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The Canadian Horticulturist

OCTOBER, 1908

Volume 31, No. 10

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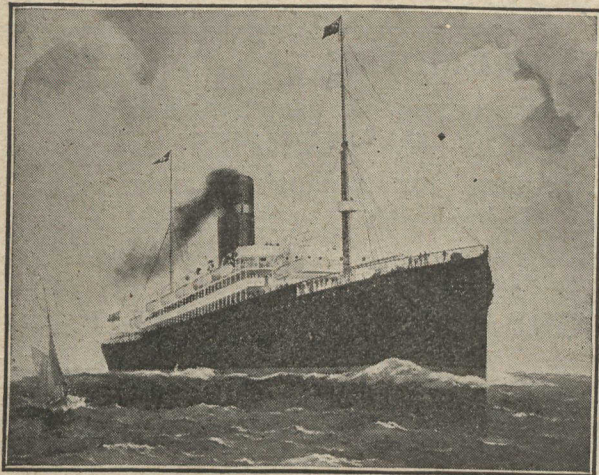
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Department of Agriculture, Experimental Farm of British Columbia,
MESSRS. STONE & WELLINGTON, AGASSIZ, May 29th, 1906.
Toronto, Ontario.

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(Signed) THOS. A. SHARPE.

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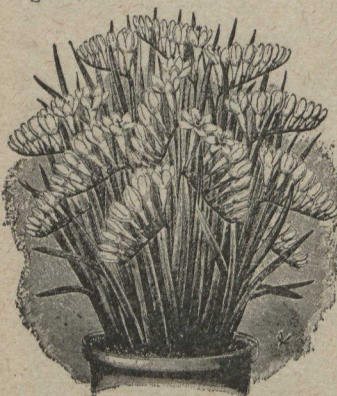
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- 12 Poeticus Narcissus }
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- 12 Hyacinths, Roman, red, white and blue
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- 8 Oxalis, Buttercup
- 4 Easter Lillies
- 24 Crocus, assorted

- 12 Tulips, double, mixed varieties
- 8 Narcissus, double mixed
- 4 Narcissus, single, mixed
- 12 Alliums, Neapolitanum

NOTE:—No changes will be allowed in these collections. These bulbs are well formed, fully developed, properly cured and have been grown specially for us by European bulb specialists.

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The Canadian Horticulturist

Vol. XXXI

OCTOBER, 1908

No. 10

The Fruit Industry of British Columbia

Frank J. Clark, Bureau of Provincial Information, Victoria

FRUIT-GROWING is one of the infant industries of British Columbia, but it is growing rapidly and is quite certain, ere many years, to rival mining, lumbering or fishing. A few years ago the man who would venture to describe the Kootenays as fruit-growing districts, would be looked upon as a visionary or an imbecile; to-day all southern British Columbia is acknowledged to be the finest fruit country on this continent. Not only will it produce fruit in abundance, but the quality of the fruit is superior to that grown in any other part of America.

In 1903, Messrs. Stirling & Pitcairn, of Kelowna, on Okanagan Lake, shipped a trial carload of apples to Great Britain. The shipment consisted of Spys, Baldwins Ontarios and Canada Reds. They arrived in Glasgow, Scotland, on November 9th, in splendid condition, and sold at six shillings a box, or about \$1 more per barrel than the choicest eastern Canadian apples—reckoning three and a half boxes to the barrel. The British Columbia apples aroused much interest amongst fruit dealers as well as consumers, and many letters were received by the consigners from persons eager to secure shipments of the splendid fruit.

In 1904, the British Columbia Department of Agriculture forwarded a collection of British Columbia fruits to London, England, for exhibition purposes. It consisted of apples, pears and plums. The exhibit was greatly admired, and evoked the highest encomiums from the newspapers. The *London Times*, while hesitating to declare the fruit superior to the best English specimens, admitted that they very nearly approached them in color, shape and flavor, even after having travelled 6,000 miles by railway and steamship. The Royal Horticultural Society's appreciation of the fruit was shown by the award of the society's gold medal and diploma.

One result of the exhibit was the deluging of the Agent-General of British Columbia (Hon. J. H. Turner, Finsbury Circus, London,) with letters from prominent fruit-dealers, anxious to do business with British Columbia fruit-growers. To momentarily satisfy the clamor for British Columbia fruit, and

to emphasize the fact of its good qualities, the department of agriculture, shipped in cold storage a full car-load of assorted fruits to London in the fall of 1905, in charge of Mr. R. M. Palmer, provincial horticulturist. This fine collection was the chief attraction at the Royal Horticultural Fruit Show at London, England, and at several provincial shows, and was awarded many prizes.

SUCCESSSES AT EXHIBITIONS

Following up the success of 1905, the department of agriculture, forwarded a commercial exhibit in 1906, consisting of apples and pears, to Great Britain, in charge of Mr. Palmer. This fruit was shown at Edinburgh, York, London, and

broken up, and sold to fruit dealers at the highest prices.

IN NEW ZEALAND

An exhibit of apples was forwarded to Christchurch, New Zealand, and made one of the chief attractions in the fruit division of the New Zealand International Exhibition. Writing of this collection Mr. W. A. Burns, Canadian Commissioner for New Zealand, said: "The shipment arrived in excellent order, and the quality and range of varieties is most creditable. The newspapers and the public have gone fairly wild over the exhibit, and now that it has been proven that the Canadian apples can be transported safely to this market, a good trade should follow. I may say that the price of San Francisco apples at the present time is eight pence per pound in the local market, so you will see that there is a good margin of profit."

In 1907, a collection of over 800 boxes of apples and pears was sent to Great Britain, and shown at all the principal exhibitions and horticultural shows—at Edinburgh, Hereford, Tunbridge, Exeter, Sheffield, Crystal Palace, London, and Royal Horticultural Show, London. Gold and silver medals and certificates of merit were awarded to the exhibit as representative of the province, while individual exhibitors won many silver-gilt, silver, and bronze medals, and certificates of merit.

MARKETS AVAILABLE

These repeated triumphs have resulted in the establishment of a permanent market in Great Britain, to which several growers are now catering exclusively. Australia also wants British Columbia fruit, one grower alone receiving an order last season for 70,000 boxes of apples. Thus fruit-growers here have the satisfaction of feeling that apart from the unlimited market afforded by the prairie provinces, they can also count upon big orders and big prices from overseas. At present their's is an embarrassment of riches, so far as markets go, for they cannot possibly supply the demand.

At the fifteenth annual convention of the Northwest Fruit Growers' Association, held in Vancouver, December 5-8,

Excels all Others

THE CANADIAN HORTICULTURIST excels all United States fruit papers that circulate in British Columbia in that it gives more cultural hints and discussions upon markets, packages and other questions from the Canadian viewpoint. Your publication devotes much space and energy to British Columbian interests, which United States papers do not. May it continue in influence and progress.—Chas. Webster, Kelowna, B. C.

other cities, and won praise from press and public at every point. At Edinburgh, the gold medal of the Royal Horticultural Society of Scotland, was awarded the collection, and at London the province again won the gold medal of the Royal Horticultural Society for the best collection of apples, while seven silver and silver-gilt medals, and three bronze medals were awarded to individual exhibitors, whose contributions made up the collection. As in former years, the Canadian Pacific Railway Company co-operated with the government of British Columbia in the collection and transportation of the fruit, generously furnishing cool storage cars and cool storage space on its Atlantic steamships, free of charge. After going the rounds of the fruit shows and securing unqualified approval everywhere, this collection was



Sir Thos. G. Shaughnessy's Young Orchard, Summerland, British Columbia

1907, the Kelowna, British Columbia, Fruit Growers' association, won the first prize gold medal, for the best display of fresh fruit, and Monshenger & Hope, of Grand Forks, B. C., won second prize.

In two other competitions—best five boxes of apples, five varieties, and best box of commercial apples—T. G. Earl, Lytton, B. C., won third prizes. In these competitions, British Columbia

was pitted against the choicest productions of Oregon and Washington.

ACREAGE FIT FOR FRUIT

It has been estimated that in southern British Columbia, there are over 1,000,000 acres of land fit for fruit growing, while in the great northern interior from 3,000,000 to 4,000,000 more acres will be found available for fruit. Apples, plums, pears and cherries are grown with great success on the Skeena River, and it is believed that this will prove true of most of the valleys of the northern portion of the province.

In 1901, there were 7,430 acres in fruit, with a grand total of 650,000 fruit trees. In 1906, the fruit land of the province increased from 29,000 acres, with 1,700,000 trees, to 49,000 acres, with 2,700,000 trees. In the million tree increase there is included fruit bushes, some 41,000 ornamental trees, 41,000 rose bushes, 22,000 plants and 17,000 shrubs, but the figures do not include the trees sent out from nurseries within the province, which, it is thought, would equal the total of the latter figures. In the last four years, the increase in exports, according to returns from the express and railway companies, was 2,400 tons, the total amounting to 11,882 tons.

Strawberries in British Columbia

George Every-Clayton, Burnaby Lake

THE first question of interest to beginners in strawberry growing, is, "what variety shall I plant?"

If you cannot determine from your neighbor's experience what variety is best suited for your soil and climate, the only thing is to experiment until you find out. Always remember, when selecting from catalogues, that this phrase might well be tacked on to the end of the glowing description of any strawberry, "If it happens to be suited to your soil and climate." I prefer the hill system of cultivation, rows at least three feet apart and plants sixteen inches in the row. Before planting, I cut about half of the roots off with a pair of shears, and all dead or faded-looking leaves. In planting, press the soil firmly round the plant. I use a small, wooden dibble, sixteen inches long, so that it serves for a measure for planting. All blossoms and runners should be cut, say, once a week, and the hoe and cultivator kept going all spring and summer. The weeds should be kept down in the fall. Picking them into a bucket is a good way.

No mulch is necessary in winter on the coast. Cultivate early in spring. Run the tool shallow and keep it away from the plants to avoid tearing up the small roots that lie near the surface. I pre-

fer to keep weeds down by picking them when fruiting time draws near. We lay down straw to keep the fruit clean. This is done when the blossom is about all out and the fruit partly set. About two tons of straw to an acre is applied.

PICKING

The pickers should not touch the fruit at all, but take it by the stem, and cut the stem about half an inch from the fruit with the thumb nail, and place in box. We provide our pickers with trays that hold six boxes. When these are full, the picker brings the tray up to the packing shed, or tent, and places the boxes on a table in front of the packer (usually the boss, or some responsible person) who looks them over and calls the picker's attention to any unripe, over-ripe, mashed, rotten or bird-pecked berries, that he may see. If carelessness continues, the picker's services are dispensed with. When a quantity of small and mis-shapen berries seem to justify it, they are picked into separate boxes, and sold as No. 2's.

MARKETING

If conditions are favorable, the man with only a few berries may dispose of them satisfactorily by retailing to private customers. There is, however, in my

opinion, only one way for the man with a quantity to sell them, and that is through a reliable commission man. Having once found him, stick to him, and leave the selling to him, devoting all your own energies to seeing that the fruit is well picked, carefully and attractively packed, and conveyed to your commission man's store with the least possible shaking and jarring. I venture to say that he will save you time, trouble, possibility of bad debts, and make his own commission into the bargain. Send him badly-picked, and carelessly-packed berries, and berries that have been driven over a rough road at ten miles an hour, and you will say that the commission man is no good.

As soon as the crop is off, we mow all the leaves off the plants and burn them and the straw right on the patch, and cultivate as usual. We usually take two or three crops off before plowing.

Growers of cranberries are asked to contribute articles for publication.

Readers of THE CANADIAN HORTICULTURIST in the Maritime Provinces, are requested to send articles on fruit, flower and vegetable culture for publication. Photographs also will be welcome.

Suggestions to the New Irrigator

A. E. Meighen, Irrigation Engineer, Kamloops, British Columbia

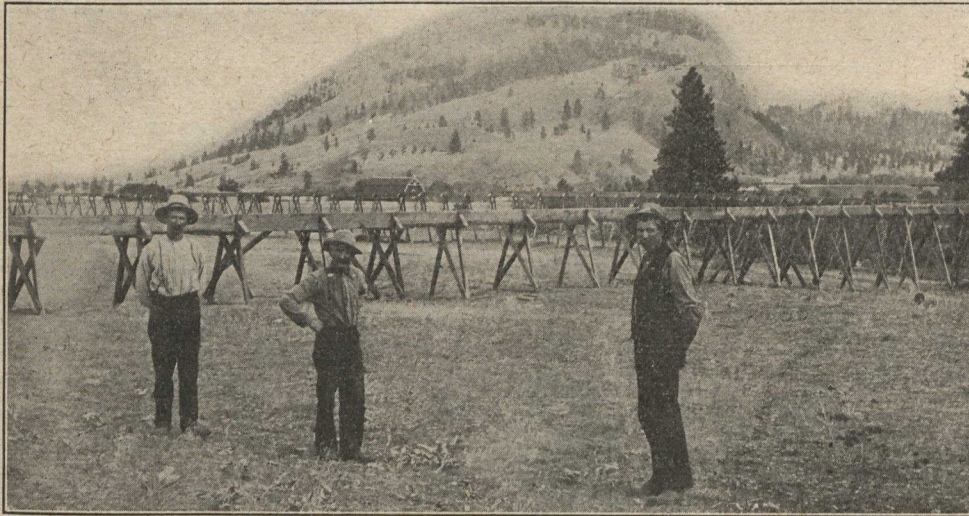
THE important part that water plays in promoting plant-growth is, in an indefinite and general way, appreciated by everyone. Of all the factors having a bearing on plant growth, water

obtained by grading. It is impossible to get the best results on a piece of land of uneven surface. Some portions of it will get too much water, and others too little. For furrow irrigation, the ideal

the tree rows, in which very small streams of water are run for a couple of days, supplied from a lateral along the high end of the lot. By this method the soil is evenly and thoroughly irrigated, leaving the land in the condition it would be after several days of light rain.

The streams entering the furrows from the lateral should be under control, and easily regulated. For this reason, instead of a dirt ditch, a square wooden flume should be made of one and one-quarter inch by twelve inch boards. On the side of this flume next to the orchard and just to clear the bottom, one and one-quarter inch holes are bored every two feet. Each of these holes furnishes the water to one furrow. Over the holes are nailed gates made of galvanized iron two and one-half inches long by two inches wide, the sides of which are turned over to form grooves. A hole one and one-quarter inches in diameter is cut in the gate and a slide of galvanized iron is made to fit in the grooves. By means of this slide, the supply to each furrow can be regulated to a nicety.

Irrigation under these conditions is a pleasure. A man can easily irrigate ten acres in two or three days with absolutely no waste of water.



A Level Stretch May Be Irrigated in This Manner

For orchard irrigating, the furrow system is used. See illustrations on front cover and on page 212.

is next in importance only to light and heat, but even in irrigated countries, the fact that results depend on the amount and times of application, is little understood.

Scientific irrigation is the application of water in such quantities, at such times and in such a manner that, with proper cultivation of the soil, the most favorable conditions for plant life are obtained. There are five factors which influence plant-growth—light, heat, water, soil-texture and plant food. In arid countries, the first two are generally bountifully supplied by nature. The other three the irrigator largely controls. When it is understood that the last two are greatly influenced by the knowledge and skill displayed by the irrigator in the application of water, it will be seen how important it is that an irrigator should study the best methods and have his land in such shape that he can apply these methods.

A settler coming from a non-irrigating country to take up land under an irrigation system would be wise to take certain precautions. He should, of course, ascertain that the water-rights of the system are what they are represented to be, that the water supply is ample, and the distributing system satisfactory.

In the selection of a lot, the main thing to consider, after soil, is the surface of the land, whether or not water can be evenly and easily distributed over it; if not, the proper slope must be

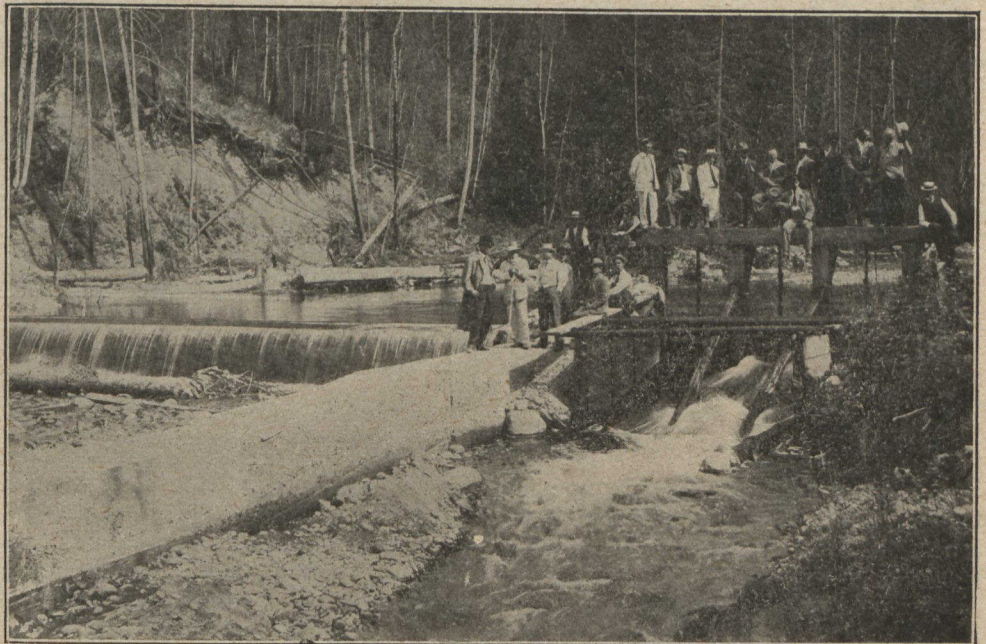
lot should have a gradual slope in one direction of from one to two and a half feet in the hundred, depending on the character of the soil.

BEST SYSTEMS FOR ORCHARDS

Having secured such a lot, the next thing to consider is the method to be adopted for irrigating. For fruit trees, the most satisfactory is the furrow system. This consists of running a number of plowed furrows (the number depending on the age of the trees) between

QUANTITY OF WATER REQUIRED

The quantity of water required to produce the best crops is a matter in which no fixed standard can be made, depending, as it does, on climate, kinds of crops and character of soil. It is almost an invariable rule, however, that irriga-



Irrigationists Visiting Head Gate of Grey Canal

At time of recent convention of Western Canada Irrigation Association

tors at first use far too much water, to the detriment of their crops and lands.

HOW OFTEN TO APPLY WATER

The number of times that water should be applied during a season again depends on climate, soil and crop. In the Kamloops District, fruit trees should not be irrigated oftener than two to three times, the last irrigation about August 1st.

It is not enough to merely apply water to the land, and think you have done your whole duty. Irrigation must be accompanied by constant and thorough cultivation of the soil. After each irrigation, before the soil has begun to bake and crack, but not so soon that it will turn up in lumps of mud, the furrows should be broken with a good two-horse cultivator, this to be followed in a day or so by a thorough cross cultivation. At

least every two weeks, oftener if possible, until the next irrigation, the soil should be stirred to a depth of three or four inches with harrows or a fine cultivator. The object of this cultivation is to keep the soil in a loose, fine condition, so that it will hold the largest possible amount of air and water without becoming heavy and also to conserve the moisture by reducing evaporation to the minimum, and to keep down weeds.

Growing Peaches in the Okanagan Valley

Clement Aitkins, Peachland

WE are still young in peach growing, but I expect to see the time when we will be famous for our fine peaches. Peach trees grow well with us, and the fruit is unsurpassed in flavor and color. On the occasion of the visit of the members of the Western Canada Irrigation Association last August, many expressions of surprise at seeing such fine fruit were heard.

We have such a fine climate for peach growing that we expect to have annual

of the top. This is important. If it is not done the trees will not maintain a strong and vigorous growth, and will not bear large crops and well matured fruit. When it is done, the trees will not split readily and they will live longer.

In the Niagara district of Ontario I had peach trees twenty-two years old. They had not been well handled throughout their life-time or they would have borne good crops up to thirty years old. I believe that trees will do that here. We

It is important also that the laterals bearing the fruit should be shortened at least one-third. This in conjunction with irrigation, cultivation and feeding, not only gives good strong trees, but it also aids in producing well colored fruit and it prevents to a great extent the spending of money on hand thinning of fruit. The bulk of the thinning of the fruit should be done with the pruning shears.

With skill and experience and sufficient capital to make the most of them, one can grow thirty boxes of peaches per tree. The usual yield is ten to thirty boxes per tree according to the experience of the grower, upon whom depends the success or failure of the venture.

Canadian Raspberries

W. T. Macoun, C.E.F., Ottawa

Quite a number of good raspberries have originated in Canada, but time forbids mentioning them here. Descriptions of these will be found in the list to be published later. There is one red raspberry, however, that must be referred to, namely, the Herbert, which is rapidly making its mark.

Herbert (Whyte's No. 17) is a chance seedling originating with Mr. R. B. Whyte, Ottawa, Ont., in 1887; one of thirty seedlings, probably of Clarke; a very strong grower, hardy and very productive. The fruit is large to very large; obtusely conical, bright to rather deep red; drupes, medium size, not crumbling, moderately firm; sweet and subacid, sprightly, juicy and of good flavor; quality very good; season, begins a few days before Cuthbert. The best red raspberry tested at Ottawa. It has all the good points required in a berry for local market, being hardy, vigorous, productive, with fruit of large size, good color and of very good quality. If firm enough for distant shipment, it may displace Cuthbert. Two excellent Canadian black-caps are the Hilborn and Smith's Giant.



Four Year Old Peach Tree in a Well Kept and Irrigated Orchard
Plantation of Mr. R. H. Agur, Summerland, B.C.

crops. The soil is a sandy loam, somewhat stony, and is most suitable for all kinds of stone fruits.

It is important that the peach trees should be pruned severely. Start them with low heads about fifteen or eighteen inches from the ground. Shorten-in the unusually long roots to a convenient length. Prune all broken and damaged roots before planting. Each year cut back about two-thirds of the new growth

have the soil and the climate, and some of us have the experience to prune the trees hard, to keep the heads down, and after a few years to head back by degrees the main branches, cutting them short off, and forming new leading branches. Where several new branches grow, cut out the weak ones, keeping only the strong and heading them back well at the next winter's pruning. Thus, new heads may be formed.

Fruit Growing in British Columbia and the Outlook

Thos. G. Earle, Lytton

IN THE beginning of my experience, of over forty years, with fruit growing in British Columbia, I was inexperienced and, in consequence, made the great mistake of having too many varieties. When an agent came along with a book of plates of fancy apples, such as the Alexander and Wolf River, I ordered some of them. Now, I have to top-graft them, as well as other varieties, as I find that they are not suited to the demand.

At this date, fruit-growing is down to a science. The person who is going to succeed in fruit-growing, requires only a very few choice varieties. The fancy red varieties find the readiest sale. Some choice varieties that do well in the east, such as the Baldwin, will not do here. The Baldwin is affected with what is termed the "Baldwin speck," or dry rot in specks. What will do well in one locality may not do well a few miles distant. The best way for the beginner is to carefully ascertain what variety will succeed in his locality.

WHAT TO PLANT

For commercial apples, one needs not over six varieties, and most of them red. For early summer, the Williams' Favorite is early, and a nice sweet red apple. Then the Duchess comes in for cooking. These will do for family use, or what is earlier, the Yellow Transparent. Then comes the Wealthy, a fine reddish showy apple that will keep until early winter. After this, the King, a large, fine apple, comes in. A splendid apple is the Spitzenburg. The Jonathan is one of the nicest dessert apples, and will keep fairly well. Wagener and Grime's Golden are very nice. Now, out of these and the Rome Beauty make a selection of not more than six varieties for commercial purposes. The Northern Spy is a very noted apple that does better in the east than here. As it is very long coming into bearing, I don't think they are as profitable as some others.

PICKING AND PACKING

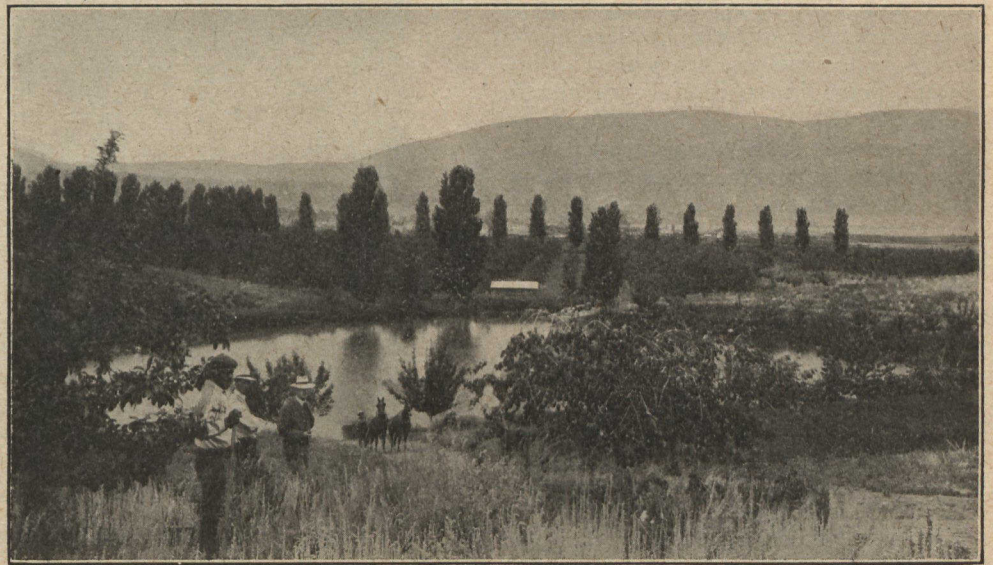
When picking fruit, one should be very careful in seeing that the pickers do not pull the apples, pears, plums or cherries, off without the stems, as they will not keep as long. Care must be taken not to bruise the fruit. Nice fruit does not look well in rough boxes and will not sell as well. Use the nicest boxes or packages that there is to be had and it will pay. No bruised or scabby fruit should be packed as it will not keep. All peaches and pears should be wrapped and packed closely together, and the boxes or crates well filled, so that the fruit will not move in transportation.

Apples should remain on the trees until ripe. Pears are best picked on the green side and will ripen in the boxes. All apples and pears should be selected of uniform size for each box and without bruise or blemish. No apple or pear that falls to the ground should be sold as first-class fruit; but, if sold, they should be marked and sold for fruit that will not keep.

Apples should be packed in tiers and of uniform size. Some will have from three to six tiers, but a four-tier apple is the most in demand. Apples should fill the

would suppose that the C. P. R. would try and place our fruit in the Northwest promptly and properly, as we have there to compete with the growers of the United States. The duty on fruit is very light. They can grow and put it up here cheaper than we can. We have in this province as good soil and climate for fruit as there is in the world, also for vegetables and produce of all kinds. To make a success of fruit growing, we must have a fair chance of placing it on the markets of the northwest.

I wonder how we will come out when



One of the Many Beautiful Scenes in the Okanagan Valley

box closely and, before the lid is put on, they ought to be about one inch above the top of the box. When the lid is pressed and nailed down, they may bulge out in the middle. Pack closely, so that they will not rattle or bruise in moving the boxes. The variety and tiers with the grower's name and residence, must be plainly marked on the ends of each box or barrel to comply with the Fruit Marks Act. This is a fine thing, as, if any cheating is done, it can be easily shown who did it.

As fruit-growing has come down to a science, we must take pattern from the Californians, as they are very expert in boxing. We must be up-to-date if we are going to compete with them, as we surely have to do.

POOR TRANSPORTATION FACILITIES

We are badly handicapped in having only one main line of railroad. They charge a high rate and often side-track a car with perishable fruit for days. I sent last fall some apples by freight to Milestone, about 600 miles; they were twenty days in getting there, and were spoilt; but, of course, there was no redress. I fail to see what good the Railway Commission has done us as yet. One

the millions of trees that are being planted come into bearing, or how those that are paying exorbitant prices for all kinds of lands are coming out, especially those that are buying five or ten acres of land and have a family to support. I would suppose a family would want at least five acres more for a house, barn and a chicken house, also a cow or two, and a team. The owner has to pay also for water to irrigate his land and, in many localities, he is not certain of even that. I am not referring to those who have located at Peachland, or Summerland, and some other points, as they have money, and do not have to depend entirely upon the fruit or produce that they raise. There is a glorious future for this province, but it will take time to fully develop it. In order to make the fruit-growers prosperous, we must give them a fair show, and not deceive them with the idea that they can make money and prosper on five or ten acres of land, as so many of the speculators are doing. I have had many years of experience and I hope this article may do some good. I am well aware that it will not suit all, even if it is plain truth.

The General Care of Private Greenhouses*

W. J. Wilshire, Montreal

At first glance it would seem a comparatively easy matter for any gardener of experience and intelligence, to write a practical and instructive essay on the care of private greenhouses. A little reflection, however, will soon convince anyone that such is by no means the case. It is not that there is a lack of material to work upon; on the contrary, there is far too much, for to touch upon all the different points, even in the briefest manner, would be out of the question in an article of this description. The difficulty is to know what to select and what to reject of the almost endless details, which, while trivial enough in themselves, often play an important part in successful greenhouse management.

Theoretically, the main points in greenhouse management, are the same under all conditions. But, if we attempted to carry them out in practice we should often meet with very indifferent results. The truth is, that in this, as in most things pertaining to horticulture, no rules exist which would give the same results in all cases. It is not simply the cultivation of a lot of plants, or the gardener had himself alone to please, it would be a different matter. But, as in this case—when all is said and done—the main point is to please the owners, the gardener must use whatever methods he finds from experience are the most successful, paying little attention to arbitrary rules or preconceived ideas. While there are of course many other points to be considered, those given below will be sufficient for the purpose of this article. Stripped of all frills, they may be placed roughly as follows: A continuous and uninterrupted succession of bloom, effective arrangement, variety and cleanliness. It will, of course, be well understood that quality is of the utmost importance; but, as it would necessitate giving a lot of cultural directions, it will not be treated as a separate subject.

CONTINUOUS SUCCESSION OF BLOOM

In order to grow sufficient plants to maintain a continuous succession of bloom through six or eight months of the year, the skill of the gardener is taxed to the utmost limit. From the first to the last of the year, he has to be continually planning what to grow, and how best to grow it, what to force, or what to retard, and the best time to propagate this, that or the other thing, so that they will mature at the proper season. In fact, this point requires more

care and forethought on the part of the gardener than all the others combined.

There are certain parts of what may be called the "greenhouse season," notably the early spring months, when there is naturally a greater abundance of flowers

any time a good geranium than a poor orchid.

In purchasing or propagating any kind of stock, quality should be made the first consideration. It is also better to grow too many of each kind than too



A Beautiful Corner in a Private Conservatory

Greenhouse of Mr. R. B. Angus, Montreal—Mr. W. J. Wilshire, Gardener

than at others. These can, to a certain extent, be allowed to take care of themselves. The careful gardener will direct most of his attention to such plants as will tend to prolong the flowering season as much as possible, or give the greatest amount of flowers during the dullest months of the year. Crops should follow one another without a break, and in sufficient quantity, not only for the embellishment of the conservatory, but for any extra decorations for which they may be required. People are not apt to consider time or season if they wish to make use of their greenhouses for any special purpose, and the gardener who is able to meet successfully sudden demands upon his stock, will often save his employer much annoyance, and himself humiliation.

Of the many plants worthy of cultivation for this purpose it is not necessary to speak, nor to suggest what to grow, or how they should be grown. Each must study his own conditions, requirements, and, it might be added, his capabilities. For while it not even remotely suggests that a man should not grow anything he pleases, it does more credit to his stubbornness than his good sense, if, after repeated failures, he persists in trying to grow things, which for this or any reason are beyond him. Better at

few. This not only allows a choice of the finest plants for stocking up, but it is very handy sometimes to be able to cover up a failure in one kind with the surplus plants of others. As before stated, particular attention should be given to plants that can be brought into flower late in the season. It is just as important that the place should be looking well the last day of the season as the first.

We are often told that people do not care anything about their greenhouses, once the snow is gone. But, depend upon it, they will be interested in them as long as they contain anything interesting. Keeping the flowers in a dreary, flowerless condition for five or six weeks at a stretch, is enough to cause the most enthusiastic to become indifferent. As this is the one thing of all others to prevent, if possible, things should be so managed that when the time arrives for the employer and his family to leave for the country, their chief regret will be in leaving their conservatory behind them.

EFFECTIVE ARRANGEMENT

Instead of making effective arrangement of the different plants an important point in greenhouse management, some really excellent plantmen seem to think that it is about the last thing to be considered. Having succeeded in raising a

*A portion of a paper read at the convention of the Canadian Horticultural Association at Niagara Falls, Ont., in August. It will be concluded in next issue.

quantity of plants, they think that is about all that is required of them, making no effort whatever to arrange them to show to the greatest advantage, and produce the finest general effect. Red, yellow, pink, blue, purple, and every other conceivable color, without so much as a piece of green to relieve them, are indiscriminately mixed, with sublime indifference as to the effect each has upon the other, or the whole has upon the eye of the visitor.

It may be argued that this matters little so long as those most immediately concerned are satisfied. Perhaps not. But it must not be forgotten that many people keep greenhouses quite as much for the pleasure they give to friends or visitors, as to themselves, and they are prone to rely more upon the opinions of others as to the merits of the place, than upon their own judgment. Many people who cannot tell one flower from another have the true artistic eye for color and effect. To such, a well arranged conservatory particularly appeals. They will, of course, admire any extra fine plants the house may contain, however badly arranged they may be, but they are usually more interested in the general appearance of the place. If the effect of the whole is striking and pleasing to the eye, they will carry the impression produced, long after the beauty of the most superb specimen has been forgotten.

Apart from this, the man who studies effective arrangement has a decided advantage over the one who does not, in that he can make use of a lot of material which to the other would be useless. Plants which are naturally of a loose and straggling habit are invaluable to a good decorator, while they would be practically worthless to the man who is forever trying to grow every plant into a formal specimen.

For the conservatory or show house, a set and formal style of decoration should be avoided, a loose, somewhat careless style being much to be preferred. Houses vary much in size, style, and in the readiness to which they lend themselves to artistic arrangement. Here, again, no hard and fast rules can be laid down as to the way this work should be done. Even if they could, it would hardly be advisable, for the one thing to avoid above all others, is a slavish imitation of another's style. Something can always be learned from every source, but the man who is content to be a mere imitator, will seldom get out of the rut. It is better to study originality, and instead of copying, make a point of improving upon the methods of others.

Most houses of whatever size or style contain a number of specimen palms and ferns. These can be arranged to form a

suitable background for the flowering material. Their positions seldom need to be changed, the operator relying upon such foliage or flowering plants as may be available, to make any necessary changes and to keep the house effective in appearance.

The features of the house should be changed as often as possible, to prevent it getting monotonous. If this work is carried out properly, a rearrangement of the whole house will seldom be necessary. Continually removing such plants as are past, or that have been in the house for some time, and replacing them with fresh ones, is all that will be required. If at any time no fresh material is at hand, changing the position of a few plants so as to alter the effect, will do equally well. It helps considerably to keep people interested in a place if they get to know that on no two consecutive days will it look exactly the same.

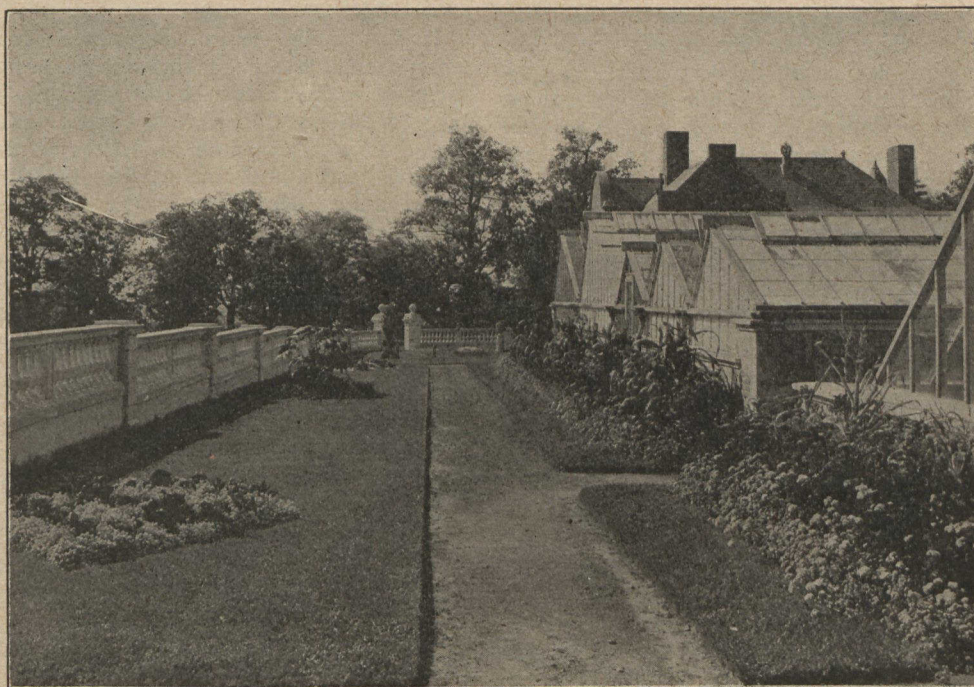
Many plants, such as cyclamens, primulas, calceolarias, and so forth, show to the best advantage when arranged in a mass. These had better be bunched in a separate house, where they will display their particular style of beauty to better advantage, than when mixed among ferns, palms, or large flowering plants. They will also last longer, and keep in better shape for use as table plants, or any decorative work demanding the use of small, well-formed specimen plants. Moreover there is another advantage to

a much better opinion of them if they come across something interesting in every house they inspect.

VARIETY

Apart from every other consideration, it will repay the gardener to introduce as much variety into his stock as possible. Nothing causes him to become stale, and lose interest in his work, so much as growing the same sort of things over and over again, and seeing the same old plants in the same old places year after year. To the true gardener, few things are more interesting than studying the development of a plant with which he is unfamiliar, watching for the first flowers of some new species or variety, or the unfolding of the petals of an orchid fresh from its native habitat.

Of course, it would not be advisable to grow just one or two plants of every possible variety. What is needed as much as anything is a change, and that as often as possible, consistent with the maintenance of good quality. Most places have, of necessity, to maintain a certain number of plants of a more or less permanent character. But change and variety can be obtained by occasionally substituting foliage for flowering plants, by revising the seed list, bulb list, hardy greenhouse shrubs and roses, through, many things grown annually from cuttings, fresh imported orchids, testing so-called novelties, exchanging stock with other gardeners, and many



An Effective Planting Near a Range of Private Greenhouses
Conservatories of Sir H. M. Pellatt, Toronto—Mr. T. McVittie, Gardener

be gained by doing this. It makes the whole place more attractive. Over-loading one house at the expense of all the others, at best is a bad practice. Most people, when on a visit to greenhouses, like to see the "whole show," and form

other ways which will suggest themselves.

CLEANLINESS

Although cleanliness has been placed last on the list it is by no means the least important point to be considered.

Important as it is, however, it is not advisable to over-do it. Cleanliness in a greenhouse is an excellent thing up to a certain point, but if it is carried to the extreme, it really becomes a nuisance. Let the owners once begin to feel that it is considered of so much importance, that they are not supposed to pluck a few flowers, remove a plant, or walk over the floors for fear of making a mess, and the place becomes more a source of irritation than enjoyment. This does not mean that the houses should be kept in any thing approaching a dirty condition. A private place should be kept fit for inspection during all reasonable hours, but to do this it is not necessary to be everlastingly scrubbing and scouring, and wasting time and labor that could be put to better purposes. A little neglect in respect to cleanliness will do no great harm, provided the neglected things are the least conspicuous. Pots, pans, boxes, and many other things indispensable to gardening operations, possess no particular beauty of their own, but it would often save a good deal of labor, as well as improve the appearance of the house, if they were hidden from sight

by well-arranged flowers or foliage, instead of being exposed to full view in the manner frequently seen. A good plan is to do all cleaning work a little at a time and in such a way as to cause the least confusion. A bit of wood-work, a floor, a few plants here or pots there, taken in hand, as they require it, will usually keep the place clean and tidy enough for all ordinary purposes.

In the conservatory or show house, all watering and cleaning operations should be rushed through as early in the day as possible. All dead leaves and flowers should be picked off, and any plants that are passed, replaced with fresh ones, leaving the house in such a condition that under ordinary circumstances no further work will be necessary, except attending to ventilation, temperature and so forth. All pots and plants should be thoroughly clean and free from vermin before being placed in a conservatory attached to the dwelling house, where the ordinary methods of cleaning are impracticable. If this rule is strictly adhered to, little in the way of further cleaning there will be necessary for weeks at a time.

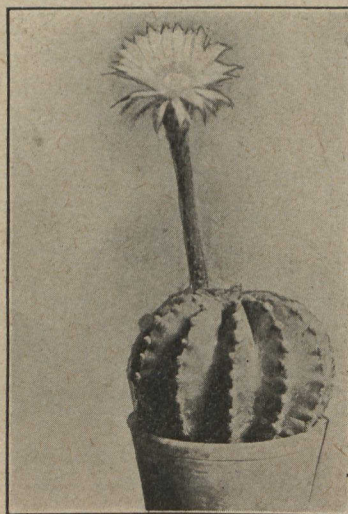
Hardy Cacti

J. H. Callander, Peterboro, Ontario

THE generally accepted opinion regarding cacti, seems to be that they are tender plants from the tropics, and must be very carefully protected from frost. While this is true of some varieties, the majority of them will stand much more cold than is supposed, as, while they are natives of the hot countries, it is the rocky, mountainous sections that they inhabit, and that, too, quite often almost to the snow line. Necessarily, they are subjected to both extremes of heat and cold, and without injury to them in the least. It is the varieties that are found on the hot, level plains that are tender when exposed to the climate of the North. The tender sorts are the cerei, which are not found north of a line running across the upper edge of Mexico, and extending upwards into Arizona, crossing the Rockies at about Death Valley in California, and from thence to San Diego on the coast. Up to a short time ago the cactus fancier had no knowledge of which of his treasured cacti were hardy, and which required shelter from the frost, so kept all in the conservatory window, or at least carried them into the cellar for winter if bedded out during the summer. They would gladly have known the hardy from the tender, but did not care to subject their valued collection to the test of exposing them to an unprotected winter out of doors, in order to gain the desired

knowledge, so had to care for all in the same old way.

It has lately been discovered that though cacti have not been found growing wild in the eastern states or Canada, there are a number of really good varieties that will luxuriate anywhere in the United States and most of Canada, growing and blooming in the most exposed situations and asking no better



Echinopsis Eyriesii

spot to take root in than some gravelly, stony knoll, where no other vegetation could exist, much less revel in, and yield

an annual display of gorgeous flowers that delight the eye. No longer in the experimental stage is the growing of hardy cacti for permanent outdoor beds, as many of our parks have tried hardy cacti to beautify barren spots that had seemed hopeless problems previous to that time.

On some gravelly side hill, with a southern exposure, where shrubs and grass would be burnt up long before they could establish themselves, the cacti find their natural conditions in perfection. Here they thrive and grow, bloom and seed, and when cold weather in the fall warns them of coming frosts, they make a graceful retreat, and go into winter retirement, becoming so shrunken and reduced as to seem about ready to be dug up and thrown on the rubbish pile. The fresh green color changes to a sunburnt looking purple, and the abundant store of juices that keep the tough skin filled out plump and smooth all summer seem to have been all used up, leaving the cactus in its dormant state and ready to take its winter rest.

In this way nature's plan has been followed, and its results are sure to be an abundance of bloom the next season, the safety of the plants in the coldest weather, and a chance for the gardener to watch a rapid and wonderful change as the warm weather of spring awakens the sleeping cacti to another season of life, beauty and usefulness in giving an otherwise useless spot of ground a carpet of green as well as a liberal display of unexpectedly handsome flowers.

As soon as this phase of cactus growing becomes better known, there is likely to be a great demand for the hardy varieties, and no fear need be felt of their ability to take care of themselves, as the writer has seen the little *Mamillaria Montana* and *Opuntia Missouriensis* growing and doing well in the Canadian Northwest, where the temperature varies from 100 degrees in the shade in summer to 40 degrees below zero in winter. There they revive each spring after a long hard winter and bloom as freely as if growing 4,000 miles farther south. It is mostly *Opuntias* in several sorts that are used in the hardy beds. Their flowers are for the most part yellow, with a few showing a red or pink centre, shading to yellow on the outer edges.

If you did not prepare an earth mulch for the lawn, as recommended in previous issues, apply a moderate dressing of well-rotted barn-yard manure, and spread it evenly.

If you have no photographs of your own garden or lawn and know where there are some, kindly send the name of the owner to THE CANADIAN HORTICULTURIST, or ask him to forward the photographs to us.

Lawn and Garden Hints for October

IMPORTANT work this month in the outdoor garden is the planting of bulbs for spring flowering. They should all be in the ground before the month closes. In preparing the beds they should be thoroughly spaded and enriched, and made a little higher than the surrounding surface so that the water will readily drain off. Plant hyacinths, narcissi and tulips so that the top of the bulb will be about two or three inches below the surface of the soil. Crocus, scilla, chinodoxa and snowdrops may be planted about one-half of that depth. After planting, firm the soil with a spade.

Dig canna roots as soon as they have been blackened by frost but before the frost touches their roots. Store the roots for a week or two in a shed safe from rain and frost, then remove to a warm room or cellar where the temperature ranges from forty to fifty degrees.

Dig the dahlia roots, free them of top growth and adhering soil, dry in an airy but shady place, then store them in boxes of sand in a temperature just high enough to prevent freezing in the coldest season. Be sure to label the clusters when they are taken up.

Treat roots of four-o'clocks as recommended for dahlias. Keep in a cool, moist cellar.

Lift gladiolus corms. Partially dry them before storing for the winter. Pack them in sawdust or sifted earth, and

store in a moderately dry room. Treat corms of tigridias similarly.

Before consigning oleanders, pot-roses and fuchsias to their winter quar-

tem is essential, the earlier the bulbs are planted, the better. After planting place the pots in a dark place for six weeks or more. The pots must be well filled with roots before bringing them to the light. This is the most important feature in the successful culture of bulbs in the house.



Horticultural Exhibition Held by Owen Sound Horticultural Society in August

The persons in the illustration, from left to right, are Mr. J. Y. Jackson, Secretary-Treasurer; Mr. Wm. Hunt, O.A.C., Guelph, Judge; Mr. W. T. Lee, President and Miss L. A. Harrison, Assistant Secretary.

ters they will be benefitted by hardening off as recommended for hydrangeas. They will not stand quite as severe treatment as the latter.

Store century plants in a dry room or light cellar where the temperature is about fifty degrees. Give them very little water during the winter.

If you do not divide the old perennial plants or buy new ones for transplanting this fall, there is still time. Better do it now.

Prepare for the garden next spring. Manure and spade the beds for flowers, so that the frost may have a chance to pulverize the soil and to kill insect larvæ before spring.

Rake and clean the garden. Clean and put away the garden tools when finished with them. Rake the leaves off the lawn and put them on the compost heap. Secure a store of potting soil for use this winter. Have on hand a supply of spruce boughs, straw or strawy manure for protecting the newly-planted bulb beds and any plants that may need it.

If you did not prepare an earth mulch for the lawn, as recommended in previous issues, apply a moderate dressing of well-rotted barn-yard manure, and spread it evenly.

FLOWERS INDOORS

Bulbs may be planted in pots any time during fall but the best results are had by planting them not later than the middle of October. As a good root sys-

tem is essential, the earlier the bulbs are planted, the better.

Freesia bulbs may be placed in the window at once. Grow some Chinese sacred lily bulbs in stones and water. Paper white narcissus may be grown likewise. Select strong bulbs for best results.

A pleasing addition to the winter window garden are hyacinths in glasses. A special vessel, known as a "hyacinth glass," may be used. In it, place the bulbs with a little soft water and some charcoal. Have the water in contact with the base of the bulbs, but no higher. Place them in a dark, cool place until well rooted, when they may be brought into the light. Change the water occasionally and do not let it freeze.

Some of your ferns and palms will require re-potting. Take them out of the old pots, clean the roots by removing a part of the earth and replace in fresh soil in pots of the same size. If the plants are root-bound, it may be necessary to put them into larger sized pots.

Bring the old geranium plants into the house before being frozen. Prune them back severely. Plant them in boxes or pots in sand. Plant them a little deeper than they stood outside. Give sufficient water to moisten all the sand. Stand the boxes or pots in the window and keep the sand moderately moist but not really wet. Leave the plants in the sand until the young growth or shoots have



Cannas Growing Around a Bay Window
Residence of Mr. J. T. Rose, Brantford, Ont.

store in a moderately dry room. Treat corms of tigridias similarly.

Renew the old lily clumps by dividing them and re-planting this fall. When the ground freezes mulch them with straw or spruce boughs.

If you have any half-hardy pot hydrangeas, do not hurry them off on the first sign of frost into unsuitable condi-

made three or four small leaves at the joints of the old stems. If the young roots have well started, each plant may be potted singly in a mixture of half sand and half potting soil. Use three-inch pots. The time for this change usually comes late in January or early in February. Two months after, re-pot in good potting soil in pots two sizes larger.

Another method of treating old geranium plants, recommended by Mr. Wm. Hunt, of the Ontario Agricultural College, is to put the boxes or pots with the plants treated as already described, in the cellar or basement at once instead of growing them on. If this method is adopted, the sand must be kept much drier as the plants must not be allowed to start into growth until February or March. When that time comes, pot them in sand and place them in the window as recommended for the other method.

FALL CARE OF VEGETABLES

When the tops of asparagus are sufficiently dried so that they can be broken down by a rake, gather and burn them. Give the surface of the bed a top-dressing of well-rotted stable manure which should be worked into the soil this fall. Manure left on the surface until spring will prevent early growth.

Take up some parsley roots from the garden and grow them in a box or pot in a more or less shady place, not too warm. This will give a winter supply.

In some localities, radish and lettuce may be had for Christmas by sowing the seed in a mild hot bed. Protect them against heavy frosts or freezing.

Bank up the winter celery. Most of it should be stored by the end of the month.

Pull and store cabbage and dig beets, carrots, parsnips and such crops, and at once put them in the cellar. Some parsnips and salsify may be left in the ground for digging in the spring.

The old rhubarb patch may be renewed by digging the roots, dividing them and starting a new plantation. Some roots should be left on the surface of the ground or placed in a cold frame until well frozen. Later, place these in the cellar on the floor or in a barrel where they will produce stalks for winter use.

Start a mushroom bed this fall. Look up back issues of THE CANADIAN HORTICULTURIST for information. Another article will appear in an early issue.

Clean up the vegetable garden and burn all rubbish. Apply a dressing of manure and dig or plow it in. Rearrange the location of the crops for next year. A rotation of crops always gives best results. Grow shallow-rooted plants next year where deep-rooted ones were. This is only one of the factors to be considered. An article on this subject will be published soon.

Forcing Tomatoes*

W. S. Blair, Macdonald College

IT IS doubtful whether tomato forcing as a distinct business can be profitably conducted in Canada. They can often be profitably worked in, however, as a spring crop, after some of the commonly grown greenhouse crops are past their best. It was with this thought in mind that work with tomatoes under glass has been taken up at the Macdonald College. For much of the data presented in this paper, I am indebted to my former assistant, Prof. V. R. Gardner, now horticulturist of the Maine State College, and especially to our efficient greenhouse manager, Mr. A. H. Walker.

The winter forcing of tomatoes is much more difficult than the spring forcing. The tomato loves light and heat and to ripen its fruit during the dark days of midwinter, when sunlight is not only scarce but not strong enough to clear the glass of its heavy coating of frost, is no easy proposition. For this reason it is doubtful to what extent winter forcing can be carried on. This point we aim to work out and experiments to that end are now in progress. Our first planting was made into permanent beds in August, hoping to have our fruit well formed by December, depending largely upon heat alone for ripening. This phase of the question, however, is not the purpose of this paper, and therefore the spring forcing problem and how it can be worked to follow other crops is what I wish especially to deal with.

Our houses are of the King construction, twenty-one and one-half feet span, seven feet to the gutter. The plants should have four and one-half to five feet of head room, at least; therefore, the crop cannot be worked into some low houses profitably. Our houses run east and west. We have a four-span house. These houses are divided by a glass partition, and a walk runs cross-wise of the house, with glass partitions at each side. We have in all four thirty-eight feet and four fifty-eight feet houses each under control. Briefly our aim is to develop crops on a commercial scale in these houses, and at the same time work out problems similar to the one under discussion.

The soil used for tomatoes was made up of a medium light loam sod, piled in summer, into which one-quarter its bulk of stable manure was put, and the whole cut down and mixed before putting into the benches. The soil in the benches was six inches deep.

STARTING THE PLANTS

The plants for house No. one were started from seed sown September 16, into flats. These were pricked off into three and one-half inch pots three weeks later, and carried in these pots to November 22, or nine weeks, when they were set into the permanent bed, being about twelve inches high at that time.

The plants for house No. two were started December 15, in flats, and pricked off a month later into three and one-half inch pots, and on February 20 were again shifted to five-inch pots, and set into benches March 12. The plants at

that time were eighteen inches high. It will be seen that these plants were carried three months before benching. It is safe to say, therefore, that the period between sowing the seed and pricking off will be from three to four weeks. The plants can then be carried in three and one-half inch pots from four to five weeks, but if a longer period is required a shift to a five-inch pot is necessary in order to keep the plant growing and healthy. It is also well to bear in mind that while it is possible to carry a plant in a three and one-half inch pot during the early part of the winter, yet owing to a much more rapid growth towards spring, this would be impossible without stunting the plant. In no case is it advisable to carry the plants longer than three months before benching.

THE FRUITING PERIOD

Plants set in benches in No. one house on November 22, gave their first ripe fruit the middle of March. The time required for the plants to come into fruiting was 113 days. These continued in fruit until the middle of May, or seventy-one days. Those set in benches in No. two house on March 12, gave their first fruit on May 12, or in sixty-one days, and continued in fruit till the end of July, a period of seventy-seven days. It will be seen that the plants occupied the benches in No. one house about fifty-two days longer than those in No. two house, before coming into fruiting. The fruiting period was of about the same duration in both houses. Allowing, therefore, that the plants set in house No. one

*Portion of a paper read at the convention of the Canadian Horticultural Association held at Niagara Falls, Ont., in August. It will be continued in next issue.

could have been carried two weeks longer by shifting into a five-inch pot, it still would have been necessary to carry these plants five weeks longer in benches in order to get ripe fruit during March and April than to secure fruit in house No. two during May and June. The following table will assist somewhat in making this point clear:

HOUSE	SEED SOWN	SET INTO 3½ IN. POTS	SET INTO 5 IN. POTS	SET INTO BENCHES	FIRST FRUIT RIPE	END OF FRUITING PERIOD
No. 1	Sept. 15	Oct. 8		Nov. 22	Mar. 15	May 25
No. 2	Dec. 15	Jan. 15	Feb. 20	Mar. 12	May 12	July 29

DISTANCE APART

The plants in house No. one were set diagonally in rows twelve inches apart, and fourteen inches apart in the rows. This would bring the plants about fourteen inches apart each way. House No. two was set diagonally in rows fifteen inches apart and twenty-two inches apart in the row, bringing the plants about eighteen inches apart each way, which distance is the one generally recommended.

THE YIELD

The yield of ripe fruit from these houses and the cash returns for fruit sold for each of the two weeks is as follows:

HOUSE NO. 1	NO. OF POUNDS	VALUE OF FRUIT SOLD	AVERAGE PER POUND
March 15 to April 1	81½	\$19.15	23.49 cents
April 1 to April 15	193¾	\$49.93	25.31 "
April 15 to May 1	248¼	\$53.44	21.55 "
May 1 to May 15	59¼	\$14.05	23.71 "
May 15 to May 25	59½	\$13.15	22.10 "
HOUSE NO. 2			
May 12 to June 1	129¾	\$25.75	19.84 "
June 1 to June 15	205½	\$31.03	15.10 "
June 15 to July 1	305¼	\$50.22	16.45 "
July 1 to July 15	196½	\$32.78	16.68 "
July 15 to July 29	187½	\$23.55	12.56 "

Average price per pound for house No. 1—23 cents
 " " " No. 2—16 cents

The following table gives the area in plants and the average yield per plant and per square foot:

HOUSE	BENCH AREA	FRUIT lbs.	AVERAGE PER PLANT lbs.	AVERAGE PER SQ. FT.	AVERAGE PRICE PER LB.
No. 1	220 square feet	650¼	3.20	2.95	23 cents
No. 2	384 square feet	1024½	5.28	2.67	16 cents

DIFFERENT PARTS OF THE HOUSE

The plants in house No. one occupied the central part of the house, and were on a raised bench. In house No. two a raised bench, taking three rows of plants, extended along the south, west, and north side. The south side bench is next to a glass partition, the west and north benches extend along the outer

wall. The bench in the central part of the house is wide enough to take in seven rows of plants. The sides are solid and only ten inches high. This bench is supplied with good drainage material at the bottom. The same depth of soil was used in this as in the other benches used. The table in the next column gives the average yield of fruit per plant from rows

located at different positions in this house.

Harvesting Potatoes

H. A. Blunden, Sarnia, Ont.

Potato harvesting operations are governed entirely by what the crop is intended for—whether for early or late market. For early market, the potatoes should be dug, as soon as they are a good size, with a four-tined potato fork, or one of the well-known potato diggers. No more should be dug at a time than can be safely marketed, at the latest, the following day. There is no vegetable that will deteriorate in quality and reduce in price so quickly as an early pota-

or barrels, holding from five to ten bushels each, nailing on a cover so as not to press on the potatoes. Place the boxes in rows on an elevated piece of ground, and cover them on top and sides with a good layer of dry straw, followed by about six inches of earth. Before the severe frosts of winter set in, cover again with stable manure. This last operation will have to be done according to the grower's own judgment. Too much manure might injure the potatoes by heating.

LOCATION	Av'ge Yield per plant
SOUTH	
Row 1 Next to glass partition	55¼ ozs
" 2 Centre row	71 "
" 3 Next to walk	89 "
WEST	
Row 4 Next to outer wall	71¼ ozs.
" 5 Centre row	83¾ "
" 6 Next to walk	100¾ "
NORTH	
Row 7 Next to outer wall	49½ ozs.
" 8 Centre row	85 "
" 9 Next to walk	97½ "
CENTRE	
Row 10 Next to south walk	101¼ ozs.
" 11 Second row to south walk	88¼ "
" 12 Third row to south walk	87 "
" 13 Central row	90 "
" 14 Third row to north walk	78 "
" 15 Second row to north walk	90¼ "
" 16 Next to north walk	98¼ "

The raised benches in this house gave an average yield per plant of 78 ounces and the centre bench an average of 90 ounces per plant. These two benches came into fruiting about the same time and the quantity of fruit picked to July 1 averaged approximately the same per plant on the ground bench as on the raised bench, but the plants continued fruiting longer on the centre bench, due, no doubt, to having more head room than those on the side benches.

About Ginseng

J. E. Janelle, Caughnawaga, Que.

There is a great demand for dry ginseng, and it is almost universally used by Asiatics. It is claimed by American consuls in China that that country alone would import \$30,000,000 worth of ginseng roots a year, if she could get it. All Chinamen use it, either as a tea or ground into powder, and mixed with their food, the same as we do with pepper.

This plant and the proper method of its culture, has been kept a secret by many interested growers and "wild root diggers"; but to-day large growers sell seeds and plants to intending beginners, and give them a culturist guide with every sale. These have only to follow the instructions contained in this booklet if they want to succeed.

Tell the story of your success in gardening to the readers of THE CANADIAN HORTICULTURIST by contributing a letter for publication.

STORING

In storing potatoes whether for family use, future market, or seed, the grower is entirely governed by circumstances. The handiest method is by putting in bins in a dry, cool cellar, before severe frosts set in. If cellar room is not available, the best of all tried methods is to put the potatoes in light, wooden boxes

Opportunities for Market Gardening in British Columbia

By a British Columbian

IT IS only during the past few years that market gardening has been conducted by the white population in British Columbia. Previously it has been controlled by Chinamen, who sold their produce at so low a figure, that it was considered unprofitable for others to engage in the business. Since the \$500 head tax on Chinamen has been in operation, however, numerous enterprising whites have entered the arena and developed the business to such an extent that not only have they supplied the home market, but they are building up an ex-

tion owing to the large amount of sunshine and practically no frost or snow in the winter. Many gardeners make a specialty of supplying the out-of-season trade with greenhouse lettuce and tomatoes. Others are contemplating forcing rhubarb in dark sheds, cauliflower and kindred vegetables in cold and hot frames. As the winter is so mild, it is not necessary to have such substantially constructed glass houses as it is in the east, or to consume so much fuel and the possibilities in this direction are unlimited.

tion, with the exception of an occasional watering until the fruit was about two-thirds grown, when most of the new leaves were partially cut away to admit all the sunshine possible to develop and ripen the fruit. This year the single stem plan has been followed out with the result that ripe tomatoes were gathered on the 20th of August.

If these results can be accomplished by an amateur, surely a person who understands the business should be able to do at least as well. There is no reason why tomatoes should not be ripened in the open during the latter part of July, by potting in five inch pots, and keeping in a cool frame until the roots begin to fill the pots, and fruit to set upon the vines, before transplanting outdoors. Other growers have had success in different lines; some making a specialty of raising brussels sprouts and savoy cabbage during December, borecole in February, and green onions, etc., to meet the early spring demand.

There is no doubt that the future prosperity of the British Columbia market gardener depends on his ability to supply the needs of the great northwest. Enthusiasts look forward to the time when this favored section will be known as the California of Canada.

Subsoiling gives best results when performed in the autumn.

It was erroneously stated in the September issue of THE CANADIAN HORTICULTURIST, that the ginseng garden illustrated on page 190, is the establishment of Mr. J. E. Janelle, Caughnawaga, Que. The cut was published to show readers how a lattice shade is built. It illustrates a garden in Missouri.

Through an error in printing, Mr. George Syme, Jr., the author of the article on "Growing Cauliflowers for Market," which appeared in the September issue, was made to say, "when cauliflowers begin to form, they should be well *watered* and tied....". Mr. Syme originally wrote *watched*, instead of *watered*.

Celery should be harvested about November 1. Store in the cellar by placing the stalks upright in rows, with the roots in sand. The rows may be as close as the plants will stand. Water every week. I have tried trenching in the field, the plants being covered for winter with earth and straw, leaving vent holes at the ends for the entrance of air; but that method draws dampness and is not so successful as the cellar.—T. W. Stephens, Aurora, Ont.



A Large Market Garden in British Columbia—Cabbages Pulled and Piled

Vegetables may be grown successfully in all the valleys of the province and on Vancouver Island, a particularly favored district. The field illustrated is near Armstrong in the Okanagan Valley.

tensive export trade for early vegetables to that portion of British Columbia which lies east of the mountains, and to the provinces of Alberta, Saskatchewan and Manitoba. In these provinces, where the rigorous winter forbids the cultivation of the soil for five or six months in the year, there is an inexhaustible market for our products.

By a beginner contemplating entering the business, a great many things must first be taken into consideration. If it is intended to cater to a local market, it is important that he must locate near a large city. On the other hand, if the intention is to supply the eastern market, then it is a question of climatic conditions which will enable him to furnish the market with vegetables for the out-of-season trade.

The southern portion of Vancouver Island is probably the most favored sec-

All the vegetables of the temperate zone are grown to their fullest development, as in the south of England. The writer last year secured ten bushels of thoroughly ripe tomatoes from twenty-four plants. The method of cultivation was as follows: In the fall the soil was prepared by trenching and working in thoroughly rotted stable manure into the sub-soil. This was left in a rough condition till spring, when the surface soil was incorporated with well-prepared manure, and made as rich as possible. The plants were secured from a local nurseryman, and permitted to develop until they had attained a height of nearly four feet, when they were severely pruned of side shoots, merely leaving three or four bare stalks which were trained to stakes driven into the ground about six inches asunder. The plants required (or received) no further atten-

QUESTION AND ANSWER DEPARTMENT

White Black Raspberry

We have discovered a berry growing wild in our garden which we believe to be of a new variety, but would like to know if others of its kind are known. It seems to combine the qualities of the black and white raspberry, the fruit being of a light brownish shade but having the flavor and shape of the black raspberry. It is also like the latter in growth, foliage and general characteristic, except that the stems are somewhat lighter in shade. The bush is very hardy and a fast grower, spreading rapidly. The fruit is greatly liked here for canning and preserving, and as the bush bears well, it is quite profitable. I am sending a sample of the fruit and a small branch.—B. W. S., Ontario Co., Ont.

The brownish shade of color in evidence on the fruit is entirely new to me. I know of no varieties which even approximate this color. I have seen a yellow unnamed sport of the black raspberry, but it would seem to be entirely distinct from the one under discussion. A variety of this color could hardly become of commercial importance, although judging from your correspondent's description of the bush and fruit it might be a valuable novelty.—J. W. Crow, O. A. C., Guelph.

Occasionally there is an albino form of the black cap found in the wild condition and this is one of them. From time to time these albino forms have been introduced to cultivation under names, but have not been commercially valuable. Some of the names which they have received have been American White Cap, Haskell's Yellow, Yellow Pearl and Golden Cap. The flavor is usually inferior to the black cap. They vary from white to golden yellow and often have a brownish tinge which makes them unattractive for market.—W. T. Macoun, C. E. F., Ottawa.

Pruning Hedges

Would you advise me as to the best time for clipping spruce and cedar hedges? They have been planted about two years. I want to clip them to a point in the centre as I think it would be better in the snow than a flat top. Can you tell me how to set about it. I want to find also the size of a piece of ground for sowing grass seed. How would I get it?—B. S., Island of Orleans, Que.

Spruce and cedar hedges may be pruned either in spring or fall, but spring is the customary time. They should be trimmed the second year after they are set, or sooner, although not very closely until they reach the desired or permanent height. If the plants are allowed to grow for a year or two without trimming, they lose their lower

leaves and become open and straggly. Prune them each year but never back of the growing twigs. These trees have no dormant buds the same as deciduous trees, hence if they are cut back to where the leaves disappear, no new growth will be thrown out. If you propose trimming to a point in the centre, it would not be well to produce that form altogether the first time of shearing. Plan to reach it in the course of two or three years, or even more, pruning each year more and more in accord with it.

You will find directions for measuring ground on page 146 of the July issue of THE CANADIAN HORTICULTURIST.

Elephant Ear Plant

Please tell me if I could lift an elephant ear caladium and keep it in the house during winter as a winter plant?—R. B., Waterloo Co., Ont.

The elephant ear plant (*Caladium esculentum*) being a bulbous plant, does not lift very well in the fall. By lifting it carefully, it might be possible to grow it indoors for a few weeks, but they are seldom a success when lifted. Keep the plants during winter in almost dry sand or soil in a temperature of about fifty degrees. A wet, cold cellar does not suit them. A moderately dry place is best. They should be dug immediately after the leaves are frosted and before ground freezes.—Wm. Hunt, O. A. C., Guelph.

Trouble with Elm Tree

On one side of a very large elm tree the bark is loose and coming off. Could one of your tree experts tell me the cause, also what he would advise to prevent further damage? It is a very fine tree in centre of lawn and I do not want to lose it.—F. M. G., Elgin Co., Ont.

It is not possible to say definitely what is the matter with the elm tree without seeing it and learning what the exact conditions are under which it is growing. In most cases where shade trees die on the side of the trunk as described, the injury is at the root. If the roots on that side of the tree are dead the wood of the tree is likely to die on that side. By examining the roots, it can be learned whether it is at the root where the trouble is in this case. By removing the dead bark, scraping the wound back to living tissue and keeping the injured part covered with white lead paint, the tree may in time heal over. If it can be discovered what caused the death of roots, further spread of the trouble might be prevented.—W. T. Macoun, C. E. F., Ottawa.

Treatment of Tuberose

How is a tuberose treated after flowering?—A. S., Wentworth Co., Ont.

Tuberose are of very little use to flower the second year, especially if they have been planted out. If grown in a pot, bring in before frost and keep in the soil in a temperature of 45 degrees. They are seldom successful the second year.—Wm. Hunt, O.A.C., Guelph.

Water Hyacinth

How is a water hyacinth kept over winter?—A. S., Wentworth Co., Ont.

A water hyacinth will keep best in a cool, moist cellar, or if planted out of doors, it should be covered early in November in a foot or 18 inches of leaves or long manure, and some boards or a barrel put over to keep out the moisture.

Fuchsias in Winter

Can young fuchsias be kept growing all winter or is it best to put them down cellar? I would like to make show plants.—B. K., Waterloo Co., Ont.

Young fuchsia plants, if in good growing condition now, can be grown on for a while, but they should have a period of partial rest late in winter so as to give them a good start in Spring. A cool cellar with a temperature of forty to fifty degrees, suits the fuchsia when resting in winter. Bring the plants into the house before frost. Keep the soil barely moist when plants are resting.—Wm. Hunt, O.A.C., Guelph.

Take an interest in our question and answer department. It will help you.

Clean up the orchard before the snow flies.

All tender and half-hardy plants should be mulched. Even hardy plants are benefitted by some protection.

When your house bulbs are in full bloom have a photograph taken of them, and send it to THE CANADIAN HORTICULTURIST.

The rudbeckia or golden glow is an excellent perennial for the background in the border or to hide an unsightly corner, but it should not be allowed to crowd out other things. Do not have too much of it in the garden. Divide the roots this fall. Use what is necessary elsewhere and throw the rest away.

The Canadian Horticulturist

Published by The Horticultural
Publishing Company, Limited

PETERBORO AND TORONTO



The Only Horticultural Magazine in the Dominion

OFFICIAL ORGAN OF BRITISH COLUMBIA, ONTARIO, QUE-
BEC, NEW BRUNSWICK AND PRINCE EDWARD ISLAND
FRUIT GROWERS' ASSOCIATIONS AND OF THE ONT-
ARIO VEGETABLE GROWERS' ASSOCIATION

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1. The Canadian Horticulturist is published on the 25th day of the month preceding date of issue.
2. Subscription Price in Canada and Great Britain 60 cents a year, two years \$1.00. For United States and local subscriptions in Peterboro, (not called for at Post Office) 25c extra a year, including postage.
3. Remittances should be made by Post Office or Money Express Order, or Registered Letter. Postage Stamps accepted for amounts less than \$1.00.
4. Change of Address—When a change of address is ordered, both the old and the new addresses must be given.
5. Advertising Rates quoted on application. Copy received up to the 18th. Address all advertising correspondence and copy to our Advertising Manager, 72 Queen Street West, Toronto.
6. Articles and Illustrations for publication will be thankfully received by the editor.

CIRCULATION STATEMENT

Since the subscription price of The Canadian Horticulturist was reduced from \$1.00 to 60 cents a year, the circulation has grown rapidly. The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with Dec., 1907. The figures given are exclusive of sample and spoiled copies and of papers sent to advertisers. Some months, including the sample copies, from 10,000 to 12,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruit, flowers or vegetables.

Circulation Statement

January, 1907.....4,947	January, 1908.....7,650
February, 1907.....5,520	February, 1908.....7,824
March, 1907.....6,380	March, 1908.....8,056
April, 1907.....6,460	April, 1908.....8,250
May, 1907.....6,620	May, 1908.....8,573
June, 1907.....6,780	June, 1908.....8,840
July, 1907.....6,920	July, 1908.....9,015
August, 1907.....6,880	August, 1908.....9,070
September, 1907.....7,080	September, 1908.....9,121
October, 1907.....7,210	
November, 1907.....7,257	
December, 1907.....7,500	

Total for the year, 79,525

Average each issue in 1907, 6,627

Sworn detailed statements will be mailed upon application.

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EDITORIAL

BRITISH COLUMBIA

The comparatively new fruit growing province of British Columbia can teach eastern growers many pointers on growing and selling fruit. This fact is recognized not only by enthusiasts in that province but also by eastern growers who have visited British Columbia. Highest honors have been taken by British Columbia fruit wherever it has been shown in competition. The growers have adopted at the outset modern practices in growing and modern methods in marketing. They have taken advantage of all the experiences of California and other Western States and of the older fruit growing provinces and are applying them to local conditions and improving upon them. It might be said almost that they have started at the top of the ladder. With this advantage combined with the fact that nature has richly endowed the province with soil and climate that scarcely can be duplicated elsewhere in the world, the growers of British Columbia are fortunate.

It would be folly to imagine that mistakes have not been made and will not be made. Many persons have gone into the business without any knowledge of the principles and the practise of fruit culture. In attempting to apply up-to-date methods without a thorough knowledge of the simpler and just as necessary minor practices, some have been and more are apt to be disappointed. There is opportunity for educational work on the part of the older growers and of the Government. Many persons also have bought land, through misrepresentation on the part of fraudulent land companies (many of them are not in this class), that is little or no value for anything. In spite of these things, British Columbia is becoming famous for her fruits. Eastern growers will have to keep moving to hold their own.

SOME GRAFTING METHODS

In these columns many references have been made to the practices of agents of certain American nursery firms. Recently our attention was drawn to a troop of agents, operating around Aylmer and St. Thomas, Ontario, who claim to be connected with a Michigan firm, which we fail to trace in the National Nurseryman's Directory. They are offering all kinds of absurd inducements, which include a four-year guarantee and a verbal agreement to trim the trees every year for four years. They are approaching farmers with bottles of prepared fruit, and also a bunch of root-grafts, which they use to demonstrate the inferior practices of the Canadian nurserymen. If they drop across a farmer who knows nothing about root grafting, (and there are many of them), they try to convince him, that they have a method in Michigan, of grafting apple trees and other stock, that is known only to themselves, and which cannot fail to result in strong thrifty trees, which will grow ahead of any stock, propagated under Canadian systems.

Canadian nurserymen, who propagate their apple trees by grafting, use exactly the same methods as these Yankee people, only perhaps it is done a little bit better. It may not be amiss to point out to our readers, who do not know, the method followed by Canadian concerns. The strongest of the young stocks, that have either been grown at home or imported, are kept in cool cellars during the winter, until about the beginning of January, when the grafting takes place in these cool cellars.

Whip or tongue-grafting is the method usually employed. The only advantage one nurseryman may have over another is;—that he uses a whole root for his graft, and discards the first and second cuts. By the first and second cuts, we mean, long tap or finger roots, that are cut from the stock, when the grafter is trimming his roots, and these same roots that are cut off are sometimes used by nurserymen and sometimes discarded. There is but little advantage in using the whole root, and there is no reason why the strong root trimmings should not be used, if they are thrifty enough to take a scion. Our leading nurserymen make a practice of grafting entirely on the whole root.

It is plain to anyone, who knows the first thing about grafting, that the United States agents referred to are inventing some new scheme, to gull the poor farmers again. We take the opportunity of warning our readers against them and their methods.

FRUIT MEN IN PARLIAMENT

More horticulturists should be in Parliament and in our Legislative Assemblies. There is need for men who know something about fruit growing and kindred pursuits. The enacting of legislation that has to do with the progress of our fruit industry requires the support of men acquainted with the business.

It is with pleasure, therefore, that we learn of the nomination of Mr. Martin Burrell to contest the Yale-Cariboo constituency in the next Dominion election. Apart from politics (and we do not know the party that he supports), Mr. Burrell is eminently fitted for a place in Parliament, no matter to which side of politics he belongs. His long experience as a fruit grower, the excellent work that he did at the Dominion Fruit Conference in 1906, the manner in which he performed his duties as representative for British Columbia at the fruit shows of England and the great interest that he takes in the development of the fruit industry of Canada, make him highly deserving of the confidence of the electors. Furthermore, the retirement of Mr. E. D. Smith, M. P., the Conservative member for South Wentworth, Ontario, and the fact that Mr. A. A. Wright, M. P., the Liberal member for South Renfrew, will not be a candidate at the next election, both of whom have done valuable work in the interests of our fruit industry, demand the election of one or more men to continue the work.

A COURSE IN FLORICULTURE

The short course in horticulture that was held at the Ontario Agricultural College last January proved to be a commendable feature. Its chief interest was for fruit growers and good work was done. As we understand that the program for the course next winter is now in course of preparation, we would suggest that a course in floriculture also be established. The commercial flower growers of the province feel that their branch of horticulture has not received the attention of the Ontario Agricultural College that its importance warrants. The industry is developing rapidly. To keep abreast with its progress and its demands, florists must keep in touch with all that is known about the business and with all that can be discovered. From whence can such information better be disseminated than from the Ontario Agricultural College? It is supposed to be the fountain head of knowledge in horticulture as well as other branches of agriculture. Much good work has been done by the institu-

tion but more is needed. Here is an opportunity to do something for our florists.

A prominent florist in Hamilton recently told THE CANADIAN HORTICULTURIST that he, for one, would be glad to attend such as of course. Many others feel likewise. The time is ripe for a course in floriculture and it should be started next winter.

The annual meetings of the horticultural societies of Ontario will be held this year in November instead of next January. The reason for changing the date of the time of holding the meetings is that they may be held at the season of the year when greater interest is taken in horticultural matters and when the members of the societies are still enthusiastic over the season's work. The earlier date will enable the societies, also, to appoint some of their new officers as delegates to attend the annual meeting of the Ontario Horticultural Association that will be held in Toronto at the time of the Ontario Horticultural Exhibition, where methods of increasing the usefulness of their societies will be discussed. Every horticultural society in the province should appoint one or more delegates to attend this convention.

There is an element of unfairness in the preparation of the prize list for the fruit exhibits at the Canadian National Exhibition. Growers of fruit in Western Ontario always have an advantage over those of the East and North. Their fruit matures much earlier and, as a consequence, they can place it on the show tables more advanced in color and size. Some scheme for overcoming this condition of affairs should be incorporated in the prize list so as to give exhibitors in all parts of the province an equal chance. A step in this direction would be the granting of prizes for county exhibits such as is done at the Ontario Horticultural Exhibition, held in Toronto, every November.

The horticultural exhibition to be held at Kentville, N. S., Oct. 7-9, promises to be the greatest event of its kind ever held in the maritime provinces. Every person interested is enthusiastic. Preparations are being made on an elaborate scale for a show that will be of great value and interest to exhibitors and to the public. All friends of horticulture in the east should do their part, by exhibiting, by attending, or by both, in making the exhibition a credit to Nova Scotia.

British Columbia Fruit

The older fruit districts of Canada are gradually learning that British Columbia is becoming a big factor in our fruit industry. In an article that appeared in the *Toronto News*, Mr. E. J. McIntyre has this to say about the qualities of British Columbia fruit:

"The fanciest of fancy apples, it must be admitted, come from British Columbia. Spitzenbergs, Kings, Spys and Baldwins acquire in that favored province a wealth of size and glorious coloring that is nothing short of marvelous. The plumage of the golden pheasant is scarcely more gorgeous. One can easily imagine them taking the lead in British markets against all competition once an export trade is developed. In flavor and quality they do not quite reach our standard, but they are certainly not inferior in these regards to the apples of Oregon and California."

We have received from Messrs. Ellwanger & Barry of Rochester, N. Y., an excellent little catalogue of select peonies, phloxes, irises and other plants for fall planting.

The Irrigation Convention

J. Sanger Fox, Vernon, British Columbia

AS recorded in the September issue of THE CANADIAN HORTICULTURIST, the second annual convention of The Western Canada Irrigation Association was held in Vernon, B. C., in August. On Monday, the 10th, two sessions were held, and on Tuesday, three, while on Wednesday the day was spent in driving to points of interest to irrigationists in the neighborhood, finishing up with a banquet in the evening. Thursday, Friday and Saturday were spent visiting points of interest down the Okanagan Lake and partook rather more of a recreative character. Besides this a number of delegates stopped over at Armstrong, a few miles north of Vernon, and were driven over some of Armstrong's timber limits with an idea of seeing something of the practical side of the forestry question in connection with irrigation. The ladies of Armstrong treated them to a most tasty lunch.

In the presidential address, at the opening session, the Hon. F. J. Fulton made a very important utterance with respect to the Government's attitude on the question of the amendment of the present Water Clauses Consolidation Act of British Columbia, and said that with the help of Mr. J. S. Dennis of Calgary, the well-known irrigation expert, he was engaged in drafting legislation which would meet the needs of present day affairs. He stated that contrary to the usual precedent, he intended to get this printed and distributed broadcast so that all interested in the subject would have every possible opportunity of seeing what was proposed, and of offering suggestions in the way of amendment or rejection, if its provisions did not meet with their approval.

Speaking of Mr. Fulton's reference to himself as assisting in the drafting of an amendment to the present law in British Columbia, Mr. Dennis said that the Hon. Commissioner for Lands and Works was not in any way bound by any views which he (Mr. Dennis) might express, but he was merely assisting him with such suggestions as in his experience in irrigation matters in the prairie provinces he was able to give him.

Briefly outlining his idea of what was wanted and what was required to make the Water Clauses Consolidation Act a thoroughly comprehensive one, the speaker stated that the first thing that would have to go was the "Miners' Inch." This would have to be replaced by a recognized unit, probably the acre-foot, or the cubic foot per second. Referring to the hopeless state of over-recording on practically all the streams in British Columbia, he thought the next thing to be done was a thorough and drastic "house-cleaning" process. All the streams would require to be surveyed, the amount of water flowing in their channels at low water, high water and flood, be ascertained, the amount and extent and title of each record gone into most thoroughly, and—and herein lay the drastic measure—all those records not being used beneficially after having been given a thorough chance to "make good," cancelled altogether. The remaining ones, he thought, could be so adjusted as to meet within some fairly reasonable bounds the capacity of water in the streams. If there were not enough water at low water to satisfy all the water records, those which were unmet would have to conserve the flood water for use when water ran short during the dry season.

In connection with the latter point, legislation would also have to be provided encouraging private parties to build reservoirs and protecting them in the conveying of water thus preserved to their own lands.

Another point that would have to be defined would be the duty of water; i.e., in applying for a water license, the applicant would have to state for what land the water would be required.

He thought that a law with these basic features would be successful, and would make it impossible for streams to be recorded more than the amount of water that they contained, and would ensure to every record the amount of water specified therein. Mr. Dennis also mentioned the matter of the preservation of the water sheds, and stated emphatically that it was of the utmost importance in the regulation of the flow in mountain streams that the water sheds should be kept well wooded, and not denuded of their timber and vegetation.

NOTE.—Many other valuable addresses and discussions took place. A number of important resolutions were passed. These and the discussion they provoked will be mentioned in the next issue of THE CANADIAN HORTICULTURIST.—Editor.

Export Apple Trade

Editor, THE CANADIAN HORTICULTURIST: In some quarters there has been apparently an effort to belittle the brokerage firms in Great Britain and to urge upon growers the desirability of selling their apples f.o.b. and, as I represent what I believe is the oldest firm of receivers of American apples in Great Britain, Messrs. Woodall & Co., who received apples in 1847 from the Underhill orchard at Croton Point, New York, I think it only right I should say something by way of counteracting it.

It is quite true that there are numerous undesirable receivers in Great Britain; at the same time, the reputation of the good ones should not suffer for the actions of the bad. There are six firms comprising the Liverpool Fruit Auction who sell goods publicly and above board, and while a few smaller firms, who cannot get on this Auction and who have not capital enough to carry on an extensive trade, are forever sending out misleading, venomous and malicious statements against what they term a combine, born only of envy and jealousy, the fact remains that more than 90 per cent. of the independent consignments of apples go to this same Auction, shipped by men who have been in Liverpool many times and are thoroughly conversant with the workings there. In spite of this slander, which has gone on in some quarters for years, the Auction still flourishes and is acknowledged to be the best medium for the distribution of fruit. The sales are public and above board. Any buyer of good standing can be a member by application. What some term a "closed room" is not such and this term is misleading, the regulation being merely to keep out a lot of loafing draymen or people who would put in bids and are unable to pay for the fruit or who have previously abused the credit granted by the Auction, (you will understand that the brokers guarantee the accounts of purchasers and it is absolutely necessary to make as few bad debts as possible and sell only where the money is sure), and who would use up the time of

the hundreds of buyers who come three days a week from all part of Great Britain.

The charges are actual and open and sales are printed on catalogues which are issued broadcast so that no mistakes can be made, nor can varied commissions be charged which is not the case under private sale methods. In the one case, goods are offered publicly and practically the whole of Great Britain competes for them, and in the other, competition is limited to the customers of one small receiver; and these croakings remind one of the flea telling the elephant not to push.

The Liverpool brokers have really been the best friends of the Canadian apple growers. The competition among themselves to get business has caused their agents to scramble over each other making advances in many cases to questionable men to get business and, at least, has been the means of handling thousands of barrels that would otherwise not have been handled had the banks been depended on to furnish the money or the trade been left to the few independent dealers who, of course, would have bought at much lower prices. This evil the brokers have seen the necessity of remedying, however, and hereafter only reliable men will receive any assistance from them.

A WORD ABOUT CO-OPERATION

From the brokers' standpoint, it is immaterial by whom apples are shipped or pack-

ed. They are there to sell the fruit, like brokers in any other business and, where a man of ability and integrity and with the necessary experience is manager of the co-operative association everything runs well. There are managers, however, who insist upon such large side commissions that there would be nothing in it for a broker to handle the stuff and there are other managers without the experience of many years; in both the latter cases, the results are the same. Also there are many districts not adapted for co-operation, the growers being interested in mixed farming and when they should be picking their apples they have so many things to attend to that they prefer selling out and out to dealers. If a broker were to receive per barrel what some managers get, they would not be long in getting rich. This does not apply, however, to a few genuine men who are making a success of managing co-operative associations. I know of many cases where individual dealers have shipped to the Auction and obtained higher prices than the associations who consigned or sold f.o.b. for practically the same fruit.

Growers sometimes ask "why cannot we sell our apples as we sell our cheese"? I reply, "Because cheese and apples are entirely different products." The former, after its arrival in Great Britain, can be held with safety indefinitely, while the latter must be sold and got into consumption after an ocean trip.

When the market goes wrong, many people who contract purchases here are unable to pay for the fruit and the stuff has to be sold at the Auction in a poor market, although possibly the contractor has had many previous shipments which have cost him much less than he would have paid at auction.

Naturally the millenium in the trade would dawn could everything be sold here at satisfactory prices but the growing districts are so extensive and there is such variation in quantity and quality and in condition after landing that an occasional slump is unavoidable, and the biggest shippers have found that the Auction averages the best prices and is the safest and cheapest method of getting highest prices.—Eben James, Toronto.

National Apple Show

Great preparations are being made for the National Apple Show to be held at Spokane, Wash., U. S. A., on Dec. 7 to 12. It is expected that premiums will be offered amounting to over \$35,000, consisting of cash, irrigated tracts of land, farm implements and articles especially adapted to orchardists' use. While called the "National Apple Show," the exhibition is fast assuming an international character. The management is encouraging, with good results, exhibits from all over the world.

Special premiums are being offered for exhibits from the provinces of Canada and all general classes are open for them also. The following prizes are offered for the exclusive benefit of all foreign countries that compete, including Canada: For the best two barrels or six boxes of apples, one or more varieties (may be exhibited in box, barrel, plate or staged).—First prize, \$100; second prize, \$50; and third prize, \$25.

Our provinces should make both individual and collective displays. Exhibits are expected from Kelowna, Nelson, Revelstoke and other places in British Columbia. It is hoped that Ontario and Nova Scotia and other provinces also will be represented. Individual growers, fruit growers' associations and all others interested can obtain copies of the premium list by writing to the secretary, Mr. H. J. Neely, 223-224 Hutton Place, Spokane, Wash.

Scotchmen Visit in Canada

The Scottish agriculturists, who toured Canada during the latter part of August and early in September, visited the famous Niagara fruit district. At St. Catharines, they visited the farm of Mr. W. C. McCalla and were accompanied by leading fruit growers of the district and prominent men of the city. They visited also the St. Catharines Cold Storage and Forwarding Co. and the grapery and wine cellars of Mr. George Barns.

From St. Catharines, the party journeyed to Beamsville, Grimsby, Winona and on to Hamilton. Among the places visited were the Beamsville Canning Factory and the farms of Messrs. Hamilton Flemming, Beamsville; A. G. Pettit and H. L. Roberts, Grimsby; Murray Pettit, E. D. Smith and J. W. Smith of Winona. The day was a most enjoyable one, the visitors expressing many complimentary remarks in reference to the growers and the scenery of the district.

A few days previous, the Scotchmen visited the famous melon patches of the Montreal district, under the guidance of Mr. R. Brodie, of Westmount. Their surprise and pleasure at seeing such large, luscious melons growing in Canada was great.



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Horticulture at the Canadian National

THE horticultural exhibits at the Canadian National Exhibition in Toronto, last month were superior in most respects to those of last and previous years. More good material was shown than ever before. The quality of the individual exhibits was good and the arrangement was a long step ahead of past efforts. An effort was made to have the show of fruit, flowers and vegetables artistically displayed rather than a mere jumble of entries put up in any old way.

THE FRUIT

Owing to the closeness of competition in the fruit department, the judges had much difficulty in placing the awards. There was a greater number of varieties than in past years and the quality was good and mostly uniform. The color and size of the specimens was well advanced. The exhibitors seemed to have exercised great care in selection. In apples, the collections of 40 varieties were fine. The first prize was awarded to Mr. Harry Dempsey, of Rednersville, Ont., who put up one of the finest lots of apples ever seen at the exhibition. The second and third prizes went to Mr. W. E. Weese, Albury, Ont., and Marshall Bros., Hamilton, respectively, for exhibits almost equally as good. The display of apples on plates also was fine. They were well colored and well grown. In the display of apples in boxes, there was some good fruit but apparently some of our growers have something yet to learn about packing. Many of the boxes were packed ideally but others either were slack, too full or not uniform in grading. Some exception was taken to the awards given in some of the sections but probably had

those who objected heard from the judge his reasons for placing the awards as he did, they would have been satisfied. One noticeable thing, however, was the fact that prizes were awarded in some three or four instances to apples packed in evaporated apple boxes rather than in the standard boxes for export.

The peaches were an exceptionally fine lot. They were highly colored and of superior quality. Space will not allow a detailed reference to the various exhibits and the successful competitors. We can mention only one winner who was most successful. Mr. T. G. Bunting, of St. Catharines, secured first prize in most of the sections in which he entered and he had a large number of exhibits. He entered 13 plates and secured 13 first prizes. He was fortunate, also, in securing first prize for the best display of fruits, including apples, pears, grapes, peaches and plums.

Unlike last year, the grapes were very fine. They were well colored and mature. The whole display was creditable. The plums were away ahead of anything of the kind that have been seen for years. Pears also were good. Those packed in boxes could not have been improved upon.

In spite of the great improvements in the display of fruits, it cannot be said that perfection was attained. Two important points in arrangement could have been bettered. The display of fruits in commercial packages was poorly put up. The boxes were placed flat on the tables just as they were last year and which was pointed out in THE CANADIAN HORTICULTURIST at the time. The exhibit was almost valueless from an educational viewpoint. By placing the boxes on the level, there is also a

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great chance of the original methods of packing being disturbed. They should have been placed obliquely with the back ends of the boxes at least eight inches higher than the front. It is said that those in charge of this department gave instructions to have this done but they were not carried out. The second feature that could have been improved was the promiscuous mixing of the various classes of fruit on the tables. Grapes, apples, pears, plums, and peaches could be found in three or four different places on the different tables. These would have been displayed to greater advantage had each kind of fruit been kept together. The apples should have been placed on one table, the peaches on another as far as they would go, and so forth. Such an arrangement, also, would make the placing of awards easier for the judges.

THE VEGETABLE DISPLAY

The display of vegetables slightly excelled that of last year in point of numbers and more than excelled it in quality. The celery, cauliflowers, tomatoes, parsnips, squash, beets and most everything were good. The cabbage, carrots and corn were exceptionally good. The onions were not as good as in former years on account of a blight. The same can be said of the potatoes. There were four entries in the general collections. The 1st prize was won by Brown Bros. of Humber Bay, Ont.; 2nd, William Harris, Humber Bay; 3rd, E. Brown, Wychwood, Ont. The fourth collection although not in the placing, was a most creditable one. It did not contain quite as much material as the others but it showed skill on the part of the grower. An interesting feature in connection with it, is the fact that all the stuff that was shown was grown on a lot 25 feet wide by

100 feet long. The exhibitor was Mr. George Baldwin of Toronto. Space does not permit mention of other prize winners except to note that in addition to those already mentioned other successful exhibitors were, J. B. Guthrie, Dixie, Ont., and Thos. Delworth, Weston, Ont.

Some exhibitors lost awards through carelessness in following the stipulations of the prize list. To win prizes, they must exhibit in the various sections what the catalogue calls for, neither more nor less. The vegetables were judged by Mr. Geo. Syme, jr., Carlton West, Ont. Mr. I. Elford, of Humber Bay, Ont., deserves much credit for changing the arrangement of the tables and for placing the exhibits where they could be seen to best advantage.

THE FLOWERS AND PLANTS

In the floral department, experts pronounced the large groups of plants to be the best pieces of decorative work ever seen in America. So keen was the competition in the floral display, covering 500 feet, that the judge divided the first and second honors between Thos. Manton of Eglinton, Ont., and the Allan Gardens, Toronto, which latter group was put up by Mr. E. F. Collins. The third prize was given to Sir Henry M. Pellatt's group, which was put up by Mr. T. McVittie. The fourth prize was awarded to Mr. D. Robinson, Reservoir Park; fifth, W. Howson, Central Prison; sixth, E. Grainger, all of Toronto. The cut flower sections, the design and made up work and other classes were well contested.

GOVERNMENT DISPLAY

The Ontario Department of Agriculture had a display that was a credit both to the department and to the province. It was in charge of Mr. P. W. Hodgetts and was the

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best yet. All the fruits in season were shown. The arrangement was about all that could be desired. The display was put up with the idea of showing the public what the province can grow. All the plates, packages, bottles and so forth, were arranged to the best advantage. The exhibit included a great collection of peaches and plums. Mr. W. T. Macoun, of the Central Experimental Farm, Ottawa, contributed some excellent specimens of early apples. The Ontario Agricultural College had an exhibit of particular educational value in its display of insects and fungous diseases injurious to fruits and vegetables.

Transportation — Its Evolution

It is a far cry from the ox-cart of 60 years ago to the International Limited or the Imperial Express of to-day, and yet it is not so very far after all. Fifty years of development has made a wonderful change in the methods of transportation in Canada. Steam and electricity have made it possible to travel by land at a rate of 60 or more miles an hour and all has been accomplished in little more than half a century.

It is fully recognised that upon the development of the railway systems largely depends the progress of our country. Many of us, however, overlook the fact that similar development has been going on amongst the ocean going vessels and, after all, have these not been the pioneers, so to speak, who originally came to spy out the land whose wonderful progress has made Canada a nation.

If it be a far cry from the ox-cart to the modern locomotive it is a still farther cry from the caravels of "Columbus" to the modern Turbiner. It is impossible to write a review of the evolution of the steamship

without introducing the names of the Allans.

As far back as 1822 we find Captain Alex Allan on his first voyage to Quebec on the brig "Jean." Eight years later this service had been increased by four larger vessels and so on down through the intervening years the Allan service has been improved until to-day the Allan line has over 30 vessels aggregating 176,000 tons. The turbine steamer "Victorian" (12,000 tons) recently completed a record trip in which the vessel steamed at times 19 knots an hour and at an average of 18.77 knots throughout the voyage or a little over 5½ days from port to port. It is estimated that since the founding of this line of steamers the Allans have carried 1,500,000 passengers from Europe. This forms no small proportion of the entire population of Canada and speaks well for the popularity of the line. There will probably be many readers of this article who have crossed to this new world in the early days by the Allan Line, and to them the names of such vessels as the "Canadian," "North American," "Anglo Saxon," "Pomeranian," "Scandinavian," "Sardinian," "Mongolian," "Numidian" and "Parisian," will cling to their memory as a pleasing recollection of the tie that bound them to the motherland. Many of these vessels have been replaced by much larger and more modern ships, until the Allan Line is now looked upon as the great connecting link between Canada and Britain. In the last 12 years the Allan Line has acquired and constructed 12 ships, namely the "Victorian," "Virginian," "Corsican," "Tunisian," "Grampian," "Hesperian," "Ionian," "Pretorian," "Sicilian," "Corinthian," "Hibernian" and "Hungarian," aggregating 104,500 tons.

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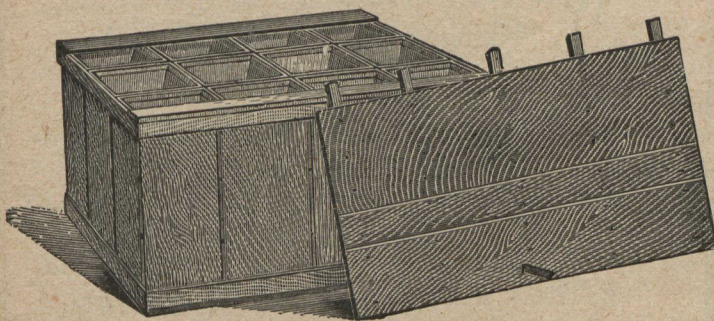
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comforts of so many people but it has also been foremost in transporting freight cargoes. Originally the bulk of the ships' cargoes consisted of lumber and grain supplemented later by cattle, but as the country developed, produce of all kinds was offered for shipment, and to-day large quantities of butter, cheese, eggs, bacon and apples find their way to the European markets via the Allan Line.

The carrying of perishable traffic again brought the business acumen of the members of this line into prominence and after several experiments, the government, in order to foster the fast growing trade in butter and cheese, contracted with the Allans for the installation of a refrigerating plant in certain of their vessels. This service proved successful from the very beginning and the result is, with the most modern of ships, the Allan Line has installed an aggregate of 272,393 cubic feet of cold storage and 158,782 cubic feet of cool air, whilst the ordinary stowage of the ships is improved by the introduction of steam driven fans for the cooling of the holds.

It may be interesting to our readers to know that to the late Sir Hugh Allan, one of the founders of the line, and to the late Walter Shanly, general manager of the Grand Trunk Railway, belongs the honor of adopting the first through bill of lading for ocean traffic. This was as far back as 1859, and at that time New York was issuing local ocean bills in exchange for inland receipts.

If it were possible to peruse a set of these bills of lading from the year 1859 down to the present time some very interesting facts would come to light in regard to the rates of carriage. The writer has been unable to secure the east bound rates on the first bill of lading but has been

fortunate enough to obtain the figures for the first through bill issued from Liverpool to Ontario points on dry goods, and finds that the importer paid \$21.90 per 40 cubic feet, whereas to-day by fast Turbine ships of the Allan Line delivering dry goods at Toronto in 10 days after leaving Liverpool the rate is approximately \$6.00 per 40 cubic feet which goes to show that with larger and faster vessels the rate in the last 50 years has been reduced about 72 per cent. The export rates from Canada have no doubt receded in the same ratio.

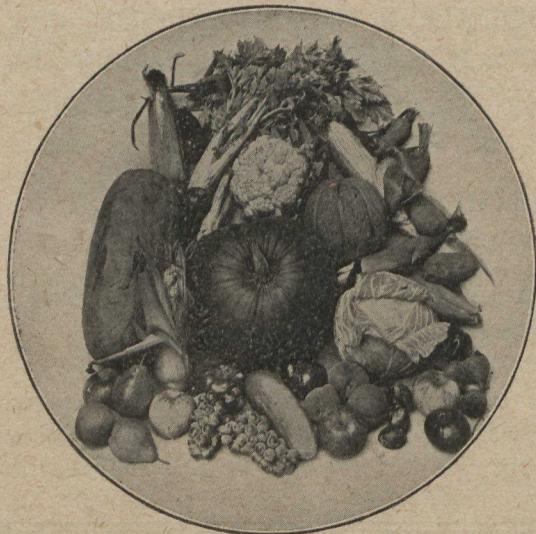
In looking back, therefore, over the history of shipping one cannot help but conclude that the record of the Allan Line is practically the history of Canadian maritime commerce. Now in this year, 1908, with a magnificent fleet of 30 vessels, the Allan Line offers to its patrons the best service of its career.

Species of Roses

Editor, THE CANADIAN HORTICULTURIST: In your report of my paper on "Roses" at Coney Hill, I am reported as having said that there are 300 or 400 species. What I intended to say (and it was very dry up in that section) was that the species varied according to different botanists from 30 to 300 or 400, and that 50 species would no doubt cover all the variations of the plant. Lest there be any misunderstanding in regard to my reference to the drouth, I wish to state that no inferences were intended. G. P. Hitchcock, Massawippi, Que.

I like THE CANADIAN HORTICULTURIST very much. I am very fond of plants and flowers, and gain a great deal of useful information from it.—Mrs. W. S. O'Neil, Paquette Station, Ont.

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Winnipeg

George Batho

The Manitoba Horticultural Exhibition, held in Winnipeg, September 3-5, was successful even beyond the expectations of the most sanguine. This province has never laid claim to any great distinction in large fruit growing, but the apple display shown by Mr. A. P. Stevenson, of Dunston, near Morden, would have cast no discredit upon a professional exhibitor from any province in the Dominion. He showed 50 varieties of apples and crabs, several kinds of plums, and the Compass cherry. Mr. Stevenson's apples were all beautifully free from any external defects, and showed delicate rather than high coloring. The varieties, of course, were such as have been grown in Minnesota, rather than the sorts so well-known to Ontario orchardists. Other prize winners in the apple section were: West Winnipeg Development Co., Headingly; A. McLeod, Morden; Rev. W. R. Johnston, Killarney; W. J. Brattston, Winnipeg; James B. King, Fairfax; W. C. Hall, Headingly.

The vegetables were really splendid. Western prairie soil is wonderfully fertile, and in annuals, whether of the ordinary table vegetable class or of the flower tribe, Manitoba needs take a back seat to none. Perhaps the centre of attraction in the vegetables was the collection of vegetables sent in by agricultural societies. First place in this competition went to the Kildonan and St. Paul's Society, second to the St. Vital Horticultural Society, and third to Dauphin Agricultural Society. The first was particularly good.

It is hard to particularize anywhere else in the vegetable class, professional or amateur. Perhaps it may be said that here and in the cut flower class the amateurs, on the

whole, outdid the professionals. There was good competition throughout, and the prizes were well scattered.

Kootenay Valley, B. C.

H. W. Power

Kootenay's two fruit fairs, Kaslo and Nelson, were held during September and passed off very successfully. That at Kaslo occupied two days, the 17th and 18th and the Nelson exhibition was held during the 23rd, 24th, 25th and 26th. Both were magnificent exhibitions of high class fruits and, as in the past, have done much to stimulate the fruit industry of the Kootenay and the boundary. The various district exhibits were particularly striking and gave strangers an idea, not otherwise obtainable, of the fruit growing possibilities of the hundreds of mountain-bounded valleys, in the interior of the Pacific province.

Grand Forks, the capital city of the boundary, is going into the apple exporting business on a large scale and will send six car loads of high grade apples to Australia this fall. The amount of ground being brought under cultivation in and around Grand Forks and through the Kettle River valley is increasing rapidly and the section bids fair to rival the Okanagan valley as a producer of fruit in large quantities, and as far as quality is concerned, is not one whit behind.

Apples will be a fair crop throughout the Kootenays and pears medium. Plums proved heavy. Cherries turned out fairly good and brought the growers good prices. It is too early in the horticultural history of the section to say anything about peaches. Prices in general ruled low, being governed largely by those across the line.

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With a "Crown-Orchard-Gang" you can plow within three inches of the trees and not injure anything. The left-hand wheel is set inside the frame, so that the left-hand side presents a clean, straight surface when passing along the rows.

The "Crown-Orchard-Gang" has all the fine lines of the ordinary "Crown" 2-Furrow Plow, which is doing the fall and spring plowing on the farms of thousands of prosperous farmers—the kind of men who see that there is money in saving the time of one man, one horse and one plow.

A "Crown-Orchard-Gang" will do just as good work in the open field as in the orchard. Two good horses will handle it, but we advise the use of three horses. You can do more work in one day and do it better with a "C. O. G." plow and three horses than two men and four horses can do with two ordinary walking plows. See where the saving comes in!

As for a Sulky Plow—well, it just amounts to this: In the same time and *with the same horse flesh* you, by walking, can turn as much sod *in one day* with a "C. O. G." as another man can turn *in two days* with a single furrow sulky. That's worth considering.

Read what a prominent orchardist, Ezra Honsberger of Jordan Station, has to say: "In regard to two-furrow Orchard Plow, I find it just what the orchardists want. You can plow against the tree or vine without the horses interfering with the tree, in fact it is a great deal better than the single two-horse plow.

"I also find that it is just the thing in the open field, so much so, that I do not like to use the one-furrow plow at all.

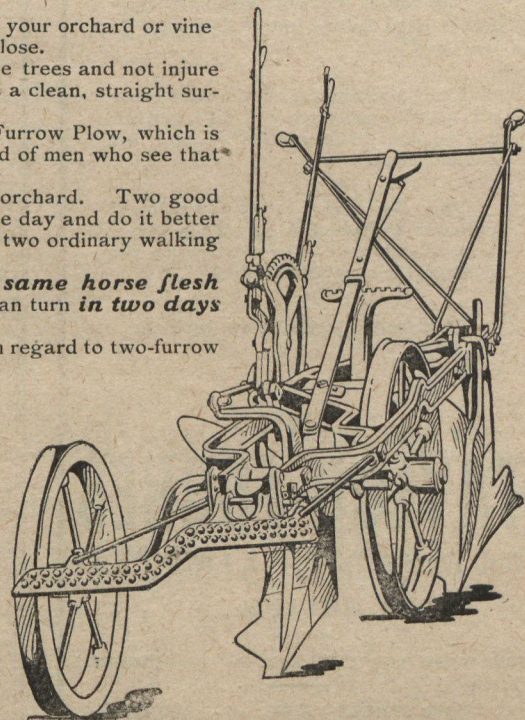
"I find that the heft of the plow is a decided advantage as it keeps it steady and lessens the side drift, which is necessary in getting close to trees."

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The Frost & Wood Co., Limited

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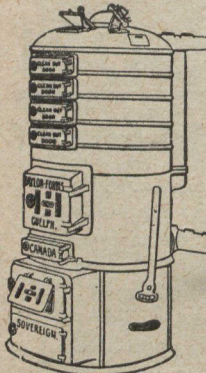


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Annapolis Valley, N. S.

Ennice Watts

The Nova Scotia Horticultural Exhibition is to be held in Kentville on Oct. 7, 8, and 9. The regular premiums offered amount to \$1,500; also special prizes of \$1,200. It is expected that the fruit display at this show will be the finest ever seen in Canada.

The weather so far (Sept. 14) has been perfect for fruit growers. There has been no frost to spoil the cranberries which have never looked better. There have been no gales to scatter the apples or break the boughs, which in many orchards are weighed down to the ground with fruit, and the days have been warm and sunny, making work pleasant. Although some orchards show a poor crop, on the whole the fruit crop will be good and clean.

Dealers are not so eager to offer big prices this year for apples. Some of them are offering \$1.25 a barrel tree run, for the whole orchard of good fall and winter fruit. Others are offering \$1.25 for Emperors and Gravensteins, one's and two's packed.

Potatoes began at 50 cents a bushel, but have now dropped to 40 cents. Crops look good. Mushmelons have ripened nicely out of doors. Tomato rot (*Macrosporium tomato*) seems to be more troublesome than in most years especially where the fruits are in contact with ground. The woolly aphis (*Schizoneura lanigera*) has appeared on the nursery stock, and appears to be spreading. If these pests cannot be checked by kerosene emulsion the young trees will probably be destroyed by the grower.

The perpetual bearing strawberries, such as the St. Joseph, are now fruiting where the first flowers have been picked off, and will continue bearing until frosts. They are nice for home use, but not of much commercial value.

See our premium advertisement on one of the front pages of this issue.

Nova Scotia

G. H. Vroom, Dominion Fruit Inspector

The Halifax Exhibition for 1908 is a thing of the past. Owing to the early date on which it was held—Sept. 2 to 10—the fruit show was not a creditable one for Nova Scotia and did not fairly represent the quality of fruit grown in this province this season. The whole fruit show looked small, immature and green and must have had a tendency to injure, rather than to benefit, this province commercially. Collections of fruit and berries were shown from the following counties: Annapolis, Kings, Hants, Digby, Cumberland, Colchester, Pictou, Antigonish, Lunenburg and Halifax.

W. F. Duncan of Wolfville carried off the sweepstake prize for the province, as well as the county prize for Kings. The fruit prize for Annapolis went to Byron Chesley, Clarence. And for Hants, to C. A. Dill. For Digby, H. Rice got first and for Lunenburg, M. Wentzel; Cumberland, S. Harrison; Colchester, P. M. Anderson; Pictou, Peter Jack; Antigonish, H. Thompson; Halifax, John Barnes. W. S. Duncanson had a fine display of grapes grown in the open.

The plate varieties of apples were poor, with the exception of Early Bough, William's Favorite, Duchess, Astrachan, and a few more of the early sorts. No fruit was shown in packages and the absence of barrels and boxes detracted from the general appearance of the exhibit and gave it an unfinished look.

The Maritime Experimental Farm, Napan, N. S., had a very creditable show of fruit consisting of 20 plates of apples which had been selected with great care by the manager, Mr. Robertson. The one thing that would impress an expert would be the uniformity of the specimens on each plate, also the clear, clean skin of the fruit. Nothing like fungus was to be found, and the color was good for the season. Mr. Robertson also had a fine display of tomatoes, grain and grasses. Alfalfa, with roots fully two feet long, was a prominent feature of this show.

The fruit crop in Nova Scotia is larger

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TRY THE **SUPERIOR** STENCIL FOR BRANDS AND RUBBER STAMPS
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All in the choice.
Coarse, bitter salt gives coarse, bitter butter

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Windsor Salt

gives that smooth, firm quality—that delicious flavour and uniform colouring.

Windsor—purest and best of all salts—is the least expensive. Costing no more than others, less goes farther, besides doing better work. At grocers' everywhere. 128

than the wise heads predicted some weeks ago and the quality is very good. Dealers are buying Gravensteins at \$1 for No. 2, and \$1.25 for No. 1, packed for market. Evidently they do not intend to lose much hard cash this season. The first shipment to England went on Sept. 11th, by one of the Furness Withy Co. ships. The cargo consisted of 15,000 barrels, mostly Gravensteins. Cranberries are a bumper crop and the quality is fine.

New Brunswick

Alfred E. McGinley

The exhibit of fruits at the Provincial exhibition was generally conceded to be far above the average usually brought out at this fair. Particularly in apples did the orchardists of the province and of Nova Scotia make an excellent showing, but there was also a good display of small fruits. In the vegetable classes, attention was at once attracted by the uniform excellence of the potatoes and the judges had a difficult task in deciding upon the winners. The flower show was hardly as large as usual, but the quality was good. As usual the professional florists captured most of the prizes.

In the vegetable classes the river farmers did particularly well. For the best assortment of potatoes, O. W. Wetmore of Clifton, N. B., secured the first prize. He was also successful in winning several class prizes, and the prize for general excellence in potatoes, offered by the Provincial Chemical Fertilizer Co., Ltd., of St. John.

In the competition for the best collection of field roots, exclusive of potatoes, A and C. A. Harrison, of Mangerville, were first and this firm also captured the prize for the best collection of field roots and garden produce. The prize of \$20. offered by W. Atlee, Burpee & Co., seedsmen of Philadel-

phia, for the best collection of vegetables grown from Burpee's Seeds, was won by John Maxwell of Upper Sheffield. The sweepstakes prize for the best assortment of garden produce was won by John Maxwell, with A. and C. A. Harrison, second.

In the apple classes the prize for the export and domestic varieties was, as expected, captured by that veteran orchardist, E. T. Nully, of Middleton, N. S. S. L. Peters, of Queenstown, N. B., won the first prize for baskets of apples. In pears, H. E. Bent of Tupperville, N. S., H. A. D'Almaine, and S. L. Peters, of Queenstown, N. B., were the most successful competitors. Mrs. S. L. Peters, with a very pretty exhibit, won the prize for the best fruit decoration for a dining table. In plums prizes were won by H. E. Bent, H. A. D'Almaine, of Wolfville, N. S., and H. D. Johnson of Wolfville.

The county prizes for the best collection of fruits were won respectively as follows: Westmoreland, Albert, Kings, Queens, Sunbury, York and Victoria. The special prize for the best 10 varieties of apples grown in

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IRON PIPE FOR SALE—150,000 feet, all sizes from 1/2 inch up, in good condition, at half price. Write us what you need.—Imperial Waste and Metal Co., Pipe Merchants, 7 Queen street, Montreal, Que.

WANTED.—15,000 Currant Cuttings, in best varieties. State price and kind, and when can be shipped. Box 23, Postal Station B. Montreal.

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Highest Quality of Stock, most carefully packed so as to carry from Ocean to Ocean in perfect condition. The care used in selection and packing of Stock has gained us our well-known reputation.

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C. L. TROTTER, Manager

Mention The Canadian Horticulturist when writing.

New Brunswick and correctly named was won by J. P. Belyea, and that for the best five varieties grown in New Brunswick and most valuable for export by S. L. Peters. The prize for the best collection of fruits exhibited by the grower in which perishable fruits were shown in a preserved (natural) condition was won by George Mc-Alpine, Lower Gagetown.

In flowers the best exhibits were made by Messrs. H. E. Gould, Sussex, and Pedersen, St. John. Mrs. H. F. Grosvenor of Meductic, York Co., was awarded a special prize for grapes grown under glass and H. A. D'Almaine for quinces.

I get many valuable hints from THE CANADIAN HORTICULTURIST, on caring for flowers and growing vegetables.—I. G. Walker, Happy Valley, B. C.

I enclose my renewal subscription to THE CANADIAN HORTICULTURIST. I have taken THE HORTICULTURIST now for a number of years. You are improving it from year to

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APPLES

For Best Family Trade. Boxes Preferred.

For particulars refer to Editor of this Journal

year, so that it now ranks foremost amongst the publications of horticulture on this continent.—H. Harley, Dauphin Co., Manitoba.

I have been a reader of THE CANADIAN HORTICULTURIST for the past year. I consider it a magazine well worthy of a place among books, magazines and papers on fruit and general horticulture, and well worth a dollar. I have noted with interest the great advancement it has made during the past year, and wish it double the success during the coming year.—Wm. Beattie, Summerland, B. C.

A book that should be obtained by those who purpose planting bulbs this fall, is the 1908 bulb catalogue of J. A. Simmers. This catalogue, like all other catalogues published by this firm, is full of valuable suggestions and lists of the best bulbs and plants for fall planting. Mr. Simmers mentioned to our representative recently, that they have never had a better quality of bulbs than those that have recently been received from Europe. This catalogue will be found to be one of the most complete and comprehensive lists of bulbs to be found in Canada, and will be sent free to those intending to plant this fall.

One of the best and most artistic bulb catalogues that has ever come to our office is the fall catalogue of the Wm. Rennie Company, Limited. It is so entirely different to the usual catalogue, that it makes a favorable impression on first sight. The cover is printed in imitation of sealskin leather with a panel in the right-hand corner, in which appear three tulips printed by a colortype process. The inside is attractively gotten up and numerous collections are arranged for the benefit of those desiring to get the very best tulips at a

moderate cost. Two of these collections are advertised in this issue. The catalogue is free for the asking.

The Fall bulb catalogue of John A. Bruce & Co., Hamilton, Ont., has just been issued and will be sent free upon request to those intending to plant bulbs this fall. The cover is tastefully gotten up and shows several fall scenes both in Canada and Holland, and is excellently printed by a colortype process. The contents are, as usual, arranged in a very comprehensive manner, which makes it an easy task to select the bulbs best adapted for the individual purpose. Their advertisement appears on another page.

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Our Nursery is exposed to more extreme weather than any Nursery in Canada. That is the reason our stock is so hardy. Our stock is complete in every line and our prices are right. That is the reason of our satisfied customers.

10 ROSES FOR \$5.00
If ordered before Oct. 24

Our Landscape Gardening Department
is always at your disposal.

The Canadian Nursery Co.

Office: LIMITED Nursery:

57 Renouf Building, Montreal Point Claire, Que.

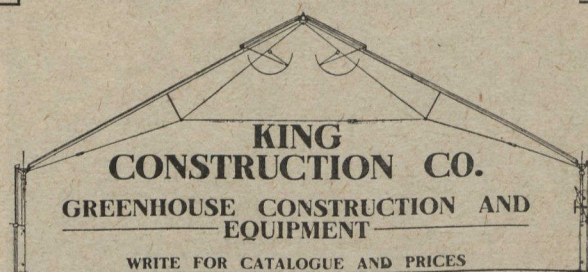
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Greenhouses that can be constructed. Years of actual test and the experience of large and small growers have gained for our houses the reputation of being the most satisfactory ever erected for vegetable or flower growing, or private conservatories.



Plans prepared for complete plants and equipment at a moderate cost: all or part of the necessary materials supplied and houses of any size erected under our personal supervision if desired by builder.
Write and tell us the kind of houses you desire to erect or ask for question blank and we will mail you our descriptive bulletin by return of mail.

THE KING CONSTRUCTION CO.
248 Wellington St. West TORONTO, ONT.

Mention the Canadian Horticulturist when writing.

An Orchard Gang Plow

The Frost & Wood Co., have an advertisement on page 229 of this issue of THE CANADIAN HORTICULTURIST which should interest every man who has an orchard or vineyard plowing to do. The Crown-Orchard-Gang plow has proven to be capable of doing first class work and we take pleasure in recommending it to our readers. In a letter under date of July 20, 1908, Mr. Henry Moyer, Vineland, Ont., says:

"The Frost & Wood Orchard and Vineyard plow that I purchased has given me perfect satisfaction. In the orchard we plow away from the row so that one round with the grape hoe will finish it up, and have plowed away within three inches of the trees.

"In open field work I think you can truthfully claim for the plow that it has no equal. We plowed our corn ground which had lucerne on one year from the seed, which was nearly a foot high. We put a chain on each plow, also did the striking out and finishing off with it, and I do not think that any one could have told but what it was done with a single furrow rod plow, and did it with one team. I claim that its weight gives it a decided advantage over all other plows, as it sticks to its work better on rough and stony ground.

"The plow seems to pick the furrow up and lay it over instead of crowding it over like so many plows do, which makes the draught lighter. Should any one doubt this they are at liberty to call at my place and we will put the team on and convince them that the Frost & Wood people have got "The" two furrow orchard and field plow."

That's the kind of a customer it pays any firm to have and only first-class goods can bring forth a similar expression of opinion.

It will pay you to write to the Frost & Wood Co., Smith's Falls, Ont., and ask them to send you their special literature on this implement.

Are Proving Their Value

Although comparatively new in Canada, the V1 and V2 Fluids introduced last spring by Wm. Cooper and Nephews of Berkhamsted, England, for whom Mr. W. Staley Spark is manager for the Dominion, are receiving praise from fruit growers in all parts of the country. If future results of tests are as satisfactory as those recorded so far, and it follows that they should be, these fluids will become the standard insecticides for all insect pests of our orchards. Read the advertisement on another page of this issue. Many complimentary letters have been received by Wm. Cooper and Nephews, whose headquarters in Canada are 506-507 Manning Chambers, Toronto. The following are typical ones:

The High Court of Justice
for Ontario.
Osgoode Hall, Toronto.
August 26th, 1908.
Messrs. Wm. Cooper & Nephews,
Toronto.
Gentlemen,—I am pleased to say that my apples have apparently been kept entirely free from blemish by the use of your Fluid. Not for years, if ever, were they in such good condition.
(Sgd.) W. Mulock.

John Warden, Bowmanville, Ont. :—"This is to certify that in my orchard of, say, 500 trees, I have used five gallons of V1 and V2 Fluids and I am satisfied that it has done

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Will be pleased to keep you advised regarding the condition of the European Markets. If you have any apples for export, call or write

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

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BLACKBERRY**

A new variety and the best of them all. Bears twice as heavily as any other kind. Will be as popular as was the Herbert Raspberry, which we introduced last year. Place your order at once before supply is exhausted. Send for Catalog and prices.

Large stock of the famous Herbert Raspberry for both this Fall's and next Spring's delivery.

We have other new varieties of stock to offer this season. Introduced by us, you can depend upon their being better than the older sorts. Agents wanted.

"CANADA'S OLDEST NURSERIES"

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D. CROSSLEY & SONS, Liverpool and Glasgow
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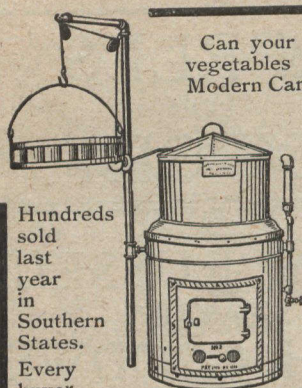
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my orchard a world of good. The trees were literally covered with bark lice and now it is impossible to find a living scale. I cannot recommend the V1 and V2 too highly to people who are interested in their orchards."

POULTRY DEPT.

Conducted by S. Short, Ottawa

The egg supply next December and January depends very largely on the care bestowed upon the prospective layers at this season. The winter quarters should be thoroughly renovated. A good coat of white wash should be applied all over the interior of the house. Broken windows should be replaced.

The layers should now be selected. Yearling hens that have moulted early can be depended upon to make good layers in December and January. All hens too old for another season's laying, should now be weeded out, especially if they have not yet moulted.

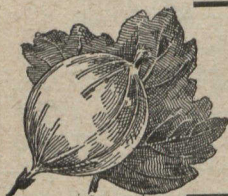
In many cases, the poultry roost in summer time in different quarters than in winter and it takes some time and trouble to get the fowls used to sleeping in-doors. A very simple way to overcome this difficulty

is to give the evening feed inside the pen where the fowls are to roost. As soon as the fowls are all in close up the entrance; do this three or four evenings in succession and no further trouble will be experienced except in an odd case or two. On no account should the fowl be allowed to roost in trees after the foliage has fallen or when the temperature is 10 degrees or more below freezing point.

Where poultry keeping and market gardening are combined, the feed bill of the fowls can be much lessened now by feeding waste produce from the garden, such as cull apples, over-ripe tomatoes and cucumbers, vegetable marrows, corn, lettuce, cabbage and sunflower seeds, all of which will be eaten with avidity by the birds, making in addition to some grain, a very healthy diet.

This is also the best time of the year to purchase pure-bred stock. Intending purchasers should have visited the fall fairs or exhibitions and thoroughly inspected the different breeds exhibited. After selecting the breed that may be fancied, get the names of the local breeders of that fowl and, if at all possible, make a personal visit to their poultry quarters and make your own selections. Nearly every breeder now has surplus stock to dispose of and no trouble should be had in making a bargain, the average pure-bred being worth at least twice as much as an ordinary or common fowl.

A noticeable feature in the cut flower exhibit at the recent Canadian National Exhibition, was the display of asters shown by J. H. Lock of Toronto. It is seldom that a finer lot of asters are seen. Mr. Lock intimates that his best asters this year were grown with the assistance of fertilizer obtained from the Dominion Agricultural Offices of the Potash Syndicate, Toronto. A representative of THE CANADIAN HORTICULTURIST used some of this preparation in his garden this year with very satisfactory results. These fertilizers are now being extensively used by some of the leading flower and vegetable growers, and the results obtained have been such as to warrant their continued use.

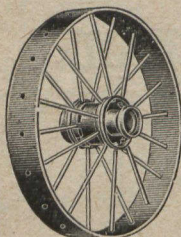


SMALL FRUIT PLANTS

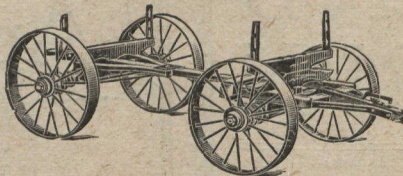
Gooseberries, Josselyn, Downing, Houghton.—Currants, Perfection, Ruby, Cherry, White Grape, Lees Prolific Champion, Black Naples.—Raspberries, Herbert, Cuthbert, Marboro.—Garden Roots, Asparagus, Rhubarb, Perennial Celery.

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Some Personal Remarks

THE CANADIAN HORTICULTURIST is a monthly journal, printed in the interests of Canadian fruit, vegetable and flower growers. Each branch of horticulture has a special department, in which appear each month articles of special interest to fruit growers, to flower growers and to vegetable growers. The articles written are up to date and timely, and are written by men who know what they are talking about.

THE CANADIAN HORTICULTURIST is the only Canadian publication of its kind, and its popularity is shown by the rapidity with which its circulation has grown during the past year and a half. At the beginning of 1907, the circulation of THE CANADIAN HORTICULTURIST, was less than 5,000. At the present time, the circulation is more than 9,000. A great deal of this rapid growth is due to the assistance we have received from our friends, to whom we wish to express our thanks. Many subscribers have shown copies of THE CANADIAN HORTICULTURIST to their friends and have secured their subscriptions. We have returned the compliment by sending them such premiums as we are offering at the time. Look over our premium offers for this month. They may interest you.

We will send a 14 kt. Gold Fountain Pen to anyone who will send us two new one year subscriptions, and only \$1.00 to pay for the same. If you are not yourself a subscriber, it will be only necessary to secure one new subscription to send in with your own. See our large advertisement regarding our special premium offer to give a choice of Four Raspberry Plants or Two Herbaceous Perennials in return for only one new subscription.

Items of Interest

The Niagara District Horticultural Exhibition held in St. Catharines on Sept. 17 and 18, was a pronounced success. The main features will be mentioned in the next issue.

A movement is on foot to organize a horticultural society in Oshawa, Ont. As many neighboring towns have such societies, it has been felt that Oshawa should follow in line.

The *British Columbia Gazette* announces the appointment of Mr. R. M. Palmer as Deputy Minister of Agriculture and Secretary of Farmers' Institutes in the place of Mr. J. R. Anderson, retired.

The bulb and plant catalogue for the fall of 1908 published by Wm. Ewing & Co., seedsmen, Montreal, has been received. All readers of THE CANADIAN HORTICULTURIST who want first-class stock in these lines should write for a copy.

The annual meeting and exhibition of the Maine State Pomological Society will be held in Waterville, Me., Nov. 11 and 12. An excellent program and prize list has been prepared. A special premium of \$25. will be given for the best specimen of any standard commercial variety grown in the New England States or Canada. The secretary is Mr. W. G. Ricker, Turner, Me.

On another page will be found the card of Mr. A. S. Chapin, 75 Yonge St., Toronto, one of our largest apple exporters. He represents some of the best firms in Great Britain and solicits the business of growers who want good service and the best returns.

The Galt Horticultural Society held a most successful flower show on Aug. 29.



are becoming more and more used. They are sanitary, decorative, clean, fire-proof and very easy to install. No chance for cracking or warping. Resist smoke and dirt. Easily washed with soap and water.

Mr. H. C. Britain, of Strathroy, Ont., writes in 1907; "In January 1900, I purchased a ceiling.....which has given perfect satisfaction....To-day it is as good as when it was put up."

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Fertilizer	180	Muriate of Potash
Per acre	420	420	Acid Phosphate
Yield per acre in baskets	702	1194	738	

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The character of the exhibits showed conclusively that the society is doing great work for the city. Among other things, it conducted a kitchen garden competition during the past season which created much interest and enthusiasm.

The Kincardine Horticultural Society held its annual flower show early in September. Visitors pronounced it the best of all former exhibits. The society is doing good work for the town. The secretary is Mr. Jos. Barker, now 83 years of age and remarkable for his energy and enthusiasm in the work.

The annual convention of the Ontario Horticultural Association will be held in the City Hall, Toronto, on Nov. 10 and 11. Important and interesting papers will be read and discussed. For a copy of the program, write to the secretary, Mr. J. Lockie Wilson, Parliament Buildings, Toronto, Ont.

The annual meeting of the Pomological and Fruit Growing Society of the Province of Quebec will be held at Macdonald College on Dec. 2 and 3, 1908. A fruit exhibit will be held. Prizes will be given for the best five and the best 20 varieties and for the best seedling. The secretary is Mr. Peter Reid, Chateauguay Basin, Que.

At a meeting of the executive committee of The Ontario Vegetable Growers' Association held at the Canadian National Exhibition, it was decided to hold their annual convention on Thursday, Nov. 12th. An excellent program has been prepared, copies of which may be obtained by writing to the secretary, Mr. J. Lockie Wilson, Parliament Buildings, Toronto, Ont.

Some excellent specimens of tomatoes were sent to THE CANADIAN HORTICULTURIST about the middle of September from Saskatchewan. They were forwarded by Mr. G. T. Barley of Prince Albert. Although green at time of arrival, they ripened nicely in the course of a few days and showed that market gardening, as far as tomato growing is concerned at any rate, can be successfully carried on in that province.

The apple crop of Ontario has decreased considerably during the past month on account of the extreme drought that prevailed. Winter fruit is maturing rapidly, however, and will be of large size and clean. It is probable that the crop in Nova Scotia will be larger than predicted and the quality will be good. A large crop is expected also in British Columbia. A large number of reports have been received from crop correspondents but space will not allow their publication.

The staff of Dominion fruit inspectors has been substantially increased for this season by the appointment of additional inspectors. An inspector will be stationed at Port Arthur and Fort William who will watch shipments to other points between the Soo and Winnipeg. It is intended to give particular attention to shipments in bond via the Niagara River. Shippers using this route are warned that it may be necessary to detain cars at the frontier in order to make a proper inspection.

The fall bulb catalogue being sent out this year by the Steele, Briggs Seed Co., shows a marked improvement over any previous bulb catalogue issued by this firm. On the outside are printed splendid half-tone illustrations of beds of tulips and hyacinths in full bloom. There are a greater number of illustrations used on the inside than is usually seen in a bulb catalogue. This firm evidently appreciates the fact that a well illustrated catalogue creates

a better impression on the reader and greatly increases the sales. This catalogue will be sent free upon request to readers of THE CANADIAN HORTICULTURIST.

THE CANADIAN HORTICULTURIST was favored recently with a few baskets of peaches and grapes from the fruit farm of Carpenter Bros., Fruitland, Ont. If all the fruit grown by the Messrs. Carpenter is as high grade in quality and size as the specimens that we received, other fruit growers of that district will have to keep moving to hold their own. As yet, however, we have had no opportunity of judging of the quality of their products. Many thanks to Carpenter Bros.

I do not think that one can find a more ideal spot in British Columbia for fruit growing than the district around Robson. It has a fine southern exposure and the land is good. With good cultivation, there is sufficient rain fall to make irrigation unnecessary. I planted potatoes the last week of May and commenced using them at the end of July. I had ripe tomatoes about Aug. 20 from out door plants. I am pleased to notice that THE CANADIAN HORTICULTURIST is devoting considerable space to British Columbia horticulture.—Walter P. Mickle, Robson, B. C.

Montreal

E. H. Wartman, Dominion Fruit Inspector

Up to Sept. 12th, about 10,000 barrels of apples have gone forward to Scotland and England from Montreal. The largest portion of these were Duchess and of course in big three-bushel barrels. I wonder if our standard bushel box, would not be better for fruit so tender. Temperatures varied from centre of barrels to shed temperature, 18 degrees,—60 shed, 78 fruit. How long would this variety stand this temperature? Forty-eight hours would ruin it. Boxes from any point to centre would cool quicker and retain their firmness. I sold Duchess apples, No. 1 quality in Cork, Ireland, 1902, in standard bushel boxes at \$2.50. Better Duchess than I had sold here at 20 cents a bushel.

Co-operation is especially advantageous in early apple packing. Have a large ice

house attached to your packing house. In the packing house, have four tanks holding a ton of ice each; fill them; close up building for 12 hours; then bring in your Duchess and have them packed in cool air, and not move a box until the car is well iced to receive them. You will find that they will land well on the other side and bring good money. Ice can be laid in by co-operative work at a very small cost.

Remember that the Duchess apple must have considerable color before picking; not ripe, but hard and red. If only half colored, they are so immature that the color itself is only half matured and half set, and as the apples soften, the color becomes almost extinct.

The apples arriving are of superior quality, and, the eight-hoop barrels, from Colborne and Brighton district are a very superior make. I have inspected about 25 cars so far and have not seen a barrel broken open. It pays to use good eight-hoop barrels.

On the island of Montreal, apples are developing in size and color, notwithstanding it is very dry. Apples maturing in dry weather will keep much better than if the season was very wet.

Crawford peaches arriving from Grimsby and St. Catharines are of exceptionally good quality, largely honestly packed. The result is good honest prices—75 cents to \$1.00 for an 11-quart basket.

Saskatchewan

Geo. T. Barley

The 25th annual exhibition of the Lorne Agricultural Society was held in Prince Albert on August 18th and 19th. The exhibits and the attendance showed a marked improvement over preceding years. The flowers, plants, fruits, and other departments belonging to the ladies were good. Butter, grains, grain in sheaf, vegetables, and a nice horticultural exhibit made a good display.

The other features of the exhibition were excellent. The management are to be complimented upon the success of the show. It is probable that the exhibition will be held for three days next year.

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WITH GOOD MANURE AND GET
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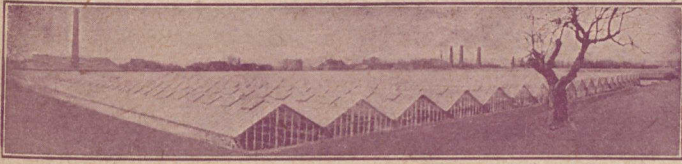
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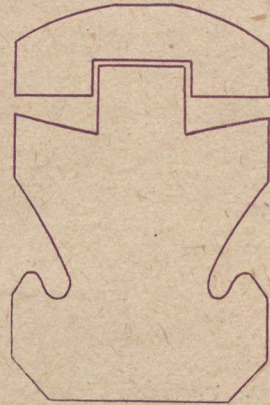
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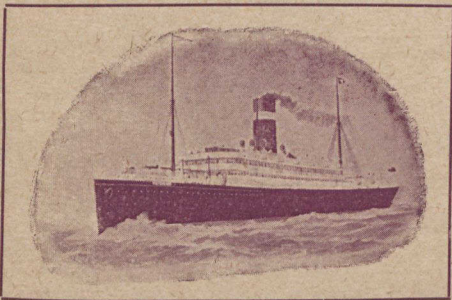
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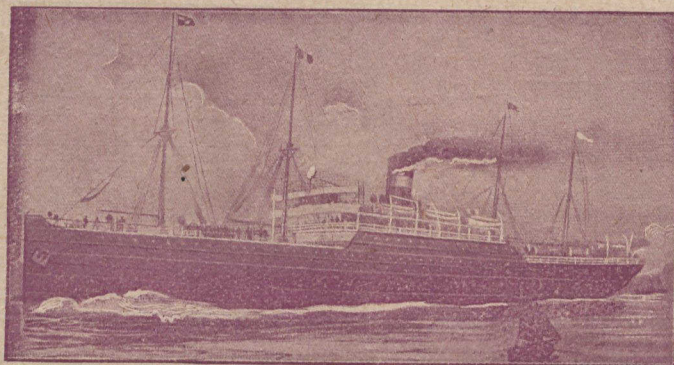
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