bottom. This has been done in the very

hardest of dry clay and only nine inches wide at the surface, where two and a half feet in depth was required. This method moves the minimum of earth and gives plenty of room for laying the tile. The same method applies to filling the ditch. Most beginners make the mistake of making too wide a ditch. This entails double labor both in digging and filling.

## Commercial Fertilizers--A Reply to Criticisms

J. B. Dandeno, Ph. D., (Harv.), Bowmanville

Permit me to reply to criticisms in the December issue of The Canadian Horticulturist, on my communication relative to commercial fertilizers, which appeared in The Canadian Horticulturist for November. Mr. Emslie, of the German Potash Syndicate, opposes my argument and I take exception to his statements. He states that I cling to "old and discredited theories." My assertions on fertilizers are the result of thirteen years of research work on "soils and plants," after eight years of university training for the work. My conclusions have matured within the last six years and are based upon experimental research, chiefly in the Michigan Agricultural College. The views are discredited, I think, only by those unacquainted with the details.

Mr. Emslie defines plant food thus: "We only know that plants draw on the soil for certain substances entering into their composition." From this we must include copper as a food, because it is found in many plants, notably wheat. But copper is a poison except in the most minute quantities. The plant would be better without it. The copper is taken in by a physical action purely. The definition fails because it includes what is clearly not a food.

Take Mr. Fox's definition: "Plant food is any substance that is worked into the soil that will cause it to produce a better crop." Now, oxygen will, under these conditions, produce a better crop, and yet it does not enter the plant at all. So will several other substances acting as catalysers. These could hardly be called foods since they do not enter the plant. A whip might make a horse do more work, but surely a whip is not an animal food. A curry-comb may cause a steer to put on more beef, but a curry-comb is not a stock food. Yet this is the logical conclusion from that definition.

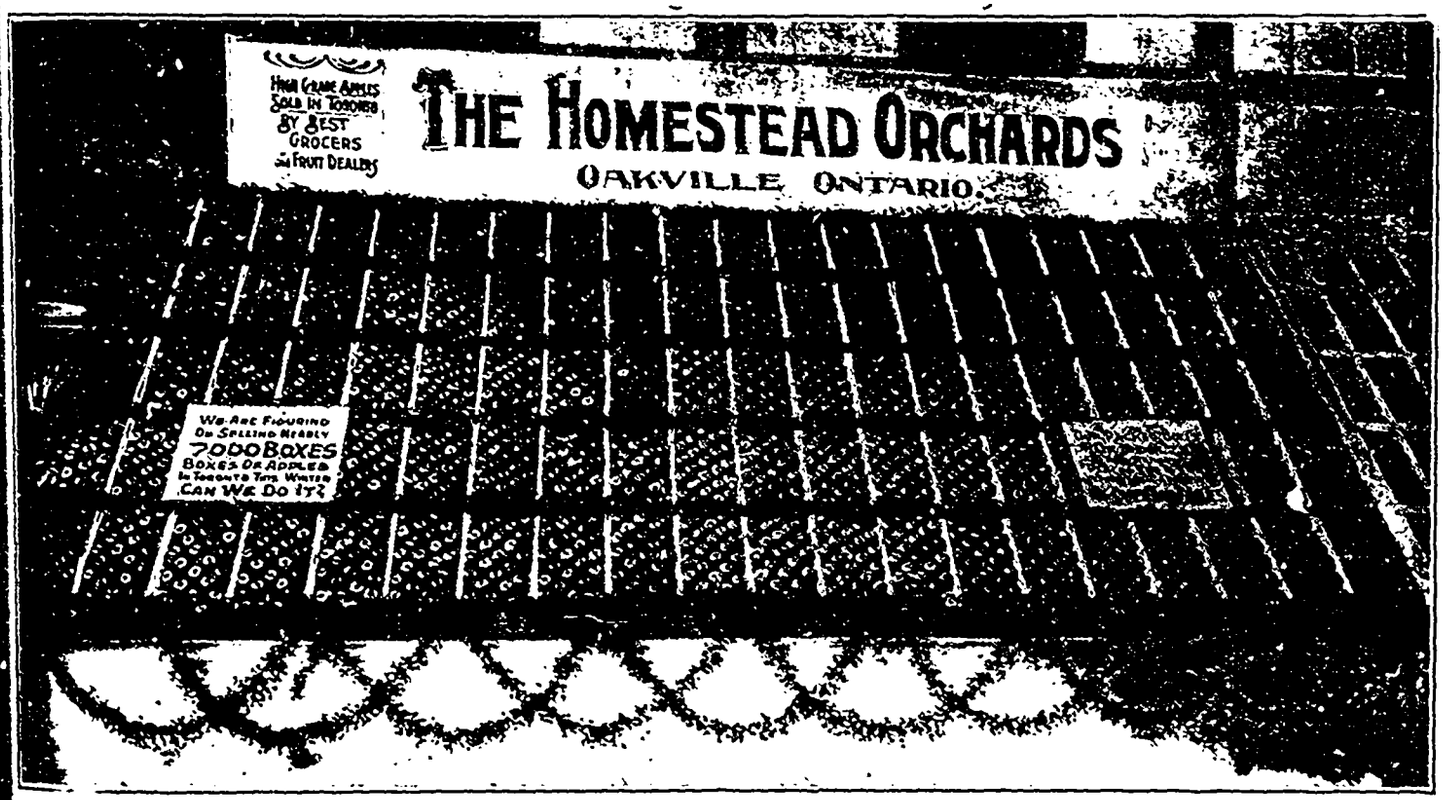
### CASES DISSIMILAR

Dr. Emslie says: "Dr. Dandeno might state with equal aptitude that the food which we eat does not nourish our bodies." Not at all, these cases are not parallel. We are nourished entirely differently from any Chlorophyll-bearing plant. There is no comparison, because the plant organizes it own "food" and the animal consumes what has been organized. Unless we assume a fungus plant, there is no comparison, and even then I disclaim connection with "we."

That more than half the money spent in artificial fertilizers is wasted is very plain to those familiar with the problem. Here is a fact supporting this estimate. In the Geneva, N. Y., Experiment Station an experiment now going on eleven years continuously with an apple orchard, shows these results, quoting from Bul. 339, p. 188, 1911:—"The final conclusion must be that the trees in this experiment would be practically as well off in every respect had not an ounce of fertilizer been used." Four types of fertilizers were tested, and this experiment is the most reliable in America.

Mr. Emslie says further: "The majority of fertilizers are of mineral origin." At a glance one can see that that is not a fair statement. Here are the fertilizers in common use: Bone meal, dried blood, guano, fish products, slaughter house products, cotton seed, night soil, sewer sludge—all organic. Even wood ashes and nitrate of soda are of organic origin. The chief mineral fertilizers are phosphates and potassium compounds. But an average soil will contain enough phosphates to last for two hundred and fifty years, and enough potassium to last for a thousand years. These are not necessarily all *available* at once.

As to Mr. Fox's challenge, I grant him at once. The manure would likely produce an increased crop and the pock-




A Sample of the Very Fine Exhibits of Apples put up by Private Concerns at the recent Ontario Horticultural Exhibition in Toronto

A Class in Box Packing at the Oka Agricultural Institute, La Trappe, Que.
This institute is a leader in horticultural education in the province of Quebec. The Three-Two Diagonal pack is here being used. Rev. Father Leopold is the second figure on the left. He has recently been elected president of the Province of Quebec Fruit Growers' Society.

etful of "food" no increase. The manure is of value not because of any "food" it contains. He misunderstands my argument.

When Mr. Emslie becomes personal and refers to "his own prescriptions," he is even here also in error. I am not a physician. I am simply a specialist in plant diseases and in soil fertility. His reference to soil constituents as "hash" is no argument. It is disposing of the question as an orchardist does who, when he wishes to rid his orchard of insect pests, goes into the orchard and says "shoo." To compare fertilizers to a "dose of salts" is far too flattering to the fertilizers.

In conclusion let me thank the editor for this space, and say that the plant must answer. The plant is the chemist who must pronounce upon the value of a fertilizer.

## Fertilizer for the Orchard

DR. J. P. Stewart, Experimental Pomologist of the Pennsylvania Experiment Station at State College, Pa., discussed the use of fertilization and cultural methods in apple production at the recent convention in Toronto of the Ontario Fruit Growers' Association. His deductions were based on six years' work in ten experiments located in the leading apple sections of Pennsylvania and involving ten different soil types and two thousand two hundred and nineteen trees. The trees range from ten to forty years of age, and have produced over one million seven hundred thousand pounds of fruit since the work started.

These experiments have shown: First, that in some orchards the yield can be greatly influenced by proper fertilization, the most important elements of which have been nitrogen and phosphates. With all other conditions uniform, the gains from such fertilization have run as high as seventeen times the amounts of fruit produced on the adjacent checks or untreated plots and net profits have been as great as four hundred and twenty dollars an acre in a single season. Under these conditions, tillage and cover crops have not been the equivalent of fertilization. The gains from the former have averaged about one hundred bushels per acre annually, while the latter, without cultivation, was giving four hundred and fifty-two bushels a year.

Second: The absence of nitrogen, as a rule, applications of phosphates and potash have not been profitable. On some soils, and in the presence of sufficient nitrogen, however, moderate amounts of these minerals are often profitable. Neither has had any material influence on color. On size, the influence of potash has been favorable.

Third: Nitrogen has had greater influence in increasing yield than any other element. It also has materially decreased color. This is due primarily to delay in maturity, and may be overcome by later picking, which is advantageous in Pennsylvania with such varieties as Baldwin. The delay on it in one locality in 1911 was three weeks.

Fourth: Contrary to a prevalent notion, growth and fruiting are not antagonistic, unless either occurs in abnormal amount. The best growing plots, as a rule, have been the best fruiting plots.

Fifth: Manure has usually proved profitable, doubtless essentially because of its nitrogen content. In most of the cases where it has proved beneficial, however, its net profits have been approached or surpassed by certain combinations of artificial fertilizers.

Sixth: In a few orchards no form of fertilization has yet produced a material response. This is considered to be due to the presence of other limiters, of which improper moisture supply is frequently important. The existence of such orchards emphasizes the need of local tests before making large and regular expenditures for fertilizers. Simple methods of making these tests and a good general formula for preliminary use were indicated.

Seventh: In the long run, any orchard that is actively producing and growing is likely to require fertilization, since the total plant food draft of such an orchard is quite heavy—more per acre for every constituent except phosphorus than is required by a twenty-five bushel crop of wheat.

### CONTROLLING THE COLOR

Eighth: Color in apples is essentially dependent on maturity and sunlight. Conditions increasing one or both of these factors such as late picking, light soils, open pruning, and sod culture increase color. Opposite conditions decrease it. Iron applications to the soil have not been shown to improve the color.

Ninth: The average size of apples is governed primarily by the number of fruits on the tree, after the number has passed a certain "critical point." This point is relatively high, the data showing that, even on trees up to fifteen years of age, little or no correlation appeared until the number of fruits reached one thousand four hundred or more per tree. Below the critical point, size can be markedly affected by moisture supply, cultural methods, manures, and fertilizers—especially those rich in potash, and these factors may also cooperate in such a way as to materially raise the critical point.

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Ordinary concentrated lime-sulphur has not given as good results in destroying the oyster shell bark louse as the old home-boiled mixture containing more lime made by boiling twenty pounds of lime and fifteen pounds of sulphur in forty gallons of water. The poor results obtained are due to the lack of free lime. The lime acts in the gelutineous matter of the scale, loosening it, and allowing the caustic lime-sulphur to enter and kill the insect. For best results in destroying this insect mix from five to eight pounds of lime with each barrel of lime-sulphur as diluted for application.—W. T. Macoun, Horticulturist, C.E.F., Ottawa.

# A Small Garden Where Bold Effects Are Produced

F. E. Buck, B. S. A., Experimental Farm, Ottawa

A GARDEN in a city lot about one hundred and twenty by sixty feet, where flowers are grown in profusion almost every month of the season, and where all the work is done by the owner, should have interest for every city dweller. When it is considered that on a lot of this size the owner, Mr. J. A. Ellis, M.L.A., 131 Stanley street, Ottawa, manages to grow enough peonies so that he can cut as many as one thousand to twelve hundred blooms at one time, the interest must certainly increase in the "Hows" and "Whys" of such profusion.

Don't conclude off hand that peonies occupy all the space devoted to flowers. If you visit this garden in July or September, as I did, you will be scarcely conscious of the real number of peony plants which it contains. And one of the reasons is due to that charming effect of the Coral-bells which so insistently demand our attention just in front of the foliage of the peonies, a foliage which is delightful as a background to the scarlet spikes of this little Siberian plant. Later in the summer again peony foliage serves as the base to give contrast to the scarlet tiger lilies which rise out from it as if they owned the whole border and were trying to make their beholders blind to the fact that they were but symbionts in the possession of this border with the peonies. And so we have the peonies not only beautiful in their glory of bloom but serviceable also later on in the ways just mentioned. Delightful as the effects are which Mr. Ellis produces by a well regulated system of inter and double planting of his borders they must be passed without further comment or space will not be available to emphasize several other special features of this city lot.

### THE PROBLEM OF EACH GARDEN

In most parts of the world, each home, each city lot in particular, presents in many cases a distinct problem to its owner when he begins to plant it with a view of making his home a "real home" and one of the best lots of his neighborhood. In the very beginning of his gardening career Mr. Ellis realized that the problem which his lot presented was a personal one. While not by any means unique it was not a common problem, and still less a desirable one.

The problem simply stated was pratically just such a one as any one of the readers of The Canadian Horticulturist may be facing. Therefore, let us put it thus:—You wish to grow flowers, to do all the work of gardening yourself, to have the place always looking nice, and to have the best of things growing in the most luxuriant manner; but down one side of your lot is an ugly board fence, and a bare shed belonging to your neighbor. You cannot plant vines to cover it because he does not wish you to do that, you cannot plant trees to screen it because your lot is not large enough to grow both trees and flowers, and yet you must hide that eyesore and achieve your desires. What are you going to do about it? This is not all the problem, but enough to show the point. What did Mr. Ellis do?

We can only partly answer the question. Mr. Ellis, having determined upon the policy of having the maximum quantity of flowers with a minimum amount of work (not because he disliked the work, but because he is city treasurer, a member of the Ontario Legislature, and a very busy man), together with the production of a nice effective lot when viewed from the street, found that he had to work out his own method of screening that objectionable board fence and building. This we shall come to

**Artistic Effect and Utility are Combined in This Rustic Arrangement**

Notice the wealth of bloom obtained by Mr Ellis from the plants of Clematis Jackmanii. The necessary but rather ugly outhouse is made a pleasing feature in this garden. The little conservatory on the left is the one in which Mr Ellis has had distinct success growing orchids as described by him in recent issues of The Canadian Horticulturist.

This Illustration shows how Mr. Ellis is Succeeding in Solving the Ugly Fence Problem

The grafted varieties of lilac and other shrubs here used do not rob the flowers in the borders of the moisture and plant food as many shrubs or trees would do.

later. He found that the first part of his problem was solved by making a twelve foot border around three sides of his lot. This he planted with perennials. This system left a nice piece of greensward in the centre which looked well from both the house and the street. It has been suggested already how by a skilful system of double planting and by restricting his efforts to certain flower groups he secures abundance of bloom. Now it should be stated that the flowers of his choice are generally those vigorous kinds which will reward a little labor with fragrance and color in almost any kind of a season.

### A SIMPLE SOLUTION

The solution of the next part of the problem sounds simple enough. If you look at the illustration above, you will notice that shrubs are used at the back of the border on the west side of the lot. These were planted to form the screen to hide the board wall. Already they are nearly tall enough to do this. Suggesting that shrubs be used for this purpose was easy. To find varieties that would grow high enough for this purpose without encroaching on the room of the flowers, and robbing them of food, moisture and light, was more difficult. And to work in kinds that would give bloom at different seasons, so as to add to the charm of the border was less easy still. However, Mr. Ellis found what he wanted, and the effect has been pleasing ever since.

A similar problem to that just mentioned, presented itself in connection with the rear of the house. The illustration on page five shows how a rather unsightly outhouse was screened and the whole of the rear of the house made to offer both convenience and charm during many months of the year by the addition of a rustic pergola. The pergola Mr. Ellis made himself from cedar poles and when the several plants of Clematis Jackmanii, which are now growing on it, are in full bloom the picture is as pleasing as one could well imagine. Roses and other vines are also grown on this pergola.

It will be seen then that the solutions of these problems were definite, simple and effective, and it should be added that they were inexpensive also. The cost of the materials which Mr. Ellis has used has been low because he has adopted a system of replenishing his borders which is worth recording. It was mentioned that only perennials were found in this garden. In the case of such perennials as the Delphiniums or Poppies, he will collect the seed from a plant as soon as it ripens, or he may take the seed of something new, for he believes in having the best of everything, and this seed he will drop near some old plant that he intends pulling out next year or in some little vacant spot in the shade of other plants. By giving the seedlings, as they come up, a little watching and judicious thinning out he will have a nice clump of new plants in bloom there the next year. And the work has been practically nil. He replenishes his borders by using in part Nature's own method. Of course not all seeds can be treated in this way but nearly all that he sows can. And it will be interesting to know what plants Mr. Ellis finds most useful in a garden of this character.

### THE VARIETIES GROWN

The German Iris he has found to be very effective for spring effects. He groups them in masses at the ends and in the corners of his borders. Of these he has about fifty varieties, and his object for some years has been to eliminate from his collection the dull shades of purplish-blue. This makes the spring effect much more sparkling and effective.

Following the irises the peonies hold sway in the garden for nearly a month, and at that season the garden is a splendid sight from the street.

Mr. Ellis believes in letting the public share in the joys of his flowers to an extent, that is, "a vista to the public should be allowed by each possessor of a good lot," such a lot has an educational value, and it is but neighborly to share it with all so long as enough privacy is retained to make it "home."

Such flowers as the platycodons, Chinese Bell-flowers), pyrethrums (Spring Marguerites), gaillardias (Blanket flowers), delphhiniums (Tall Larkspurs), hemerocallis (Day Lilies), dwarf or Chinese Larkspurs, and sweet williams, give color to the borders until the time of the perennial phloxes, which form fine strong groups of color in this garden.

Other flowers, like the herbaceous spiræas, coreopsis, Helianthus multiflorus, and golden glow, do well at the back of the border, while that charming little free flowering plant, the Iceland Poppy (Papavera nudicaule), together with Achillea Funkias, and others, add charm to specialized parts of the border.

Cannas, which of course must be treated as annuals, are grown to good effect by the wall of the house where they get some protection from the first frosts of the fall and thereby continue their bloom much later. Darwin and cottage tulips are grown in the same bed for spring effects, and as a background Hydrangea paniculata are used.

Of new varieties of his chosen plants, Mr. Ellis imports and buys quite a few. Three of his best peonies are Asa Gray, Festiva Maxima and Mons. Jules Elie.

Color harmonies have been worked for in some measure by Mr. Ellis, and he states that he likes to get his strong colors as a rule at the back of the border.

# Continuity of Bloom in Small Gardens*

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

THE seasons when it is most difficult to have good bloom is just after the bulb season in the spring and during the month of September. Hence we shall suggest more plants for spring and autumn, than for summer.

One of the earliest blooming perennials is Arabis alpina flore pleno, or Double-flowered Alyssum. This begins to bloom soon after the snow has gone. Its double, pure white flowers are borne in great profusion. It is low growing, increases rapidly, and is very useful for the front of the border.

No small garden is complete without a good plant of Bleeding Heart. It has a blooming season of a month or more in the latter part of May and June, and is both striking and attractive.

The Epimediums, or Barrenworts, are very attractive spring flowering perennials, and are desirable for cutting. The varieties of Trollius, or Globe flower, in various shades of yellow and orange are among the best spring flowering plants, and the native Trillium grandiflorum should be in every small garden. It thrives well under cultivation and clumps soon spread.

*Extract from a paper read at the recent convention in Toronto of the Ontario Horticultural Association. Continued from last issue.

**Yucca Filamentosa.**

This plant stands about five feet six inches high. It is just a young plant and will spread out considerably as it gets older It is a very striking and rather pretty plant This specimen is hardly at its best yet as only a few of the flowers are fully opened. It was photographed by a representative of The Canadian Horticulturist in the grounds of the Canadian Nursery Company, of Montreal.

Lily of the Valley and Forget-Me-Not are delightful spring flowering plants, but each needs a place of its own. The former because its blooming season is short and it spreads rapidly, and the latter because it becomes a weed in the border.

Iris florentina blooms in May, and because of its early blooming it should not be omitted, the many varieties of German Iris soon follow.

The Day Lily, Hemerocallis flava, is an attractive yellow-flowered plant, and its fine foliage makes it useful as a background for other species.

### SUMMER PLANTS.

Among summer-blooming plants there is none more desirable than perennial phlox, of which there are many fine varieties. Among low growing plants for bloom in late summer we have found that Rudbeckia Newmanni, a sort of Black-eyed Susan, is one of the most desirable. It increases rapidly and clumps should be scattered all along the front or near the front of the border.

No lilies have been mentioned so far. They are not as necessary as some other flowers, and anyone who wants lilies will get them anyway, but Lilium speciosum is, we believe, an absolute necessity in a small garden where continuity of bloom is desired. It flowers during the month of September when bloom is scarce. Japanese Anemones are also desirable for late bloom, but as the first frost injures these and they do not bloom until very late, they are not to be depended upon. There are many tall growing yellow flowers, such as Rudbeckia Golden Glow, Helianthus of various species, and Heliopsis with running root stalks, but all of these should be kept out of the mixed border as they give endless work in keeping them under control. If they are used they should be treated as things apart. There are, however, some good late blooming flowers which do not spread in this way or at least not rapidly. Among these are Helianthus multiflorus maximus, Helianthus Soleil d'or, Helenium autumnale superbum, Helenium grandicephalum striatum, and some of the finest autumn flowering plants are among the Michaelmas daisies or asters, and of these we have found that Aster Novae Angliae, Mrs. Rayner, a reddish purple flowered variety is one of the best.

In a border where continuity of bloom is desired all the tall plants should not be put at the very back. The late blooming sorts are most of them tall, and if they are all kept in the rear there is a dearth of bloom near the front in late summer or autumn unless annuals are used, most of which do not go well with perennials.

**A Seven Year Old Brughmansia**

This plant, grown by Miss Cox, of Stratford, stands over six feet from the ground, although it was severely pruned last spring When photographed it had between thirty and forty buds and blossoms The full bloom is nearly a foot long and about six inches across and of an ivory whiteness. It blooms in September, and the blossoms open to their full extent in the evening.

It will be noticed that peonies have not yet been mentioned, but peonies should, in a small garden, be planted by themselves. They take up too much room in a mixed border and are apt to smother smaller and more precious things. A peony-bed should not have too prominent a place in a small garden, as when the blooming season is over it is too conspicuous an object and not sufficiently attractive. If planted near a fence or wall provided they have abundant sunlight, good soil, and sufficient moisture they will look well when in bloom and will relieve the hard lines of the fence afterwards.

A border of narcissus or pansies along the front will give color to the bed before the peonies bloom, and gladioli may be used with good effect behind for later bloom. Gladioli are also very desirable in the mixed border, and if some are planted late will be particularly useful in September when bloom is scarce.

Annuals should play some part in a small garden and until perennials are well established more of them are likely to be used than later on. Sweet peas, asters, nasturtiums, scarlet salvia, phlox drummondi, verbena, and white and pink petunias are my favorite annuals, and are among the most persistent bloomers. Sweet peas should be planted so that they will not be too conspicuous in late summer when the lower leaves have fallen and they have a ragged look. It may be possible to screen the lower part of the sweet pea row with some other flower planted two feet or more from the sweet peas but which from a distance appear close to them. Beds of annuals usually become ragged in late summer in Ontario, hence a border of annuals where they will not be so conspicuous would seem to me best.

Every year some re-arrangement of some of the planting in a small garden will need to be made in order to have that continuity of bloom, freedom from gaps and blending of foliage and flower which is so necessary in a small garden where all one's attempts may be taken in at a glance and where weak spots are quickly seen.

# Best Varieties of Sweet Peas*

Thomas D. Dockray, Toronto, Ont.

THE superiority of the Spencer varieties of sweet peas is admitted on all sides. Just about all shades of the older grandiflora type may be obtained among the new ruffled varieties.

Among the pure whites, Etta Dyke Spencer is the best, excelling Dorothy Eckford in waviness, but both have very large flowers, usually four on a long stem under good treatment. Florence Wright and Nora Unwin are also good whites. Mrs. Collier is a warm white, almost cream, but unruffled.

The best and clearest buff yellow is Clara Curtis Spencer. Other good buffs are Lady Knox and Mrs. A. Malcolm, but both may incline to a fawn shade on the standards.

Mrs. Routzahn Spencer is the best cream pink. Like it are said to be Romani Rauni and Mrs. Hugh Dickson. Constance Oliver is also good. Paradise Ivory is a most delicate cream with just a suspicion of rose, but it does not seem to expand fully in Toronto.

Elsie Herbert Spencer is the best white with a pink edge, having very large flowers, but Picotee Spencer gives a large percentage of stalks with four well-spaced blossoms. Dainty, when not ruffled, has the pink edge beautifully defined.

For a cream with a pink edge, the choice would fall upon Mrs. C. W. Breadmore or Evelyn Hemus, both Spencers and practically identical. Dora Breadmore has a pink edge, but is slightly hooded and the cream becomes fawn as the season advances.

Countess Spencer, the type of the ruffled hybrids, is still unexcelled as a pink. Marjorie Willis, Marie Corelli, or Gladys Unwin, rosy pinks; Mrs. Hardcastle Sykes or Elfrida Pearson, blush pinks; Mrs. R. Hallam or Miriam Beaver, deep cream pinks, are all most desirable in this popular color.

The great fault of the orange sweet peas is that they are apt to burn in the sun. The best are Helen Lewis, an orange pink, and Thomas Stevenson, an orange scarlet, both Spencers, and very vigorous. Other good Orange Spencers are Edna Unwin Improved, Dazzler, St. George and Anglian Orange. A new unruffled variety, said to be nearly a true orange color and almost sunproof, is Orange King. Because they burn so badly, Henry Eckford and Agnes Johnson should not be grown here.

At least one scarlet has been produced that will stand the sun fairly well and that is Queen Alexandra, a fine large flower of the old, plain type. Doris Burt, George Stark, Scarlet Monarch and Scarlet Gem are not always sunproof, but are Spencers.

For a crimson, King Edward Spencer is the best, having displaced Salopian, just as Salopian displaced Coccinea. Sunproof Crimson and Maud Holmes are two splendid new varieties. Perhaps the purest ruby color is King Edward VII., a large flower, but not a Spencer. Of a good garnet color are Cherry Ripe (the Spencer form of Coccinea) and Chrissie Unwin. John Ingman, George Herbert and Mrs. William King, all practically alike, are fine rose magentas of the Spencer type. Rose du Barri is an odd-looking burnt pink.

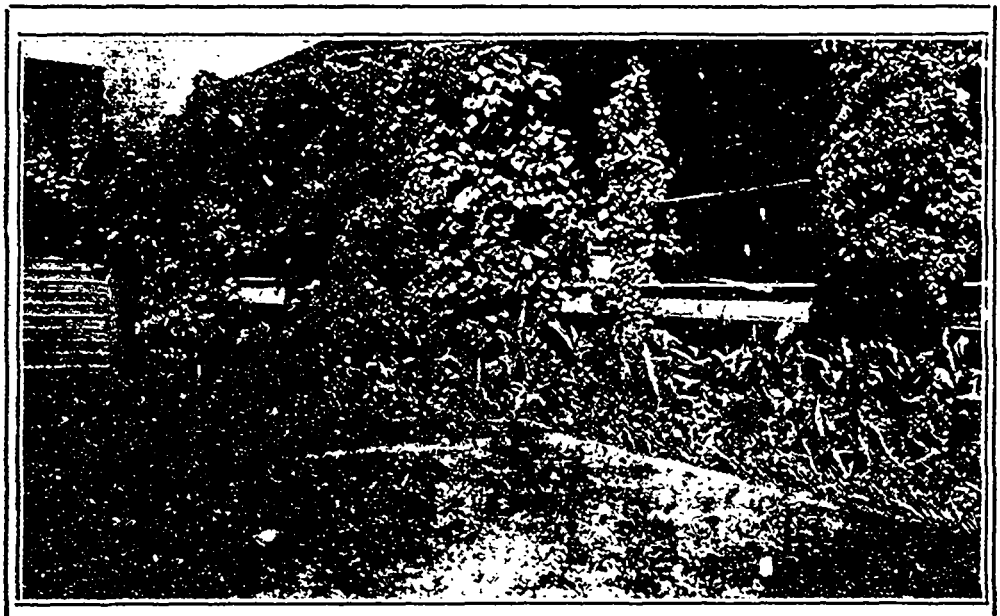
The bronze, or maroon, section is not much in favor. The best here is Douglas Unwin. It is of a rich purple wine color and the surface of the flower almost suggests a pansy in its velvetiness. Black Knight Spencer, Othello Spencer, Nubian and Tom Bolton, all practically alike, are of chocolate or mahogany color and are shiny, thus running some risk of burning.

All the blues are apt to have a touch of pink or lilac somewhere on the blossom. The purest dark blue is Lord Nelson, not a Spencer. Flora Norton Spencer, the brightest blue, is not as large as Zephyr Spencer, a silvery blue. Horace Wright is a splendid indigo, but rarely produces more than two flowers on the stalk. Audrey Crier Spencer, May Malcolm Spencer and Lady Sarah Spencer are said to be new, deep blue varieties of enormous size.

The best mauve is Tennant Spencer. It seems to be the Spencer form of Mrs. Walter Wright.

Asta Ohn Spencer is the best lavender. Florence Nightingale and Masterpiece, both Spencers, are good. Nettie Jenkins is the best Spencer form of that old favorite, Lady Grizel Hamilton, and is slightly hooded. Mrs. Charles Foster is a good Spencer heliotrope. Phenomenal is a creamy white with a picotee edge of purple. This section would not be complete without the old Duke of Westminster, a striking combination of violet and purple, suggestive of the Cattleya orchid.

*In the December, 1911, issue of The Canadian Horticulturist appeared an article by Mr. Dockray, describing the culture of the sweet pea as a result of extensive tests of varieties conducted by him during the past season to check the results obtained in previous years. The list of varieties here given is recommended by Mr. Dockray with confidence.



Vines as Grown on one of the Verandahs at the rear of Government House, Ottawa

**Spiraea Van Houttei Used as a Hedge**

The hedge here shown is to be seen in the garden of R. O. Burns, Brantford, Ont., whose garden won first prize in a garden competition held in his part of the city last year. The trellis of climbing roses over the arch in the opening added much to the general effect. Such a hedge makes a good screen or division between a front and back lawn. The hedge shown is five years old.

The striped and flaked varieties are not much sought after. Helen Pierce is a pleasing mottled pale blue. Senator Spencer looks like a good thing gone wrong. Its color scheme consists of mahogany streaks on a dirty white ground. Prince Olaf is a good combination of purple and lavender and shows the marking well, as it is not ruffled. Aurora Spencer and America Spencer are both pleasing flaked varieties, the former an orange rose, the latter a rosy scarlet. The freakishness of Mariory Linzee is not in the color, which is pink, but in the form. It frequently has double standards, but does not seem any more desirable on that account.

For the person who can plant only a single row of ninety or one hundred feet, a packet of twenty seeds of each of the following twelve varieties will be found more than sufficient. One, white: Etta Dyke Spencer; two, buff: Clara Curtis Spencer; three, cream pink: Mrs. Routzahn Spencer; four, pink edged: Elsie Herbert Spencer; five, pink: Countess Spencer; six, orange: Helen Lewis; seven, scarlet: Queen Alexandra; eight, crimson: King Edward Spencer; nine, maroon: Douglas Unwin; ten, blue: Lord Nelson; eleven, lavender: Asta Ohn; twelve, purple edged: Phenomenal. If only four varieties can be grown it will be found that Etta Dyke Spencer, Countess Spencer, Queen Alexandra, and Asta Ohn will blend very well, either on the plants or when picked.

# The Winter Care of Window Flowers

R. S. Rose, Peterboro, Ont.

THE watering of window plants is one of the most essential points to watch if bloom is required and if you want your plants to be healthy and to give satisfaction throughout the season. There is no set rule for watering. I can only say this: Do not water too often. Frequent watering is apt to bring on disease and to decay the root. Only water when the surface of the earth has a dry appearance. Give enough water to thoroughly saturate all the soil in the pot.

Three times a week is sufficiently frequent to water plants although, of course, conditions differ. Plants that have lots of sun require more watering than those in the shade, and plants in small pots dry out more rapidly and require to be watered oftener than those in larger pots. In summer one can water every day, but in winter plants do no need the same amount of water for their growth is not so rapid as it would be if they were out in their beds exposed to the hot summer's sun. Do not sprinkle only the surface, but water thoroughly.

After watering do not allow the pots to stand in a saucer full of water. See that this saucer is kept dry as otherwise you are apt to have your plants weakly and unhealthy.

### INSECT TROUBLES

The most frequent insect pest of house plants is the aphis, commonly called green plant-louse. I do not wait for the pests to appear, as once a week I take a whisk and go over each plant carefully, thoroughly sprinkling over and under the leaves. The preparation I use is one cupful of coal oil to a gallon of soapsuds and water. I always keep a supply of this mixture on hand. It is made as follows: A half cake of ordinary washing soap is dissolved in one gallon of boiling water. After cooling one cup of coal oil is added. The mixture is then well stirred.

Examine the leaves of your plants every day. If you find that some are turning yellow and drop off without any apparent reason, you will most likely find that the red spider is the cause. Turn up the leaves and examine them carefully. If any tiny webs show on it, you can be sure the red spider is at work.

Nothing will kill the red spider but moisture. I have had to use a tubful of water and souse the whole plant in it, going over each leaf between thumb and finger, rubbing them gently. Do this three or four times a week until the leaves have lost their yellow appearance and the plant regained its green freshness.

I collect all the tea leaves from the dining table, and once or twice a week, before watering, put them around the plants. I then water through them. This is good for the bloom and it also has a tendency to keep away insects.

### THE BEST LOCATION

Windows facing south or west are the best See that your plants have plenty of sun. As they love sunshine and fresh air give them plenty of both on very mild days. If possible open a door or window at some distance from them and let the colder air from outside mix with the warm air of the room where your plants are, before it reaches them. This is necessary, for, as your room is liable to be pretty warm, a cold draft directly on your plants is likely to chill them or give them a set back from which they may not recover during the season.

### GERANIUM SLIPS

I am often asked about slips from geraniums taken from the garden to pot for the winter as winter plants. If winter bloom is wanted take in the whole plant, as plants that are one year old give much better satisfaction, as they will blossom throughout the winter. If, on the other hand, all that is wanted is for next year's outdoor growth, slips are all that are necessary. These should be kept clipped back and the buds nipped. One or two may be allowed to come to maturity, but no more if you want to have them do well out of doors next year. Plants that have been blooming all winter cannot be expected to do well next summer. All flowering plants must have a rest some time. So keep your whole plant for winter bloom and your slips for next summer.

One can have boxes in the window which will be a delight to the whole house. Such flowers as sweet peas, nasturtiums, dwarf climbing; mignonette, machet or Defiance, with the trailing tradescantia do well in boxes, with ordinary care.

The Far North Western Part of Ontario showed what it can do in the Production of High Grade Potatoes, when it made This Exhibit at the recent Ontario Horticultural Exhibition, in Toronto

# Diseases of Ginseng*

Prof. J. E. Howitt, O. A. C., Guelph, Ont.

GINSENG has been cultivated only during the last twenty or twenty-five years. The early ginseng growers were little troubled by diseases. During the last few years, however, a remarkable development in the number and severity of ginseng diseases has taken place. There are now recorded some fifteen more or less serious diseases of ginseng. Now, much of the success of the ginseng grower depends upon his ability to prevent disease.

In Ontario there are four serious diseases of ginseng, namely, blight or alternario blight, rust, fibre rot or end rot, damping off of seedlings and wet rot. All these diseases, except the last named, are fungus diseases, that is they are caused by minute plants termed fungi, which live upon the ginseng plants and obtain their food from them. In so doing they injure the ginseng plants and produce disease. The question is often asked, from whence come all these fungus diseases, and why have they become so serious to cultivated ginseng. This question is best answered by comparing the conditions under which ginseng grows wild and the conditions under which it is grown in cultivation.

### NATURAL CONDITIONS

Ginseng is found growing wild in rich, moist, well drained soils of hillsides and ravines covered by deciduous trees where each fall it receives an abundant mulch of forest leaves. In cultivation the ginseng plants are crowded together; very frequently the ginseng beds are not properly underdrained and too often the soil is improperly fertilized so that it loses the acid condition characteristic of forest soils in which ginseng naturally grows, and becomes alkaline.

From this brief comparison, it is seen that the chief factors which account for the increase and severity of fungus diseases under cultivation are: First, crowding the plants together in the ginseng beds so that the spores of disease-producing fungi are readily dispersed from plant to plant by wind, water and insects. In nature the plants are separated by hills and trees and other plants, so that the fungus spores are not readily distributed from one ginseng plant to another. Second, the lack of proper underdrainage: too often the grower depends upon the natural slope of the land or the character of the soil for drainage, forgetting that in the woods, where ginseng grows wild, the trees pump up from the soil the excess of moisture. Third, the change from an acid to an alkaline condition of the soil, due very often to the application of unsuitable fertilizers.

Prevention is the watchword in dealing with all kinds of fungus diseases. It is, therefore, important that the ginseng growers should endeavor to do away as far as possible with the conditions which under cultivation favor the development and spread of fungus diseases.

Drainage is absolutely essential if the best results are to be obtained. Open drains cannot be depended upon. Ginseng beds should be tile-drained. Three-inch tiles are satisfactory for this purpose; the depth at which these are placed will depend upon the character of the soil. In sandy or gravelly soil they should be placed from three to four feet deep, while in heavy clay soils not more than one and a half or two feet deep.

The lines of tile should be placed from six to eight feet apart and when possible the drains should be placed in the centre of the ginseng beds. Too many growers depend upon the natural slope of the land or the character of the soil for drainage.

### FERTILIZERS FOR GINSENG

Much depends upon the applying and the proper kinds of fertilizers to the ginseng beds. If unsuitable fertilizers are applied, rust or fibre rot soon makes its appearance. Lime and wood ashes were for a number of years frequently used as fertilizers upon ginseng beds. The result was that the soil became alkaline and this alkaline condition favored the growth and development of the fungus which produced rust or fibre rot. Consequently this disease became very serious in ginseng beds which had been fertilized with lime or wood ashes. Lime or wood ashes are not to be recommended as fertilizers for ginseng.

Acid phosphate (treated rock ... bone) is a satisfactory fertilizer for ginseng

*Extract from an address delivered last September before the annual convention of the Ontario Ginseng Growers' Association.

# Best Vegetables for Amateur Gardens*

Prof. A. H. McLennan, O. A. C., Guelph, Ont.

FOR amateur gardens I would recommend the use of the following vegetables:

Asparagus—Conover's Colossal or Argenteuil. Place the rows four feet apart, and the plants eighteen inches in the rows; apply manure liberally after the cutting season (which should end June 25th) and give good cultivation. Cut off the tops in the fall when the berries are red.

Beets—Crosby's Egyptian, for early; Detroit Dark Red for main crop. Sow early seed as soon as ground is fit, rows twelve inches apart; and for main crop about June 1st. Thin where the plants are thick, and use as greens.

Beans—Keeney's Rustless Wax, German Stringless Green, Fordhook Bush Lima, Cranberry Pole.

Carrots—Chantenay. Sow as for beets then thin to two inches apart.

Cabbage—Early Jersey Wakefield or Copenhagen Market for early; Glory of Enkhuizen or Savoy for main crop. For the home garden the Savoy is the finest quality cabbage, but is not as good a keeper. Early cabbage should be started the middle of March. Start late varieties the end of June.

Brussels Sprouts—Improved Dwarf, Darlington.

Cauliflower—Early Erfurt. Treat as for cabbage.

Corn Salad—Grown in late fall in the place of lettuce.

Cress — Extra Curled. Water cress. Water cress must be kept soaked in water.

Celery—Golden Self-Blanching, for fall and early winter; Giant Pascal or Winter Queen for winter use. Start seed in April, transplant once when one inch high, then into the field, rows four feet apart, plants six inches in the rows.

Corn—Early Malakoff, followed by successive sowings every two weeks, of Golden Bantam, Country Gentleman. Plant as soon as danger of frost is over. Although a golden yellow and thus like field corn, Golden Bantam is the finest quality of all the corns. Have rows four feet apart, hills of three stalks eighteen inches apart.

Citron—Colorado Preserving. Sow in hills six to eight feet apart, after all danger of frost is over, then thin to three plants in a hill.

Cucumber—Cumberland for large cucumber, or Perfection White Spine. Chicago Pickling for picklers. Plant in hills four feet each way. It is best to use the indoor method.

EggPlant—Black Beauty. Sow the end the middle of March in hotbeds, and transplant to field when danger of frost is past.

Endive—French Curled and Green Curled.

Kale—Dwarf Erfurt or Dreienbrunnen. Sow as for late cabbage, and plant the same.

Kohl-Rabi—Early White or Purple Vienna. Sow seed early for summer use and again about the middle of June for winter use.

Lettuce—New York Iceberg, Grand Rapids. Sow seed as early as possible, then every three weeks for succession. Thin to three inches, then six, then twelve, to secure good heads.

Musk Melon—Spicy, Osage. These may be grown in a hotbed in pots, and then transplanted, or seed may be sown in enriched soil in hills five to six feet apart after danger of frost.

Leek—Musselburg.

Onions — Yellow Globe Danvers, Southport Yellow Globe, and Southport Red Globe. Sow seed as early as possible in rows twelve inches apart. Use the thinnings as green onions. Thin to three inches for large onions. Start in hotbed and transplant some Spanish as Denia, Allsa Craig or Giant White Leviathan.

Parsnips—Hollow Crown. Sow as early as possible in rows twelve inches apart; thin out to three inches. Leave some of the crop in the ground over winter for early spring use.

Peas—Sutton's Excelsior for medium; and Gradus or Stratagem for late. Sow the early as soon as possible, and the others two weeks later in succession.

Parsley—Triple Curled, XXX.

Potatoes — Early Eureka for early; Green Mountain, or Up-to-Date for late. Use whole two ounce sets. Early potatoes should be placed in a light warm room for three or four weeks before planting so that they will sprout, then take off all but the strongest shoots. They can be placed in the ground as soon as danger of severe frost is over. The late varieties are planted May 24th.

Pumpkin — Connecticut Field. Plant as for citron.

Radish—Scarlet Turnip White Tip, White Icicle. Sow as early as possible in rows twelve inches apart, and follow in succession. For winter use, China Rose or Black Spanish, and sow where early peas were removed.

Rhubarb—Victoria, St. Martin's. Plant four by four feet. Manure liberally in fall and cultivate thoroughly. Break off all seed-stalks as they appear. Have some plants in the cellar in the winter to force.

Salsify—Mammoth Sandwich Island. Handle like parsnips.

Spinach—Victoria. Sow as early as possible; then every month for succession.

Squash—Crookneck or Bush Scallop for summer; Warty Hubbard or Boston Marrow for winter. Plant after danger of frost. Bush varieties four feet apart; others eight feet.

Swiss Chard—Sow early, will produce all season. Outer stems are broken off and used as greens.

Tomatoes—Bonny Best. Sow seed in a hot bed, the first to middle of March. Transplant to open when danger of frost is past.

Turnips—Extra Early Purple Top Milan, Golden Ball, Hazard's Swede. Sow early for summer use, and about the middle of June for late.

Vegetable Marrow—Long White Bush. English Vegetable Marrow. Plant as for cucumbers.

Water Melon — Hungarian Honey, Cole's Early, Harris' Early. These are the most likely to ripen in northern sections. Plant eight feet apart each way.

*Extract from an address delivered before the 1910 convention of the Ontario Horticultural Association.

## Vegetable Jottings

A comparison of the yield of twelve strains of Earliana tomato for two years showed a difference of seven tons per acre. Not only was there a difference in yield, but there was a difference in the character of the fruit. This fact is important from the standpoint of many producers. A corresponding test of Matchless showed a difference of five and seven-tenths tons per acre. In a larger experiment started in 1909 we noted apparent substitution of varieties in several instances. In a variety test of sixty-two so-called varieties we observed the practice of applying a new name to a well known variety.—Prof. C. E. Myers, State College, Pa.

Experiments have shown excellent results from the use of Bug Death in keeping the potatoes free from the ravages of the Colorado beetle. This treatment, however, is considerably more expensive than that in which Paris green is used. Experiments are being conducted with different proportions of lead arsenate, and the results will be published shortly. For the blight it has been found that three treatments with the bordeaux mixture, in which the potato plants were sprayed both above and underneath the leaves, have been about as effectual as six treatments in which the sprayings were all made on the tops of the leaves. As machines are now made for spraying underneath the leaves as well as on the upper surface, we believe that the blight can be controlled much more readily than when the sprayings were all made from above the plants.

# The Canadian Horticulturist

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PETERBORO, ONTARIO

## The Only Horticultural Magazine in the Dominion

OFFICIAL ORGAN OF THE ONTARIO AND QUEBEC FRUIT GROWERS' ASSOCIATIONS

H. BRONSON COWAN, Managing Director

1. The Canadian Horticulturist is published on the 25th day of the month preceding date of issue.

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

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

6. Advertising rates One Dollar an Inch. Copy received up to the 18th. Address all advertising correspondence and copy to our Advertising Manager, Peterboro, Ont.

7. Articles and Illustrations for publication will be thankfully received by the Editor.

CIRCULATION STATEMENT

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

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| January, 1911 | 8,082 |
| February, 1911 | 8,260 |
| March, 1911 | 8,523 |
| April, 1911 | 9,469 |
| May, 1911 | 9,783 |
| June, 1911 | 10,178 |
| July, 1911 | 10,062 |
| August, 1911 | 10,043 |
| September, 1911 | 9,973 |
| October, 1911 | 9,991 |
| November, 1911 | 9,988 |
| December, 1911 | 10,137 |
| Total | 114,489 |

Average each issue in 1907, 6,627
" " " " 1908, 8,695
" " " " 1909, 8,978
" " " " 1910, 9,867
" " " " 1911 9,541

November, 1912 .... .. 11,305

Sworn detailed statements will be mailed upon application.

OUR GUARANTEE

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

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

Communications should be addressed

THE CANADIAN HORTICULTURIST.
PETERBORO, ONT.


# EDITORIAL

## HEATED CARS

During the past few years Canadian fruit growers have won a number of notable victories over the railway companies by laying their complaints before the Dominion Railway Commission. One of the most important yet obtained was made known early in December when the board announced its ruling in regard to the responsibility of the railways in the matter of providing suitably heated cars for the transportation of perishable products such as fruit, vegetables, and flowers in less than car load quantities.

The decision of the board was as follows:

"It is ordered that, until further ordered by the board, upon the receipt of reasonable notice from the shipper or shippers, that such is or are required, railway companies subject to the jurisdiction of the board, operating in eastern Canada, which own refrigerator cars, and according to their respective powers shall furnish to any shipper, or combination of shippers, a heated refrigerator car, or cars, for the carriage, during cold weather, of fruit, vegetables, and eggs in less than carload quantities, the same to be carted by the shipper, and loaded in the car by the shipper or shippers, in the order in which the shipments are to be unloaded. Provided that under this order the carrier be not required to accept shipments necessitating more than five openings of any such car for unloading purposes, to furnish heated cars for transhipment from the original car for destinations off the route of the said car; to accept less than a total weight of 12,000 pounds in any such car, or a less aggregate amount in freight car charges than for 12,000 pounds distributed pro ratably over the various shipments in any car; to accept such shipments unless the freight charges are prepaid, and to assume liability for loss or damage to the property by frost, while in the car, if caused by the opening of the car for loading or unloading purposes, or after it has been unloaded from the car."

While the ruling may not be all that may be desired it is a notable one, and the representatives of the growers may well take heart and press on for the numerous other improvements in shipping facilities that are still needed

## PACKING SCHOOLS

One of the most successful lines of work that has been conducted by the British Columbia Government on behalf of the fruit growers of that province has been the holding of regular packing schools in different parts of the province during the past few years. The Department of Agriculture provides the instructor and pays his expenses. It also bears the cost of the packing paper, the fruit, and all other legitimate expenses.

The instructor takes with him the necessary packing tables and fruit paper and conducts classes wherever application is made for them by responsible organizations which in each case are required to guarantee a minimum of twelve pupils at a fee of three dollars each. The packing schools extend over a week. A series of twelve lessons of two and a half hours each are given. The local organization is required to provide a hall and to heat and light it. Pupils who gain a score of seventy-five per cent. for efficiency in the packing school and who put up a creditable pack for the department prizes the following year are given a diploma by the department.

Not enough attention has been given to this line of work by the Ontario and Nova Scotia provincial governments. It is true that the box packing of apples is not as necessary in the east as it is in the west, but this system of packing has great possibilities, and no better way of encouraging it could be adopted than by providing instruction of this character.

## A NEW SPIRIT ABROAD

The mail that reaches our desk from month to month furnishes excellent evidence of the rising tide of public opinion in the matter of civic improvement. A few years ago the number of people in Canada who were doing active public service towards civic beautification was almost negligible. Year by year this number has increased. Our Canadian clubs and other similar organizations are now quick to invite speakers, who are recognized authorities on this subject, to address their meetings. The daily papers and magazines throughout the country are devoting an increasing proportion of their space to the advocacy of proper town planning. This includes the laying out of parks and driveways on a systematic basis that will provide for the future development of their municipalities.

It is not long since a landscape architect was considered a good deal of a curiosity of unusual hardihood. There was a general feeling that such an individual was ahead of the times. Almost all our leading nursery firms now have expert landscape architects connected with their staffs and they are devoting an increasing proportion of their acreages to the culture of ornamental trees and shrubs. In doing this they are only endeavoring to keep abreast of the increasing demand, on the part of towns and cities, for nursery stock of this character.

All this indicates that Canada is passing out of the pioneer stages of civilization into a period of greater culture and refinement. More and more readers of The Canadian Horticulturist are asking us to furnish information on this subject During the present year we purpose complying with this demand as far as our space permits. Our horticultural societies which have done much to bring about this change in public opinion are now confronted with the responsibility for directing this new and growing movement along right lines.

The returns of the recent Ontario Horticultural Exhibition held in Toronto show that the gate receipts, although the exhibition was conducted on the grounds of the Canadian National Exhibition, were twenty per cent. greater than those of the year previous. This demonstrates that the public will attend a horticultural exhibition held elsewhere than in the centre of the city and justifies the action the directors have taken in making application for the use of the new government building, a larger building than the one used last fall, for the purposes of this year exhibition. With the location of the exhibition permanently secured and ample space for

future development provided this year's horticultural exhibition should be far and away ahead of anything eastern Canada has yet seen. A great effort should be made to obtain carload exhibits of apples and thus pave the way for the holding of a national apple show in the near future.

## PUBLISHER'S DESK

The apples shown on the front cover of this issue of The Canadian Horticulturist were a portion of the 1912 crop of Mr. R. R. Sloan of Porter's Hill, Huron Co. They were Northern Spys and were grown on trees twenty years of age. The orchard was sprayed thoroughly three times with lime-sulphur solution and arsenate of lead.

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So much interest was taken by the readers of The Canadian Horticulturist last year, in the series of articles we published describing Canadian gardens, arrangements have been made for the publication this year of a similar series. Most of the gardens that will be described will be those of amateurs, like the garden of Mr. Ellis, described in this issue. We will, however, publish descriptions of two or three gardens on some of the large estates which are now becoming numerous in Canada. Some of these estates have features that will compare favorably with those that are to be found anywhere in the world. Illustrated descriptions of them we believe will be of great interest to many of our readers.

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In this issue appears the first of a series of articles dealing with the growing of flowers by amateurs that are to be contributed during the next few months by Mr. R. S. Rose, of Peterboro, whose garden was described in one of the summer issues of The Canadian Horticulturist last season. Mr. Rose has met with unusual success with gardens he has conducted in Westmount, Quebec, as well as in Peterboro. His articles will be of special helpfulness to the average amateur flower grower.

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The enormous purchasing power of the thousands of fruit growers who read The Canadian Horticulturist, is becoming better appreciated by the large Canadian concerns which cater to that trade. Never in the history of The Canadian Horticulturist have we received as many large advertising contracts from firms looking for business in this field as we have during the past few months. Not only have firms which have been doing business with us for years greatly increased their advertising space, but other large firms, which have never hitherto sought the trade of the fruit growers, have contracted for considerable advertising space with the intention of entering into business relations with the fruit growers. The Sherwin-Williams Co., of Montreal, have recently contracted for liberal space in which to advertise their arsenate of lead. The Petrie Mfg. Co. of Hamilton, is seeking to introduce their spraying machines, as is the Fruit Machinery Co., of Ingersoll. Other similar firms might be mentioned. These and many other firms realize that there is no better medium in Canada for reaching the fruit growers than The Canadian Horticulturist.

# Ontario Horticultural Association Convention

Lack of space prevented the completion in the last issue of THE CANADIAN HORTICULTURIST of the report of the annual convention of the Ontario Horticultural Association, held in Toronto in November. An address that was much appreciated was given by Prof. H. L. Hutt, of the O A C, on English gardens. These remarks were illustrated by a number of fine views.

Two excellent papers, one dealing with "Continuity of Bloom in Small Gardens," by Mr. W. T. Macoun, of the Central Experimental Farm, and the other with the cultivation of strawberries, by W. A. Dier, of Ottawa, were unusually interesting.

Mr. R. B. Whyte, of Ottawa, gave an address on the successful growing of perennials from seed under ordinary conditions.

For planting, the soil must be very fine, and the sowing must be done early. "I plant in drills, like carrots," said Mr. Whyte, "and put my drills from six to eight inches apart. The seeds I put about one or two inches apart and in depth according to the size of the seed. After planting, I use a common hoe and pack the earth down quite hard. It is very essential that the earth come in close contact with the seeds.

"Until the plants have appeared above the surface, the earth must never be dry. Shade the bed with cheesecloth or straw. Keep clear of weeds all season by persistent working of the soil around the plants. I always try to transplant in September, on a wet day if possible. After setting out the plants should be carefully shaded until they have taken hold. In this connection I may say that I consider fall transplanting better than that done in the spring."

### THE HOLDING OF EXHIBITIONS

An interesting report was given by Mr. W. B. Burgoyne, of St. Catharines, on the success that has attended the efforts of his local horticultural society in the holding of horticultural exhibitions. Much of the success of the St. Catharines Society is due to the summer exhibitions that have been a feature of its work for several years as well as to the large fruit, flower and vegetable show that is open to competition for the Niagara District and which is held in September each year.

The report of the Nomenclature Committee, as presented by Jno. Cavers, of Oakville included a list of twenty-five words the pronunciation of which is often confusing, due to the fact that different pronunciations of these words are in general use. The committee recommended for adoption certain pronunciations given in the report.

It was decided to amalgamate the Nomenclature and Varieties Committees in a committee to be known as the Names and Varieties Committee. This committee will consist of W. T. Macoun and F. E. Buck of the Central Experimental Farm, Ottawa, Prof. H. L. Hutt and Wm. Hunt, of the O.A.C., Guelph; H. J. Moore, of the Queen Victoria Park, Niagara Falls; and Roderick Cameron, of Toronto. During the convention Mr. W. T. Macoun, of the Experimental Farm, Ottawa, made the important announcement that he intends to establish on the farm the most extensive trial grounds in the world for several different standard varieties of flowers. It is hoped that arrangements can be made through the Names and Varieties Committee to have similar work undertaken, to some extent at least, with other varieties of flowers at Queen Victoria Park and at the Guelph Agricultural College. In this way it will become possible to obtain reliable information at all times concerning these different varieties of flowers from these trial grounds.

Mr. F. E. Buck, of the Experimental Farm, Ottawa, gave an interesting talk on perennials.

### THE BILL BOARD NUISANCE

A lively discussion took place in regard to the bill board nuisance. The Clinton Society reported that it has succeeded in having this nuisance abolished in Clinton. The delegate of this society who was present stated that this had been accomplished by calling on the parties who owned the vacant lots on which the bill boards were displayed and inducing them to refuse to allow the bill boards to appear there any longer.

The discussion showed that delegates from many other points desired to abolish bill boards, but that their efforts to do so had not been successful owing in part to the fact that there is no provincial law giving municipalities the power to prevent the use of bill boards. It was recommended that that association should cooperate with the Ontario Municipal Association in an effort to gain such legislation, but the discussion ended without any decision being reached.

### AN ENJOYABLE FUNCTION

An enjoyable feature of the convention was a reception tendered the visiting delegates by the officers nd members of the Toronto Horticultural Society. The reception hall was nicely decorated for the occasion, the chair being occupied by the president of the Toronto Society, Mr. D. A. Dunlap. President Falconer, of Toronto University, pointed out that Canada being a new country has much to learn from England in the matter of parks and the beautification of cities and private residences. As a means of arousing greater interest as well as setting an example in this direction he suggested that the railways should do more than they have to beautify their stations, that cities should expend larger sums on their parks, and that in Toronto a zoological garden should be established.

Mr. P. W. Ellis, of Toronto, a member of the Queen Victoria Park Commission at Niagara Falls, gave an interesting description of the development of that park as well as of plans for its future. He looked forward to the time when the park would be so noted for its beauty at those seasons when certain varieties of flowers are in bloom that excursions will be run to the park at low rates from western Ontario points at least to permit the public to derive greater benefit from the park. Mr. I. E. Atkinson and the past president of the society, Mr. W. G. MacKendrick, also spoke. Refreshments were served. The convention was one of the most successful in the history of the association, and contained promise of better conventions to come.

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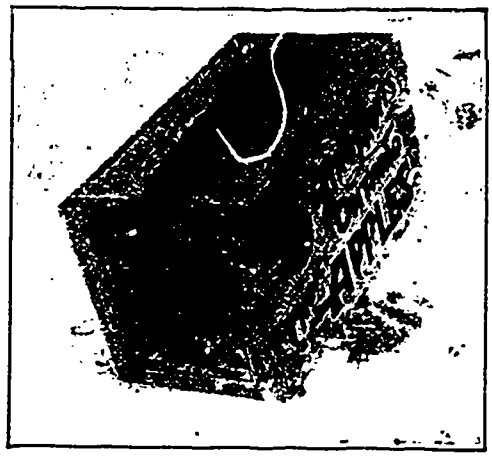
The high standing of the Wenatchee Valley apples in the Old Country markets was shown recently by an advertisement which reached The Canadian Horticulturist in which an apple dealer of Covent Garden, London, England, was offering five thousand five hundred boxes of these apples at a sale, which commenced on Monday, October 7th, in wholesale lots of not less than one hundred boxes at the rate of two dollars and eighty-five cents to three dollars and sixty cents a box for four tier boxes.

# A New Style Apple Box

Alexander C. Biggs, Burlington, Ont.

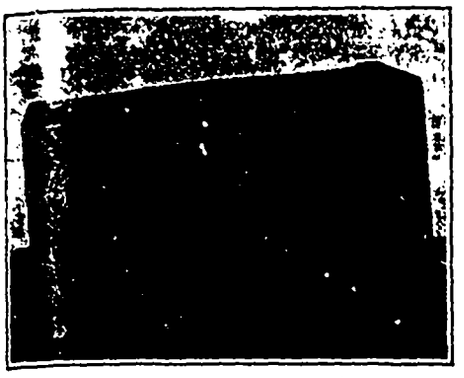
As we have been using an apple box for several years with very good success and of an entirely different construction from those in general use, I thought perhaps it might interest your readers to know something about them. Some years ago when that good, sensible idea of packing apples in boxes was introduced and encouraged in this country the writer was very much impressed with the many good points in its favor, and immediately adopted the plan of packing No. 1 quality in this package and the No. 2 quality in barrels.

After a few seasons' use I found that we had considerable breakage in these boxes through the handling of them in transportation, and as a consequence, loss en route. This was caused partially by imperfect end boards and the outward pressure from the bulge, and also the rough handling to which they are subjected in forwarding; thus the suggestion came to improve the package, and this we have done in a very simple manner, which I shall explain, but before doing so I will say that the inside measurement of our box is 11 inches wide, 10 inches deep and 20 inches long, and contains a government standard bushel. The change of the construction relates chiefly to the ends of the boxes, which instead of being the ordinary size, we make them 11x12 inches, the grain running lengthwise and quite opposite to the ordinary box. We nail our sides, which are 11½ inches wide, lengthwise on the ends, allowing them to project one-quarter inch beyond the sides; these should be nailed firmly with at least six or seven stout box nails (1¼-inch coated) at each corner. The tops and bottoms are the same, practically the same size as the inside measurement of the box, 11x20 inches, but we make them about one-eighth inch shorter and narrower, so that they will drop inside the four walls easily. (I am speaking now of seasoned stock.) The cleats are ½x⅝x10½ inches and we nail one of these on each end board, across the grain of the wood, before nailing on the sides, so that when you have nailed your sides your box is ready for packing, with the exception of dropping in your top or bottom, which will rest on the cleats, these we do not nail, as the fruit in the package holds them firm on the inside and the cleats on the outside, thus allowing perfect freedom for the bulge and also contraction as required by the shrinking of the fruit. The packing of the fruit is proceeded with just the same as in any ordinary box with this exception, that the ordinary box requires very exact packing, while this package one-quarter inch may be permitted without any doubt of a tight pack for the simple reason that the cover is wedged in the four walls of the box and is applied and pressed direct to the fruit, using a corrugated cap between, and when the press is on the two remaining cleats are nailed across the ends either on the one-half inch or five-eighths inch side, as the fruit may require: this box is then complete.



The Biggs Apple Box—End View, Width 11 in

The utility points of this package are as follows: Strength and Durability- This is perhaps the chief requirement in any fruit package, and will necessitate one to be sufficiently strong to withstand the rough handling to which they are usually subjected in the course of transportation. The apple case has been thoroughly tested and upon examination of its firm and simple construction it will readily be conceded that have the strength and durability that will stand the strain or test. Protection to Bulges—To all growers and packers accustomed to the usual box for shipping the first-class fruit the protection of this bulging portion of package is highly important, for the simple reason that no matter how carefully the fruit may be packed or how snugly the case may be put together unless this part be protected from the weight of the other packages when piled during transportation the fruit inside will be more or less bruised and destroyed. The bulge is securely protected in our package. Protection of cleats—The cleats used on this case, which are nailed across the ends



The Bigga Apple Box, Side View Showing Bulge

at right angles, thus securely preventing the ends from splitting, are placed inside and below the projecting ends, which effectually protects them from displacement, and thus ensures the safety of the package during transportation. Safety in Handling—The projection of the ends afford excellent handles for the purpose of removing, piling, etc., during transportation, and is commendable in itself as a protection against breakages by handling. Ease of Access—One small cleat removed and the package is open for inspection, and the cover is as easily replaced without breakage. Ventilation—The projection of the ends prevents close piling in either car or steamship, thus affording ample ventilation during transportation. Adaptability of the Package to the Fruit—By the adjustment of the cleats in their respective positions the operator, when placing on the cover, is enabled to pack to the fruit, as the cover fits in between the four walls of the package, and when pressed and held in place by cleats secures the fruit very firm, and consequently does not depend upon exact packing for a snug box. The package is not patented and therefore can be used by anyone, and we herewith give dimensions of stock:

| | *Width inches* | *Length inches* | *Thickness inches* |
|---|---|---|---|
| Ends ..... | 11 | 12 | 7/8 |
| Sides ..... | 11½ | 21¾ | 3/8 |
| Tops and bottoms. | 10⅞ | 19⅞ | ¼ |
| Cleats ..... | ⅝ | 10½ | ½ |

## San Jose Scale in Nova Scotia

**S. C. Parker, President N. S. Fruit Growers' Association**

The editorial in the November issue of The Canadian Horticulturist gives a fair statement of the situation in this province. Your conclusions, however, do not agree with the ideas of the fruit interests here. The Nova Scotia Government, backed unanimously by the fruit men, are prepared to go to any extremes to eradicate the scale if possible and provide against its further spread.

There is no panic but a straight business proposition on the part of all interested to cut out this scourge in the beginning, if effort and money will do it. Our Ontario friends, who have supplied us with one hundred and fifty thousand trees annually for the past few years, assure us that the scale is easily kept in check by dormant spraying, that it is a "blessing in disguise," etc. However, this is one of the blessings that we would like to be spared, and are perfectly willing for Ontario to enjoy alone, rather than share with us. The fruit men are practically unanimous in agreeing to cease planting for a few years, if necessary, till we see where we are at. We have been living in a fools paradise, buying largely

from Ontario nurserymen, depending on local inspection and fumigation, and we find that criminal negligence and carelessness have been the result. For instance, a Nova Scotia buyer in a large Ontario yard selecting trees, heard orders given by the manager to fumigate a lot of stock in a "box car!'

Of some one hundred and fifty thousand trees from Ontario nurseries received here this spring about twenty-five per cent. had scale on them—some liberally encrusted. To be sure most of the scale was dead, but we do not propose to pay for any more apple trees from Ontario or anywhere else with scale on them, dead or alive. The "blessing" will have to be disguised more carefully in the future before it will pass current here. The "three large nurseries that furnished ninety-eight per cent. of the stock planted in Nova Scotia," must get busy and clean up the stuff before any more of it comes this way. We want the trees, and are willing to pay the price, but we do not want any "blessings" thrown in. While they are cleaning up we will mark time and take stock, incidentally doing a little in the nursery business on our own account.

Early in 1912, while pursuing Brown Tail Moth, Mr. Saunders found live San Jose Scale on apple trees brought from Ontario in 1911. One blessing—not in disguise—we have in Nova Scotia is a live Secretary of Agriculture. There was something doing in horticultural lines almost immediately. Secretary Cumming soon had a good staff at work running down the trees planted in 1911. The inspectors soon found that 1910 plantings were also infested, and 1912 plantings were "lousy."

As fast as competent men could be obtained they were put into the field, and spent the summer in hard work. The net results are eight hundred and fifty trees found infested with live scale, torn out and burned root and branch. Mr. Saunders, who has had charge of the field operations, is sanguine that in two or three years the scale can be exterminated, and every fruit grower is willing and anxious to give him a chance to try.

The Provincial Government, on petition of the Fruit Growers' Association, took power last session to make regulations by Order in Council, to control the San Jose Scale and other insect pests.

The Order in Council, as promulgated on October 25th, 1912, provides that all nursery stock coming into the Province shall pass through either Middleton or Truro as ports of entry, and no imported nursery stock will be delivered to any importer or consignee within the Province of Nova Scotia unless the same is accompanied by a certificate signed by the Provincial Entomologist or other authorized Government officer, that the nursery or other premises on which the same was grown was inspected between the fifteenth day of June and the fifteenth day of September next preceding the shipment thereof, and that said nursery or other premises were found to be apparently free from San Jose Scale.

The Regulations as promulgated, are drastic and will mean prohibition to trees from Ontario during the coming season at least.

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I appreciate The Canadian Horticulturist very much. Your efforts to place practical information for the fruit grower, gardener and florist entitle you to the increasing patronage you are receiving.—R. Elliott, Brantford, Ont.

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If you don't see it advertised ask us.

## Fruit Combine in the West

Replying recently to the charges that combine exists among the fruit dealers of the prairie provinces, Mr. W. H. Bunting of St. Catharines, stated that the charge was only partly true. In Winnipeg the combine had been broken by the St Catharines fruit growers.

"Some years ago," said Mr. Bunting, "an attempt was made by American firms to buy up all the wholesale fruit houses in the west. They succeeded in establishing a chain of houses under their control throughout the west. Their object was to control the buying and selling through the western provinces, to prevent others from gaining a foothold. About three years ago, when affairs became so strenuous in Winnipeg that purchasers were at the mercy of the combine, the growers in the St Catharines Cold Storage Company established the wholesale firm of the McNaughton Fruit Exchange at Winnipeg. Thither the Ontario fruit was shipped. It was sold by auction to the consumer, with the result that people bought direct and prices began to drop. Since then several hundred carloads of Niagara district fruit have been sent to Winnipeg. Last fall two or three carloads were shipped daily, and the combine in Winnipeg was completely broken.

"High freight rates west of Winnipeg have militated against eastern growers fighting the combine in Calgary, Edmonton and other cities. It costs twice as much to ship from Winnipeg to Calgary, a distance of eight hundred miles, as it does to ship from St. Catharines to Winnipeg, a distance of one thousand miles. We are fighting for lower rates, and hope soon to have them reduced. The Railway Commission has asked the C.P.R. to give reasons why the rates should not be reduced. As soon as the rates are reduced to Alberta and Saskatchewan eastern growers will attempt to break the combine's high-handed work west of Winnipeg."

THE WEST ACTIVE

"In the meantime, as far as the more western points are concerned, such as Calgary, Regina, Moosejaw and Edmonton, British Columbia growers through the medium of the Vernon Fruit Exchange, have been working along the same line as we have in the east in a determined effort to place British Columbia fruit in the prairie cities independent of the organization which attempted to corrall the trade. The Vernon association has met with very good success and is I believe now on a satisfactory footing and promises to be of great value to British Columbia growers."

## Items of Interest

Cherry Lane, a beautiful avenue leading from the roadway to Brown Bros.' Nursery offices at Fonthill, Ont., has long been admired for its beauty. It is bordered on either side by cherry trees, one row on each side. The product from these trees this year was 1800 baskets, all of which were sold to the Pelham Canning Company. The price reached over $1,800. The product was the finest grown in the township.

Quite a number of the orchard owners in the Meaford district, Ontario, have commenced setting out plantations of peaches. Several have put out twenty to forty trees, and some have gone as high as two hundred. The varieties selected are for the most part Triumph, Carmen, Fitzgerald, Elberta and Crawford.

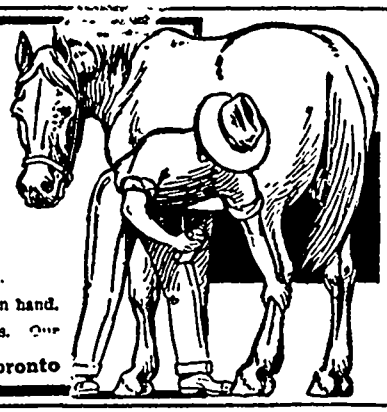
Rev. W. M. Viney, of St. Catharines, succeeded last year in growing a cotton plant from seed sown in the parsonage garden.

The seed was not sown until June. It produced a large plant that blossomed freely, and developed thirty-four immature bolls. Had the seed been planted about the first of May it is probable that the bolls would have matured.

On exhibition in the show window of Messrs A. F. Ross & Co's grocery store, in Truro, N. S., recently, was a part of a barrel of apples which, for quality were certainly not what they were bought for, which was No 1 Gravensteins. Many of the apples were undersized, irregular in shape, and partly eaten by worms. Altogether they were a disgrace to any packer of fruit. On the head of the barrel was stencilled the name of the packer, with the words, "No. 1 Gravensteins."

Prof. E. R. Lake, who succeeds the late Prof. John Craig, of Cornell University, as secretary of the American Pomological Society, is Assistant Pomologist at Washington. He has had an extended experience in Michigan and the Pacific Coast, where he has taught in the agricultural colleges of Oregon and Washington for many years, besides having been actively engaged in orcharding. His friends in British Columbia will be pleased to hear of his appointment to this position.

Advices received by the trade and commerce department at Ottawa, show that there will be a good market in Germany for Canadian apples. Last year some one hundred and twenty thousand barrels were received at Hamburg, and the conditions warrant the expectation that the demand will be fully equal to that of last year. Three large importers in Hamburg are anxious to ascertain if they can possibly obtain a quantity of the same variety of apples of from five hundred to one thousand barrels put up by the same packer under





the same brand which would become known and appreciated for reliability.

Mr. Gordon Bunting, son of Mr W. H. Bunting, the well known fruit grower, of St. Catharines, who has been chief assistant to Mr. W. T. Macoun, Dominion Horticulturist at the Experimental Farm, Ottawa, has been appointed Professor of Horticulture at Macdonald College, Quebec. He takes the place of Prof. W. S. Blair, who goes to Kentville, N. S. Prof. Bunting is the youngest professor in the McGill faculty, Macdonald College being affiliated with McGill. He is twenty-six years of age, but has had an unusually wide experience.

An experiment conducted by J. Thorne Baker, a scientific expert of London, Eng., to ripen unripe peaches by the application of electricity, is reported to have been successful. A peach was charged with electricity and on being examined later, was found to have ripened to the stone. Further improvements are being made in the apparatus that was used, with the object of developing an instrument that hotels and fruiterers will be able to use to ripen partially green fruit.

The Canadian Horticulturist has recently received two extremely valuable publications. One is a book entitled "The Potato" *its authors being Eugene H. Grubb*, and W. S. Guilford, two noted United States authorities. It comprises some five hundred and fifty pages, and is devoted entirely to subjects pertaining to the culture of potatoes. It is published by the Musson Book Co., Limited, of Toronto, and retails at $2. It is said to be the most complete, final and authoritive work on the potato ever issued. The second publication is entitled "Michigan Bird Life," and is by Walter Bradford Barrows, of the Michigan Agricultural College. It contains several hundred pages, and is profusely illustrated. Practically all the known birds of the continent are described fully. Any student of bird life will find this volume a treasure.

Out of one million two hundred thousand peach trees in the Niagara District, Prof. L. Caesar of the O.A.C., Guelph, estimates that over fifty thousand last year showed symptoms of Yellows or Little Peach and ought to be removed. Probably nine-tenths of the diseased trees will be found in about thirty-five orchards. These orchards are not confined to any one district, but are pretty well distributed, though three or four of the worst diseased orchards are usually found close together. Prof. Caesar states that the cause of the diseases is as yet unknown.

## Nova Scotia

The fruit growers of the Valley are thoroughly aroused to their danger from the San Jose Scale, and their resolution passed by the meeting at Kentville, on October 24th, caused the Government to immediately get into action. The new regulations passed by Order in Council on October 8th are sweeping in character, and while somewhat in the nature of a locked stable door after the hen roost has been raided, will prevent any further importation of trees covered with dead or living scale.

Briefly the new law is as follows. All nurseries in districts where San Jose Scale is known to exist, must have a yearly inspection and certificate from the Department of Agriculture of their apparent freedom from scale. All trees imported into the province must have this certificate attached, and come through either by Middleton or Digby, where they will be re-examined and fumigated. Any stock found

# For Nothing You may Have this Spramotor—

**If you can find a spraying outfit of another make that represents the same dollar-for-dollar value.**

THAT'S a **strong** statement to print but we are **prepared to make good—**

Because we know what the "next best machines" on the market are like—

Know definitely that your own fair judgment will pronounce this Spramotor to be **the best spraying apparatus** ever offered the public at the price.

There isn't an extra bolt or nut about

## The Model "C" Spramotor

yet, it has every **practical** feature making for

**—economy in operation**
**—maximum efficiency**
**—and durability**

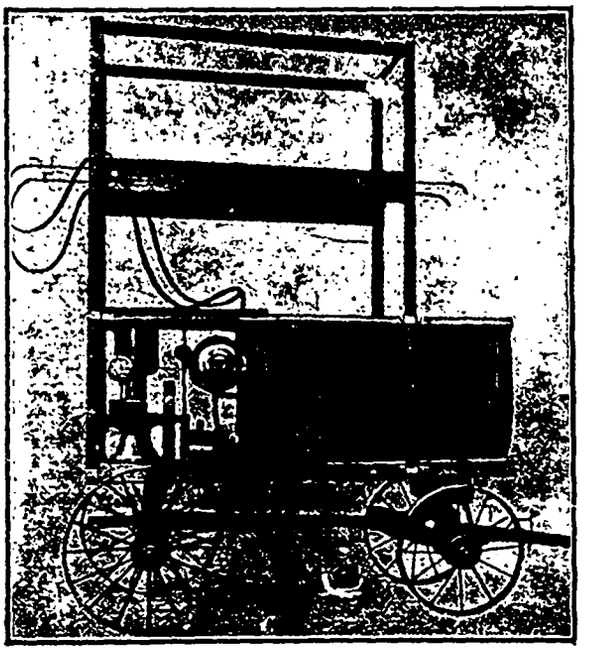
But, don't take our word for it—

**Examine** other machines called "just as good" sold at about the same price.

Take the specifications here shown, study them carefully—

Then—**apply** them to the "just as good" machines.

Finally the **outstanding** characteristics—the **exclusive patented features** of the **Model C Spramotor** will **compel** you to pronounce judgment in its favor—For the simple reason that **the sum** of these essentials **cannot** be found in any other sprayer.



### Specifications of the Model "C" Spramotor

**Bed**—4 inch Laminated Maple and Pine, securely bolted together and to the tank, making a perfectly rigid unit, sides cut away for short turning.

**Tank**—11 clear Cypress, curved and dowelled staves, ends and top tongue and grooved, preventing dust.

**Caboose**—Entirely covering Engine and Pumper; with oak frame, metal cased doors.

**Derrick**—Of best straight-grain, clear wood, tongue and grooved floor. In six pieces. Large enough for two men to operate Can be removed in one minute.

**Engine**—2½ H.P., 500 R.P.M. Upright Hopper Cooled; simple and effective. Controls gas supply and spark.

**Motor** All Brass, Individual Ball Valves, with Patent Cages. Automatic Compensating Plunger Entire Pump and Connections of Brass. Renewable Plunger Tube.

**Suction Control**—3-Way Brass Cock at Tank Outlet, with index lever to charge air tank with compressed air, to drain out tank or shut off supply to motor at will.

**Pressure Regulator**—Automatic; regulating pressure by stopping pump, engine runs idle. Only pumps up required pressure; no loss through leaky safety valve. Steady pressure, from 175 to 200 or over, as desired. Runs in oil; no attention required.

**Clutch Control**—Operator can lock out clutch, and start engine without load.

**Agitator**—Rotary from Engine, operates when motor is idle. Detachable through brass plug in front end of tank. Keeps suction screen swept clean.

**Pressure Tank**—12 gals. capacity Of galvanized steel. When filled with compressed air forms a complete cushion for motor, and prolongs life of machine.

**By-Pass and Emergency Valve**—Into top of tank, locked to desired pressure; preventing, in case of accident, excessive pressure developing. Operates only at 50 lbs. greater pressure than Automatic regulator.

**Hopper Screen**—Holding two pails, with brass screen and wooden frame, fitting into opening in tank.

**Tank Filler**—Operated by Spramotor, will fill tank with water in ten minutes, transfer mixtures and lift water 30 ft

**N.B.—There's a Spramotor specifically built to suit your spraying needs whatever they may be. Write for Catalogue.**

# SPRAMOTOR LIMITED

**LONDON - - - ONTARIO**

have San Jose Scale, living or dead, upon it, as well as any other injurious insect named in the Injurious Insect, Pest and *Plant Disease Act of 1911, will be destroyed* or shipped out of the province at the expense of the consignee.

Sixty per cent. of this year's imported stock from Ontario and Quebec had some examples of scale, dead or alive. The nurseryman who knowingly sends infected stock into a district free from that pest, ought to have some greater punishment than merely losing his market. The industry of a great country is imperilled that a few men may for the time being grasp a few more dollars.

A feature of the work of the United Fruit Companies has been the large market found in Montreal for our No. threes. Owing to the late growth of fungus or black spot, a large proportion of our Gravensteins had to be marked No. three, as the companies allowed only clean apples to be packed in their Nos. one and two grades

These were large well-formed apples, but when spotted, Gravensteins begin to decay very quickly, so it is necessary to find a near-by market.

A few cars were sent to Montreal, and as a fine cooking apple their value was at once recognized by the pedlar trade. Word came back for more, and in all about nine thousand barrels of No. three Gravensteins alone were marketed in that city, at a little over one dollar a barrel net. One of the strong features of the companies is the pushing of our fruit in new markets. They have shipped to date one hundred and fifty-five thousand barrels, of which fifty thousand were placed in Canada and Newfoundland Their pack is giving universal satisfaction—M. K. E.

## Ontario Fruit Growers' Convention

At the recent convention in Toronto of the Ontario Fruit Growers' Association, P. E. Angle, B. S. A., Simcoe, Ont., one of the largest apple planters in Ontario, described his method of laying out the orchard and setting the trees. He strongly recommended the use of a wire stretched *from end to end of the field in order to* get the rows straight and the trees evenly spaced in the row.

Prof. J. W. Crow, in his address on "The Selection of Nursery Stock" strongly advocated the low headed tree. He did not see what use a tree had of more than twelve inches of a trunk or eighteen inches at the outside. It is difficult, however, to buy such a low headed tree from nurserymen, so the speaker advocated the buying of one-year-old, unbranched trees. The grower can then make a head to suit himself. Prof. Crow believes it would be a desirable improvement if nurserymen headed all of their trees low, then those who wanted high heads would have only to cut off the lower branches. Mr. E. D. Smith, speaking for the nurserymen, said that they would just as soon sell low headed as high headed trees, but that they had to give what the public demanded, and as yet public opinion had not been educated to appreciate the low headed tree.

### BEST SIX VARIETIES

"What Six Varieties Shall We Plant for Profit" was discussed by a number of experts with the various fruits. In apples, J. R. Anderson, M.L.A., Lucknow, recommended Wealthy, Snow or McIntosh, King, Golden Russet, Baldwin, Spy. Much adverse opinion was expressed regarding this list, most of those present thinking that

King and Russet should be eliminated. In peaches, Wm Armstrong, Queenston, advised St. John, New Prolific, Fitzgerald, Elberta. In pears, M. C. Smith, Burlington, recommended Bartlett, Kieffer, Duchess, Anjou, Box and Clapp. For plums, W. R. Dewar, Fruitland, mentioned Burbank, Bradshaw, Riene Claude, Lombard, Monarch and Shropshire Damson. In grapes, F. G. Stewart, Homer, recommended Concord, Worden, Niagara, Moore's Early, Vergennes, Agawam. For strawberries, Mr. W. T. Macoun, Dominion Horticulturist, Ottawa, recommended Bederwood, Splendid, Warfield, Senator Dunlap, Sample, Buster and Parson's Beauty.

In speaking on "Cultural Methods," Prof. J. P. Stewart averaged the results of one experiment as follows: Apple orchards in sod, 190.2 bushels an acre; mulched, 266.4 bushels; treated with phosphates and potash, 277.6 bushels; with cover crop, 312.9 bushels; nitrogen and potash, 542 bushels; barnyard manure, 637 bushsls. In a second experiment barnyard manure was added in all cases Where a cover crop was sown the yield was 109 bushels an acre; with clean tillage, 145.1 bushels; mulching, 126 bushels. and where the manure was applied directly on the sod, 137.1 bushels an acre. Commercial fertilizers were applied on another four plots. In this experiment the yield on sod was 115.9 bushels; with cover crops, 127.6 bushels; mulching, 129.3 bushels; and with clean tillage, 133.4 bushels.

### PEACH DISEASES

On the final morning of the convention, Prof. L. Caesar reported on his investigation on Little Peach and Peach Yellows. This address will be dealt with more fully in a future issue.

The list of resolutions approved of was an unusually small one: The committee on resolutions expressed approval of the action of the Provincial Minister of Agriculture in appointing an Ontario Fruit Commissioner in the west; expressed appreciation of the work of Prof. Caesar; the Dominion Minister of Agriculture was thanked for increasing the number of fruit inspectors; the Provincial Department of Agriculture was asked to take over the appointment and payment of inspectors of insect and fungus pests, this being now in the hands of local municipalities; appreciation was expressed of the work of Transport Officer McIntosh, and it was suggested that his work be made to cover the promotion of cooperation as well. A cordial vote of thanks to Prof. Stewart was added.

### DIRECTORS

The following were elected directors: R. B. Whyte, Ottawa; C. W. Beaven, Prescott; W. H. Dempsey, Trenton; Wm. Stainton, Oshawa; W. J. Bragg, Bowmanville; H. T. Foster, Burlington; J. W. Smith, Winona; R. Thompson, St. Catharines; Jos. Gilbertson, Simcoe; D. Johnson, Forest; R. R. Sloan, Porter's Hill; F. M. Lewis, Burford; W. J. Saunders, East Linton.

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The twenty-third annual meeting of the British Columbia Fruit Growers' Association will be held at Victoria, January 6th, 7th, and 8th. The association will have a year of good progress to report. The membership will reach nearly eight hundred, and there are sixteen affiliated associations, these being all the fruit growers' associations of the province.

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I find The Canadian Horticulturist ever growing better. Its columns are continually full of useful information.—J. L. Mitchener, Vankleek Hill, Ont.

# Jordan Harbor Station Needs Improvement

Editor, The Canadian Horticulturist,—Allow me to commend the editorial which appears in your October issue relative to the Jordan Harbor (Ont.) Fruit Experiment Station. Both as a Canadian engaged in professional horticultural work in the United States and as a property holder in the Niagara district, I have watched, at first with hopeful interest, but latterly with keen disappointment, the failure of this institution to produce results of value to the fruit growers of the province or of scientific interest to those engaged in agricultural research and education. Your comment on the situation, therefore, meets my hearty approval, and I sincerely trust will bring about a movement for the proper support of the Station. As it has been my privilege to observe the work and organization of this institution from its inception, and to visit it from time to time ever since Mr. Rittenhouse made his first donation and proposals in regard to its establishment to the Department of Agriculture, it is possible that you or your readers might be interested in some of my observations in connection with its founding and work.

The Jordan Harbor Fruit Experiment Station was founded ostensibly for plant breeding, the chief object being to test and develop new varieties and to improve old varieties of fruits and vegetables for the Niagara district and the province of Ontario. Incidentally it was planned to collect data of scientific interest bearing on the problems of heredity as applied to plant life. I do not believe that the efforts of the Station should ever have been planned wholly with a view to limiting it to plant breeding experiments. Probably it was not really intended to exclude culture experiments of various sorts although the horticultural public was given the impression that its one chief object was plant improvement work.

Under such circumstances it was to be expected that the Department of Agriculture would make every effort to secure a well equipped and experienced specialist both in horticulture and in plant breeding to superintend the institution. In a long conversation some years ago with Professor C. C. James, who was then Deputy Minister of Agriculture, I was told that the Department was not limited in the salary it would pay the right man and that it proposed to get the best man in America. Professor James said that the Department was going after a man of the calibre of John Craig, late professor of horticulture in Cornell University, or Dr. Webber, then head of the division of plant breeding in the United States Department of Agriculture, to head the Jordan Harbor work; he added further that he hoped to obtain the services of a man superior in scientific training and at least the equal in possibilities of practical accomplishment to Luther Burbank! (The writer, who had had some training and experience in both horticulture and plant breeding, had had the temerity to apply for the position himself, but in view of the distinguished men under consideration he insisted at the close of the interview on the immediate withdrawal of his name from the list of applicants!) Such an attitude on the part of the Department of Agriculture was most commendable, and, at least at first, an effort was made to secure such a m... Professor Craig himself, consulting ... the writer in regard to the Station at Jo... dan Harbor, said that he had bee... approached and, when he could not und... the work himself, was asked for and ... advice in the selection of a director.

### A CHANGE IN PLANS

In view of the high purpose and ide... which first actuated the Department ... Agriculture in its search for a compet... superintendent, it was a matter of gr... surprise that the first appointee, the l... lamented H. S. Peart, capable horti... turist perhaps, but absolutely untra... and inexperienced as a plant bree... should have been its selection. The ch... was more fortunate than the Departme... had a right to expect, for Mr. Peart ... remarkably successful in caring for ... preliminary work in the development ... the Station, in laying out the grou... superintending the planting and coll... material for future work. To those ... who knew Mr. Peart personally, and th... were many, it was a pleasure to not... energy with which he set to work to ma... the farm a credit to the horticultural ... dustry, and the manner in which he ga... ed the confidence of the fruit growe... his district. Indeed, in spite of his ... lack of knowledge of the principl... methods of plant breeding, he might ... proper support and expert assistants ... produced the desired results, for he cle... proved his ability as a capable direct... other directions from the very start. W... out such training himself, without la... financial support, and without experie... plant breeders as assistants, the pl... breeding work could not be other tha... disappointing failure even had Mr. Pea... untimely death not cut short his work ... most at its beginning.

Your tribute to Mr. Hodgetts is well ... served. He has done splendid work fo... Ontario fruit growers, but the work of ... Jordan Harbor Station is of such imp... ance as to make it impossible for a ... resident director to handle it. Such ... arrangement as is now in vogue pre... even the remotest possibility of the ... tion accomplishing its purpose.

If any serious plant breeding is to be attempted, or any first-class experime... studies of the effects of fertilizers, diffe... methods of cultivation, value of c... crops, systems of pruning, and su... are to be attempted, the Departme... Agriculture must be prepared to ... money on a scale commensurate with ... horticultural interests of the pro... bearing in mind the long time req... for certain lines of work, and the ... difficulties confronting the experim... particularly in the case of orchard ... It must appoint a horticulturist ... rector who has received specializ... tific and practical training in bo... breeding and horticulture; it must gi... director large powers of discretion ... ing trained assistants and in plan... course of various experiments. Th... rector should be advised by a pro... as to the nature of the inform... which he is to seek in his experim... learning the needs of the fruit g... the province. He should be respo... some one head, preferably the M... Agriculture or the President of the ... cultural College. Yours very tru...

B. S. PICK...
Professor of H...
University of I...

*Prof. Pickett held the position of Professor of Horticulture, New Hampshire College, from 1906 to 1912. Formerly he was Secretary of the Ontario Agricultural College, and recently he was offered the position of Professor of Horticulture in Macdonald College.—Editor.

## Changes Advocated

Some amendments to the Dominion Fruit Marks Act are being advocated by the Fruit Growers' Association of British Columbia. The matter may be taken up during the approaching session of the Federal Parliament.

Several hundred circulars have been issued to fruit growers, asking them for expressions of opinion upon several points involved. These are three in number: first, the standard of color and size for each variety and each grade of apple; second, the size of fruit boxes; third, the Association wishes that the trade names "Fancy," "No. 1," and "No. 2" be discarded, and the designations, "Extra Fancy," "Fancy," and "Choice," which are now in use in the United States, be substituted therefor.

The British Columbia friut growers desire to have the American apple box adopted as the standard. This box, they contend, is better than the Canadian in many respects. It holds more fruit and its shape is more convenient for handling and for loading into cars.

## Death of Mr. Shepherd

The death took place suddenly recently of Mr. R. W. Shepherd, of Montreal. Mr. Shepherd was a past president of the Province of Quebec Fruit Growers' Society, and one of the best known fruit growers in Canada. He represented Quebec at the two last Dominion Fruit Conferences as well as at one held many years ago.

Mr. Shepherd's apple orchards at Como, Que., were known all over Canada and Great Britain. He made a specialty of packing and shipping Fameuse apples. A special illustrated article by him on the best packing of Fameuse apples appeared in the September issue of The Canadian Horticulturist. His death will prove a loss to the fruit interests of Canada, and particularly to those of the Province of Quebec.

## Niagara District

At a meeting of the Niagara Peninsula Fruit Growers' Association, held at St. Catharines in December, the association inaugurated a campaign, which in the words of President Robert Thompson, has as its object "better prices for the grower, lower prices to the consumers, and an improved condition of the fruit when it reaches the consumer." A committee of representative men from various sections of the district was appointed to look into the question of better and more efficient marketing of the increasing quantities of fruit which are being produced, to secure data of what is being done in other sections in this regard, and to report to a subsequent meeting to be called at as early a date as possible.

During the year 1912 abnormal quantities of fruit were wasted. The growers' loss amount down to a low figure, and the general complaints were heard from the consumers of the high cost of living, with fruit included. It was estimated at the meeting by J. H. Broderick that the fruit-growers of the Niagara district pay $10,000 per week to the Commission men of Toronto during the fruit season.

The growers were told by Prof. I. W. Blair of the Guelph Agricultural College, that they make the mistake of shipping their fruit to big centres of population almost exclusively. It is a difficult matter to find first-class fruit in the smaller cities and towns of Ontario and Canada generally.

ally, outside the districts in which it is grown. The growers should learn to spread out the shipping over a greater space of time. This can be done by a system of pre-cooling, greater cooperation and a more extensive system of cold storage. Then, with the various fruit-growing districts betetr united, it will be easier to secure better railway facilities.

Mr. A. Onslow declared that more jam factories are immediately needed in the district to use up the big quantities of second-grade and much first-class fruit that are going to waste. If outsiders do not come in and put up the factories the growers must themselves cooperate and build.

H. Fleming of Grimsby urged that no growers dispose of all their crop to either canning factories or to the commission men, but that they be divided between the two channels to prevent a glut.

TORONTO AGENCY ADVOCATED

Mr. Broderick said the committee should take up the matter of establishing an agency in Toronto at once. It could be done with profit to the grower and consumer.

The present eleven-quart basket came in for considerable condemnation. It did not well stand the rough handling of the express men last year. Numerous reports were made to the convention of baskets all but going to pieces, and of course the fruit suffered. Prof. Crow declared that the day of the basket as a shipping package would soon be past. "We are nearing the day of the adoption of the box for all classes of fruit," he said, "and when it does come there will be more satisfaction all round."

Prof. McCubbin of Ottawa, who has been conducting laboratory experiments in the district, stated that he had been investigating a new disease which is infecting grapevines, a sort of fungus growth, and yellowing of the leaves. He expected to soon have a remedy. Some progress has been made in combating the little peach and yellows by means of a tar product. A year after application an affected tree on the Thompson farm had shown great improvement, and he was hopeful of total elimination.

## The 1912 Export Trade

**E. H. Wartman, Dominion Fruit Inspector, Montreal**

Many packages of fruits at the sh... Montreal, last season came under m... ice between August 25th and Nov... 26th.

Peaches, pears, and apples went for... in their respective packages, ge... speaking, in a most creditable m... Yet we must not think our system i... fect I will enumerate a few of the w... nesses.

Too many cars came forward in w... the apples, both staves and fruit, w... a soaked condition. This has the t... ing effects on fruit and packages: F... the wood is made so soft that it loos... resisting power, and when the pa... are piled four deep in cars the bot... floor is made quite oblate and the t... are squeezed out or so nearly out tha... moving they come out. In proof of... weakened state of barrels I might ... that seven heads came out while th... were unloading one car. This is th... sult of a lack of cover somewhere fro... rain, and someone has to suffer s... as these re-coopered barrels are in ... cases not fit to go forward.

I always think the one-quarter inch ... wire nail is the all-round nail, and in ... where the inch nail is used we see the ... disaster—for in wet, soft wood they d... hold. There is nothing like having ... packed dry in dry barrels and kept dr...

When fruit and the barrels inside ... wet, mould accumulates inside the ... and covers, fungi starts, and as the ... no chance for evaporation there is a ... healthy condition to promote rot.

The advantage of the eight hoop b... is also seen. It is much stronger to ... rough usage. The six hoop barrels, ... they lose two body hoops, look very ... The eight hoop barrels are still safe ... losing two hoops. Although the eight ... barrels were generally used last ... still too many barrels had only s... fancy that while they are not the ... approved they are the handiest and ... est to get.

In many cases there is too much ... ence in the size and color of the ap...

t the high-class trade. It may be all ht for a third grade, which are gener- very cheap, but let No. 1 or Fancy be re uniform in size and color. For choice les the box does not seem to be in use Ontario or the eastern provinces as ch as it might be. It is not because ed fruit does not bring good prices en the right fruit is used and it is pro- ly packed, for I have seen catalogue es where thousands of Oregon boxes e brought over $2 a box and many of three bushel barrels of choice quality y three dollars and a half. The box ts for choice table quality, where ises are unsightly and undesirable are seen. I am glad to conclude from this t the fruit men are getting wise and t they are no longer pressing barrels il they smash them to prevent them ting slack in transit. When an apple badly damaged or cracked often by un- ciful pressing it rots and causes others rot. Over pressing is not noticed so ch this year, but it is still in evidence. No. 3 quality is not so noticeable for export trade and surely they are not ted there.

lthough the season was a very wet one, sing fungi, yet the No. 1 stock for ex- t was generally of a very clean type, wing spraying must have been done ly at the proper season. The Fameuse Snow apple is one of the very best les to make a profit when clean, and very worst when spotted.

## port Peach Trade Increasing

anada's export trade in peaches is dily increasing. The practicability of ping Canadian peaches to England was tested by the Department of Trade and mmerce in 1910. The experiment proved ressful and succeeding shipments have d a ready market. Last year the wea- r conditions were regarded as unfavor- and peach exporters were in some bt as to the likelihood of the Canadian hes reaching the British market in d condition. The results have, how- r, been most satisfactory, and pres- s are good for a very large trade with Great Britain in Canadian peaches in the future.

The peach shipments for the past three seasons have been as follows, showing a notable increase for the present year:

1910—3,743 single layer cases.
1911—3,934 single layer cases.
1912—8,443 single layer cases.

## South Amercia Wants Our Apples

Canadian Trade Commissioner H. R. Poussette reports that there are excellent opportunities for Canadian apples in Brazil, but up to the present no advantage has been taken of the market. In conjunction with the Argentine trade, it ought to be possible to sell 100,000 barrels in the season, from October to March, but although every effort has been made to work up the trade with Argentina, the commissioner fears that another season will pass without anything being accomplished in this direction.

Trade inquiries for apples have been sent from first-class firms. The demand is for fruit contained in cases rather than in barrels, and although the Canadian growers are adepts at packing the latter, an effort should also be made to succeed at the other method. It is needless to add that the fruit must be of first-class quality and uniform throughout.

If apples are to come through the tropics and be landed in satisfactory condition, they must be stowed in a cold storage chamber on the ship and maintained at a certain temperature. As the freezer space on the only steamship line trading between New York and South America equipped with it has been booked up for several years in advance, or is reported to be, by a Brazilian firm importing United States apples, the sole alternative is to ship via Liverpool or Southampton. As a matter of fact, this route ought to be more satisfactory for Ontario shippers during the first two months of the season than via New York, except for the loss of time on the voyage.

The best method of handling the South American trade would be for one or two

fruit growers' associations, who would be responsible for the quality of the apples and for a regular supply, to take it. It cannot be too strongly urged that there is no time to lose; when this report is published, the shipping season will be within two months of its commencement. It should be noted that it is futile to ... questions either to this or the Ayres office as to the rates, route, and so forth. The proper course is to apply to the steamship companies, who should be able to quote through rates from Montreal, St John, or Halifax to Rio or Buenos via Liverpool.

Large quantities of apples are being exported from the States of California, Washington and New York to South America during the northern, and from Australia and New Zealand during the southern winter. The States of Washington and New York, particularly the former, are establishing a fine reputation for their fruit. Their packing is said to be perfect. Apples for the Brazilian trade should first of all look well. They must be of fair size, bright in color, and the finer the quality the greater the future trade.

### PEARS WANTED

There would be a sale for a large quantity of pears, if the supply were large enough to admit of shipping to Brazil or Argentina. The duty on fresh fruit is one hundred reis per kilo, which reduced, would work out at about one and three-quarter cents per pound. There is no fiscal preference on this commodity accorded to any country so that the field is a fair one for all competitors.

## Nova Scotia Apples

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

Gravensteins, with the exception of orchards that had been well sprayed and thinned, were badly spotted. There are growers and companies that did not attempt to put up numbers one and two grades, but packed two grades of apples, three into large and small. The latter found a sale at from one dollar per barrel to one dollar twenty-five cents. Kings and Ribstones have been shipped across to England.

It is a pity the Fruit Marks Act does not cover stringently the shipping of immature fruit. There will always be the man who is in a hurry to get his apples on the market, and if he has not commonsense enough to know when they should be picked and shipped the law should help him to. About thirty cooperative fruit companies are in active operation in the Valley at present. Most of these are under a central organization called the United Fruit Companies of Nova Scotia. This latter organization properly handled should revolutionize the handling of fruit and orchard supplies to the greater profit of the individual orchardist. Barrels are easily obtainable at about five cents each.

Pears and plums were a heavy crop and sold very low.

## British Columbia

The provincial government has decided to appoint a number of engineers to be stationed in the dry belt of the province, to have charge of the distribution of water to the farmers for irrigation purposes. It will be their duty to decide how much water each farmer shall have in view of the kind of crop he is growing, and what days of the week the water shall be used by each farmer.

agitation that is likely to lead to ficial results has been in progress for time in regard to the excessive rates gd by the railway and express com- es for delivering British Columbia fruit e prairie markets. Evidence has been ced showing that United States fruit, ugh shipped longer distances, has been d at lower rates than fruit from this nce It has been shown also that in of the cities the dealers have refused ndle British Columbia fruit when of- , and have distributed United States instead. The railways have made the l claim that British Columbia fruit ot been offered in large enough quan- , but this has hardly been the case this as points have handled carload ship- s which never did so before, and in of this in several districts large ities of fruit have gone to waste gh lack of pickers and satisfactory ing facilities. The growers are de- ned to bring about an improvement ese conditions before long.

w Zealand importers of British Colum- pples, who have done well with former ents, have been asking for larger ship- s this year.

e shipments of fruit from the Summer- District this year have exceeded all ds, over eight hundred tons of fruit g been forwarded to outside markets.

e first Okanagan Valley Apple Show eld at Vernon, B.C. It was a great suc- South Vernon won the first prize in the t competition, the Penticton Board of e the second, and the Vernon Board of e the third. The exhibits in all class- ere most creditable, the display of being remarkably large and of high v. It is expected that the show will e an annual event.

## Outlook for Extension

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

In view of the enormous planting of fruit trees of all kinds during recent years, the possibility or probability of over-production is a factor that should demand careful attention. There have been times within the memory of many who are still actively engaged in fruit growing when the prospects did not seem very flattering or bright. Thousands of bushels of apples have lain rotting in Ontario orchards, peaches and plums by the carload have been allowed to fall to the ground unharvested, small fruits in quantity have been neglected and handed over to the birds of the air, and on more than one occasion the Canadian fruit grower has felt that his fruit plantations were more of an expense and encumbrance than a source of revenue and profit. Strange to say, at the very time that these conditions were in evidence in one part of the country an entirely different situation was being experienced elsewhere, it being almost impossible, for weeks at a time, to secure a supply of fruit for dessert or culinary purposes in many places too remote from the source of supply. When closely investigated, the difficulty would be found to be largely lack of proper distribution, owing to failure to anticipate a large crop, and to provide for the picking, packing, and placing in the hands of consumers. If attention had been given to securing quality, and suitable arrangements made for marketing, it is quite safe to say that very little fruit in the past need have wasted in the orchards or have lacked profitable sales.

### OVER-PRODUCTION NOT LIKELY

In the replies to the series of questions sent out to all parts of the country, in which an opinion was requested as to the likelihood of over-production in fruit, almost without exception the answer was in the negative, qualified as above outlined. Careful investigation has shown that not more than ten per cent. of the trees planted in the Eastern States become commercially profitable, and it is estimated that not more than twenty per cent. in Oregon and Washington, and possibly a similar amount in British Columbia, are likely to reach this condition. Moreover, a number of years must elapse before an orchard will produce in quantity. The markets for fruit in city and country are increasing rapidly, the taste of the people is being cultivated for a larger use of fruit in their daily diet, and numerous large allied industries depend upon fruit for their raw material. Taking all these factors into consideration, no immediate fear need be experienced as to disastrous results from over-production in the near future.

Reference has been made to the rapid increase and development in connection with the preservation of fruits in glass and tin. There are at present a very large number of factories engaged in this industry, with an enormous annual output of fruits and vegetables. This product is distributed from one end of Canada to the other, and a considerable portion is exported annually. The factories are widespread and located in close proximity to the supply of raw material and from the fact that their contracts are made in advance and sometimes for several years ahead, the fruit grower has a sure and definite market for his product and can devote his energies to producing a crop with the full assurance of a market already provided.

The manufacture of unfermented wine and cider is also being taken up on a comparatively large scale in some sections and bids fair to attain important proportions in the near future. In view of the rapidly changing sentiment of the Canadian people on the question of the use of intoxicating liquors, this industry is likely to be well sustained and become quite profitable.

A large number of evaporators have been established at strategic points where quantities of apples, which for any reason may not be adapted for shipment in their fresh state, may be put in a condition that will enable them to be transported to any part of the world.

Taking everything into consideration the outlook for the extension and development of the fruit areas of Canada is very bright, and it only remains for those whose inclination leads them in this direction, to go up and possess the land and reap the rewards of well-directed effort.



## Items of Interest

By the figures in the Canadian customs report for the year ending March 31, 1912 Holland is credited with the importation of dried and evaporated apples to the extent of $195,325 of our product. There is a large and increasing trade for dried fruits of this description both in Germany and in Holland, especially to points on the Rhine.

The Auburn Nursery Company has secured an additional nursery at Oakville, Ontario, comprising one hundred acres. It will be devoted to the production of landscape stock and ornamentals. The company has succeeded in securing the services of Mr. Roderick Cameron, formerly superintendent of Queen Victoria Park, Niagara Falls, and lately superintendent of parks in Toronto. The increasing demand for this line of stock has led to the establishment of this nursery.

Prof. E. M. Straight, formerly of Macdonald College, has received the appointment of Director of Demonstrations, Maine. Prof. Straight was a frequent contributor to The Canadian Horticulturist while at the Macdonald College, and hopes at some future time to tell the readers of The Canadian Horticulturist something of the nature of the demonstration work in Maine.

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The Canadian Horticulturist should be read by every flower lover, from one end of the Dominion to the other. I am sending my November issue to a lady living in Sydney, Vancouver Island, and have also written her advising her to subscribe for two years.—Chas. Jas. Fox, South London, Ont.