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Practical Irrigation in British Columbia

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IRRIGATION, in itself, is not a difficult art. Anyone can learn to make the furrows and apply the water. The greatest difficulty seems to arise when the relation between irrigation and plant growth is not well understood. The varying requirements for different soils and different crops, one year with another, tend to confuse the beginner more than does the mere application or distribution of the water. In order to make myself clear, I will discuss a few of the most important points which a beginner should know.

The first thing to consider in starting on an irrigated tract is the preparation of the land. A few dollars extra per acre spent in preparing the land often means many dollars saved during the life of the orchard. The best preparation is none too good. Many people feel that the planting of the trees and the turning on of the water are the main operations necessary for the production of an orchard. This mistaken idea is partly due to misleading advertisements and to a lack of experience on the part of the beginner.

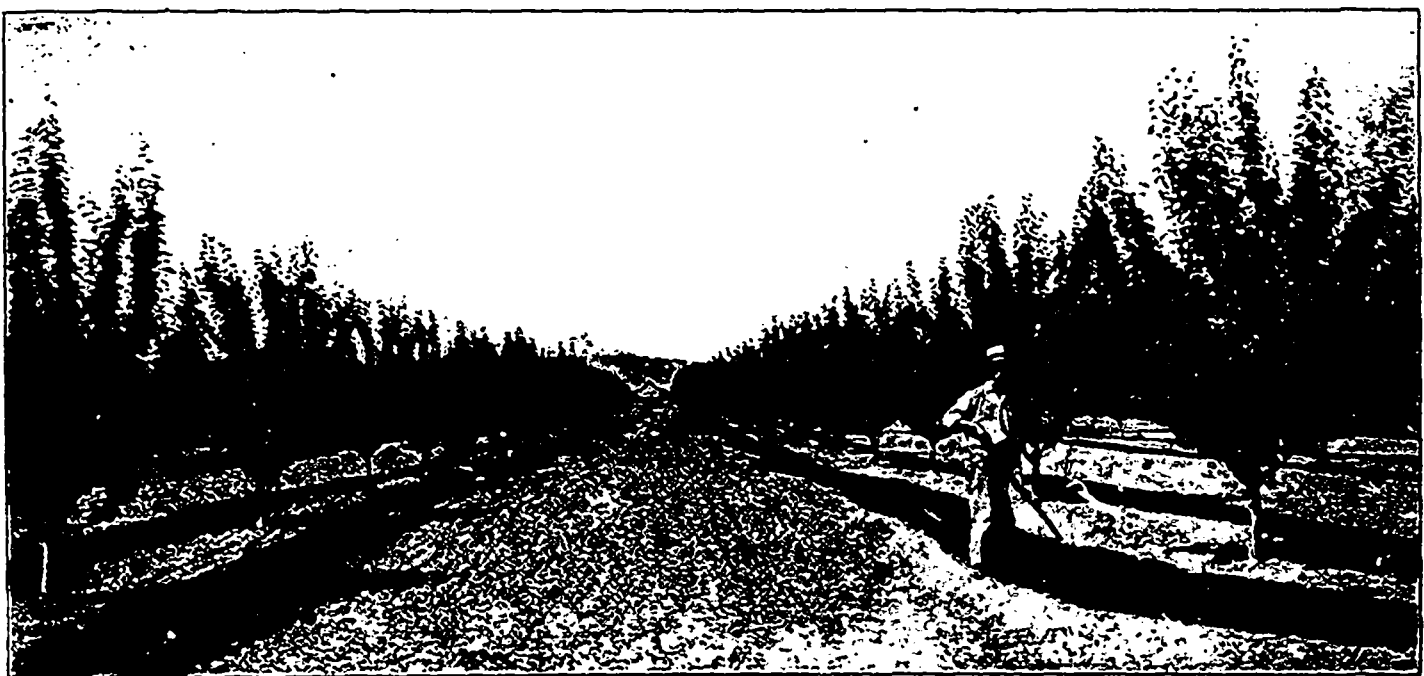
The land should first be cleared of all stumps, rocks, or brush and then plowed. If any large holes or hollows exist they should be filled before plowing. All "fills" should be permitted to settle before any trees are planted. This settling can best be secured by planting some annual crop on the land for the first year. A cover crop, which may be plowed under in the fall or spring, is best because it adds the much-needed humus to the soil, thereby making it more congenial for the young trees. Vegetable crops, such as potatoes or other root crops, are often used, but are not always successful. After this crop is either removed or plowed under the levelling may be completed. The best tools for levelling with are the ordinary road graders or slip scrapers. If the land is fairly level the "planer" or "smoother" may be used very successfully. Its construction is described in Circular No. 14 of the British Columbia Department of Agriculture.

The land having been well prepared, the planting is next in importance. In case the land is nearly level, any desired

system may be used as regards the irrigation. The square plan, with the fillers in the rows in the same direction that the irrigation ditches are to run, is a favorite. This makes it possible to irrigate the fillers and standards from the same ditches, which is advantageous, especially in the young orchard. However, if the land is too steep for irrigating directly down the hillsides, planting on the contour or in such a way that the water may be used on a smaller grade will often decrease the cost of irrigation later.

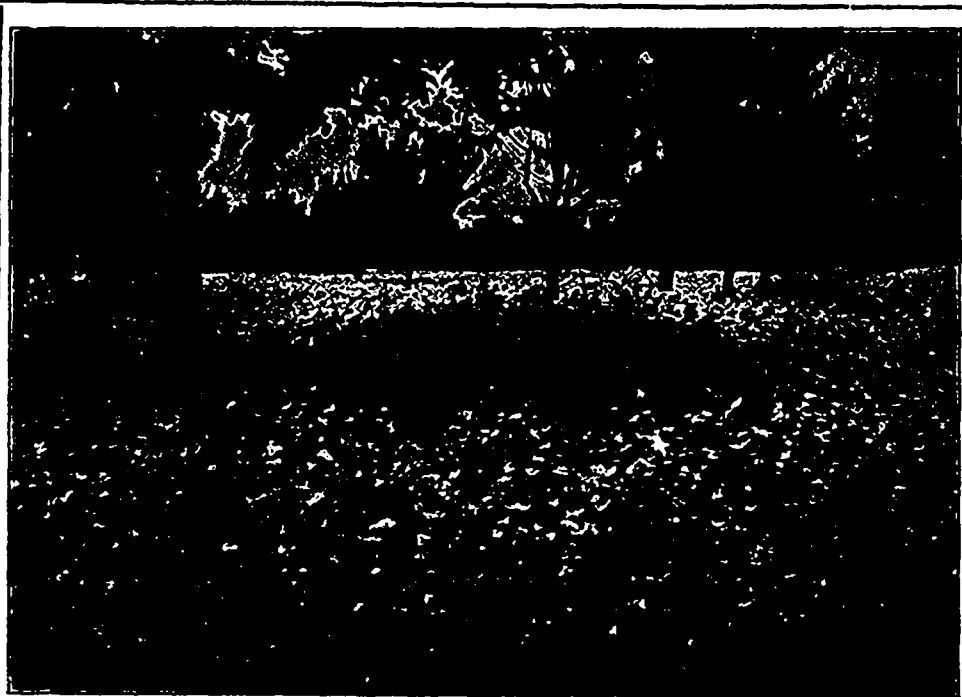
The head ditches may be located as soon as the planting plan is decided upon. These are placed at intervals across the field, depending upon the contour of the land and the texture of the soil. If one has a clay or loam soil the ditches may be farther apart than on a sandy or more porous soil. The average distance in a clay soil is six hundred feet, while in a sandy soil three hundred feet is sufficient. Slight variations from these are necessary for special conditions.

The construction of these ditches



Irrigation is a feature of many of the best orchards in British Columbia. The well cultivated orchard of Mr. Mansfield at Kelowna is shown

(Photo by G. E. Hudson)



Cover Crops are an Important Phase of Modern Orchard Practice

It is not too late in most districts to sow a cover crop of buckwheat. A buckwheat crop in the orchard of O. A. Waino, Sarnia, is shown.

varies. Some are made by turning a furrow with a plow, while others are made of iron, wood, or cement. The open wooden flumes are the most common. They permit the water to be carried over a depression and also prevent loss by percolation, which is the great fault with the open furrow. If the location of these ditches is permanent, cement or wooden pipes placed underground are without doubt the best. This permits free cultivation and care of the orchard and gives the advantage of having water under pressure. They permit the most economical use of water, and although somewhat expensive to install, are nearly permanent and often prove to be cheaper in the end. The water is taken from these underground pipes by means of upright iron pipes located at each row of trees. Sometimes cement stands are built in the field and the water supply controlled by valves placed in them.

Having located the main ditches, the rest is simple. The laterals are made with a single-shovel cultivator or a one-horse plow, the distance apart varying from three feet in sandy soils to five or six feet or even more in the heavier soils. Never get them closer to the tree than a foot and a half. It not only endangers the trunk of the tree from single-tree injury, but is unnecessary because the feeding roots are located at the tips of the main roots and not at the base of the tree.

In irrigating vegetable, grain, or hay crops, these ditches are made from three to five inches deep, but in the orchard

they may profitably be made from seven to nine inches deep. These deep ditches permit the water to flow on rather solid soil, thereby preventing washing, and at the same time permitting the land to be irrigated without wetting the surface mulch. The water used in wetting the surface mulch, when shallow ditches are used, is lost by evaporation when cultivation is resumed, therefore, it is of no value to the orchard. These deep ditches are not always successful on light soils, but have been found very satisfactory on the ordinary orchard soil.

CLASSES OF CROPS

Irrigated crops are divided into two classes, cultivated and uncultivated. In general the uncultivated crops require more water than do the cultivated ones. Oats require more than corn, and alfalfa more than potatoes. At the same time differences are found in the same crop. Take, for example, the apple—one variety will be found to make a large growth, while another will only make a moderate growth with the same amount of water. The same variety will often vary under similar soil and climatic conditions; the shy bearer will make much more growth than the bearing tree. It will be noticed that all fruit trees make less growth when in bearing. Recognition of this point when irrigating will often save unnecessary pruning.

In irrigating potatoes, one often gets undesirable results. The first irrigation should not be given until needed, as potatoes do not thrive on a saturated soil. No set date for the first irriga-

tion can be given because of climatic variations. The main points to remember are to apply the water in sufficient quantity to moisten the soil well and then turn it off and cultivate to conserve what you have applied. This permits the ground to warm up and growth starts again.

WHEN TO IRRIGATE

Small applications of water at short intervals tend to cool the ground and prevent strong growth. On the other hand, avoid letting the ground get real dry, thereby checking the growth. When this happens the potatoes make a second growth when more water is applied and the result is poorly shaped tubers. It is seldom necessary to apply water after they are in full bloom.

The same general principles hold true with all crops, whether grain, vegetable, small fruit, or orchard. The best results can never be obtained by applying water at stated intervals of five, ten, or twenty days. The best plan is to apply when the crop needs it, use enough to thoroughly moisten the soil beyond the roots of the crop and then conserve it by careful cultivation. If one is limited to one day a week or two days in every ten, the best plan is to divide the land into several divisions, irrigating one well each time rather than a larger area poorly.

It will be seen from the foregoing that careful thought and consideration must be used in order to secure the maximum returns from irrigation. The amount of water required varies according to the soil, crop, manner of application, and the skill of the irrigator. The importance of water is continually increasing, partly because of the improved methods of application and partly because of the increasing knowledge of the irrigator.

The learning of the "why" is very important, for this teaches "how" and "when."

Buckwheat as a Cover Crop

B. Blanchard, Hants Co., N. S.

There are a number of crops that are suitable for cover crops, such as: buckwheat, rape, vetch, peas and clover. While buckwheat does not take free nitrogen from the air as do clover and other legumes, and thus add nitrogen to the soil, yet it has several good points in its favor.

In the first place, with buckwheat it is comparatively easy to get a catch, even when sown quite late in the season. We have known occasions when a seeding of vetch did not take and buckwheat was sown afterwards with good results.

Then, again, buckwheat will produce a good crop on soil on which most other crops would starve. In the renovation

of worn out and neglected orchards, buckwheat will usually give the best results for the first year or two for this reason. The disadvantage of buckwheat as a cover crop is that it does not live over winter, and when the soil is badly in need of humus requires to be plowed

under in the early fall. If the orchard is on hilly ground there is liable to be severe loss from wasting of the soil when fall plowed. For adding humus to badly worn out soils, however, there is no crop that will do so as quickly as will buckwheat.

the Hartleys were still in debt, still having a struggle to make both ends meet; but their struggle was not now a hopeless one. They could see the way out.

A WORTH WHILE IDEA

Probably it was about this time that Mr. Hartley began to consider irrigation. In good years he had good crops, but so had all other fruit growers. If, he thought, I could only get good crops in a short year my returns would be far greater. The Milton Mountain that towers over his farm is noted for its numerous inexhaustible springs. Mr. Hartley made an agreement with one of his neighbors whereby he was permitted to dam back some of these springs and make a reservoir. As the reservoir is on higher land than the farm and only a short distance from it, this irrigation scheme did not represent any great outlay, and has proved decidedly profitable from the first.

For the last ten years the Hartleys have had clear sailing. Sunnyside Farm has now extended its bounds until it contains two hundred and thirty acres. Thirty acres of this is in bush; one hundred acres is devoted to general farming, the remaining hundred, which represents most of the value and from which Mr. Hartley derives practically his income, is in fruit.

METHODS FOLLOWED

In his orchard setting, Mr. Hartley follows the "filler" system. In practically all of his orchards apple trees of standard varieties are set thirty-two feet apart each way. Alternating with the apples and in the centre of each square are plum, peach, cherry or pear trees. Very few of Mr. Hartley's apple trees are yet bearing. In a good part of the orchard, however, the "fillers" are returning profitable crops.

When Mr. Hartley first started plant-

An Ontario Fruit Grower's Success

NESTLING at its base and extending far up on the side of the mountain that overlooks the little town of Milton, in Halton county, is one of the many fine fruit farms in Ontario. The story of how its owner, Mr. W. J. Hartley, transformed this farm from as unproductive a piece of land as could be found in the community, to one of the most profitable fruit farms in the province, reads like fiction. But it is better than fiction; it is true.

When Mr. Hartley and his bride of a day moved to Sunnyside Farm twenty-eight years ago, the prospect before the young couple was not an encouraging one. The farm was badly run down. Mr. Hartley had no money to improve it; in fact, he was heavily in debt. The part of the farm that he called his own was really owned by his creditors. The rest of it he rented. The soil was a heavy clay. No one thought of it as adapted to fruit. Mr. Hartley himself didn't. Fruit farming was then confined to a few special fruit sections, such as the Niagara Peninsula. Accordingly a start was made in general farming.

For five years Mr. Hartley grew grain, fed steers, burned lime and cut stone, while his wife fed chickens and made butter. They did not get ahead very well, however. Such farming yields only nominal returns under the best of conditions, and they had a run-out farm and the interest on heavy debts with which to contend. At one time they were so nearly going under that had not a sympathetic neighbor loaned them one thousand dollars on personal credit, they would assuredly have given up in despair.

Like many another man, Mr. Hartley traces the idea that finally brought him success to the commonsense of his wife. Mrs. Hartley believed that so far as possible young people in debt should aim to produce on the farm all of the food consumed in the home. And therein the fruit farming idea had its birth. One of the first purchases made that first spring consisted of three red currant bushes, three black currant bushes, three gooseberry bushes, a crab apple tree, several apple trees, and one tree each of pear, peach, and plum. A kindly neighbor gave them the privilege of digging a supply of strawberry plants from his garden. Mrs. Hartley agreed

to take on herself all the labor of caring for their fruit and vegetable garden if her husband would plow and make ready the land.

Mrs. Hartley's fruit garden thrived exceedingly. The strawberries did particularly well. Mr. Hartley was quick to see his opportunity. Half an acre was set to strawberries. Fortunately this first venture in fruit growing on a commercial scale was a success. The first crop was good, the returns large. It looked like "easy money" to Mr. Hartley, and gradually his interests were transferred from the farm proper to his fruit.

DECIDES FOR FRUIT GROWING

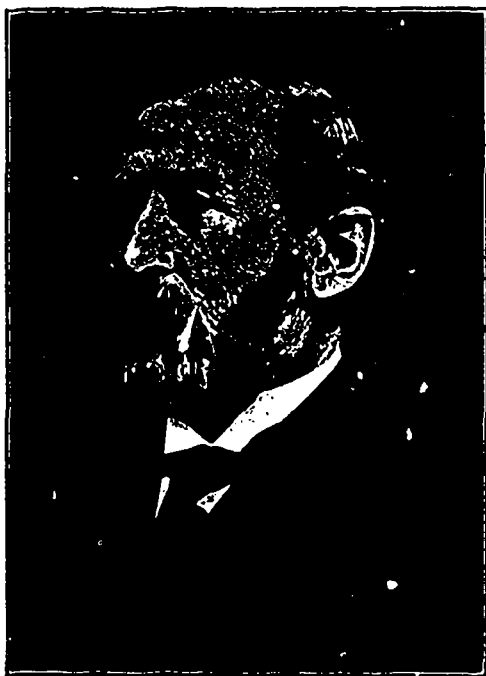
"I had always thought I would like fruit growing," remarked Mr. Hartley, "but I did not know that it could be made a success with our climate and soil. I soon found, however, that we could get berries just as quickly as they get them down on the lake front. In fact, this year we had strawberries and raspberries a week earlier than in the far-famed Niagara district."

A good-sized patch of raspberries was soon added to the strawberry plantation and they were soon yielding returns that justified an increase in their acreage. In the meantime a small apple orchard had been set, and was growing so well that more extensive plantings were made each succeeding spring. Remember,



Thinning Duchess Apples in the Orchard of Mr. Nichell, Wellesville, Ont.

This orchard was one of the demonstration orchards in Durham county, Ont. Experiments in thinning showed a difference in profit between two trees in favor of thinning of four dollars and twenty cents.



The Fruit Growers' Senator

In Hon. E. D. Smith, of Winona, the well-known fruit grower and nurseryman, the fruit growing industry has a worthy representative.

ing to peaches, his friends were doubtful of his success. They had always considered the peach too tender a fruit to grow properly in that locality. Mr. Hartley reasoned, however, that if he could grow the small fruits to maturity as quickly as they could be grown in the Niagara district, that peaches should do equally well. His peach orchard now consists of ten acres, interplanted with apples and all in bearing. Mr. Hartley's first three crops were bumper ones, the fruit comparing favorably in quality with the best Niagara product. Last year his peaches were a failure, but this year again the trees are well loaded, and a good crop is promised.

Cherries, Mr. Hartley considers one of his best money-making crops. On the day of our visit thirty-five pickers under the direction of Mr. Hartley's daughters were at work in the cherry orchard, and the shipment for the day numbered well over two hundred eleven-quart baskets. Trees set eight years ago, this year averaged almost six baskets of fruit a tree. At this rate of bearing and allowing twenty cents a basket from present prices for picking, Mr. Hartley's returns from his cherries will run between three hundred and four hundred dollars an acre.

Although Mr. Hartley is devoting more and more of his attention to tree fruits, he still derives a good portion of his revenue from the smaller fruits that gave him his start. Of these, raspberries this year proved the most profitable. As a general rule the crop has been short in most sections, and Mr. Hartley has averaged over fifteen cents

a box wholesale, selling some as high as twenty cents and twenty-two cents a box. The crop all through his ten-acre plantation was good. Strawberries occupy fifty acres. They were a small crop this year, the bloom being injured by spring frosts and consequent growth interfered with by dry weather. But even with these unfavorable conditions to compete with, returns per acre had been greater from the strawberries than Mr. Hartley derives from the best of his land devoted to general farming.

Mr. Hartley gave us another glimpse into the profits that he is deriving from fruit as we drove through a small gooseberry and currant plantation of one and three-quarter acres. "Last year," said he, "I sold well over one thousand dollars' worth of fruit from that small plantation to the canning factories. This year the canning factories are filled up and I have had to look for a market elsewhere, but I believe the returns will be almost as great as last year." In other words, Mr. Hartley derives a greater income from this one and three-quarter acres than he derived from the whole farm in the days of his adversity.

"How do you market your fruit?" asked The Horticulturist representative.

"In wholesale quantities only," answered Mr. Hartley. "We ship some fruit to Galt, a lot to Guelph, but the most of it goes to commission merchants in Toronto. We aim always to give satisfaction and we find that when we treat dealers right that there is always a ready market awaiting our products. So far as over-production is concerned, I find that people are eating more fruit than ever before, and I expect to see consumption increase even faster than production. So far as getting a market is concerned I do not worry at all."

HARVESTING THE CROPS

"The picking of the fruit on such a plantation must represent some difficulties," we ventured.

"We have had as high as fifty pickers here at one time," remarked Mr. Hartley. "This year we will have thirty-five pickers steadily at work for two and one-half months. They are mostly country girls, with a sprinkling from the city. I have no preference. City girls are as quick as country girls once they get their hand in. We treat them well, board them in our own house, and usually have them back to us year after year, only filling the gap when some good fellow comes along and marries one of them."

And what of financial results? Twenty-eight years ago, in the words of one of their neighbors, "The Hartleys didn't entertain company, because they couldn't afford the extra tableware necessary to feed them off of." To-day, after meeting the great expense that is involved in

running such a large fruit plantation, Mr. Hartley has an annual net income that runs into thousands of dollars, and which would be sufficient to buy and equip an ordinary farm. Mr. Hartley, however, is not putting his surplus income in the bank, in mining stocks, or in western land. He is putting it back into his farm. He will soon have an estate that, did he sell out, would enable him and his children to live out their lives in ease and affluence.—F.E.E.

Budding Peaches and Plums

Prof. J. W. Crow, O.A.C., Guelph, Ont.

In budding the peach and plum, is grafting wax applied over the raffia binding? Which is the best month for budding in Elgin county, Ontario? About what percentage of loss do the nurseries incur in budding?—C.T.

Grafting wax is not applied over the raffia binding. July or August would be the most satisfactory period for budding in Elgin county. Apples, pears, plums, and cherries would be budded in July or early August, peaches in late August.

The percentage of loss in budding in nurseries varies under normal conditions between ten and forty per cent. approximately. It is very seldom that a nurseryman gets seventy-five per cent. of a stand in apples, and frequently they get not over fifty per cent.

Girdling to induce Fruitfulness

In the May issue of The Canadian Horticulturist there appeared an article by Dr. C. D. Jarvis on winter and summer pruning, in which it was stated that the girdling of fruit trees was practised to induce fruitfulness. The writer does not make plain whether the bark is cut with a knife or a band is tied tightly round the trunk, to be removed afterwards. One would expect that if much of the bark were removed the tree would die.—S.P.R., Montreal, Que.

In my article on pruning fruit trees, I did not explain fully the method of ringing or girdling trees to induce fruitfulness. This practice is common in the middle west, especially in the Ozark apple region. The practice consists in taking about a quarter inch ring of bark from the main stem of three or four year old apple trees. The work is usually done during the month of June when circulation is active.

The wound thus made interferes to some extent with the down flow of sap and tends to check the growth of the tree during the season. Any operation that tends to check the growth is likely to induce fruitfulness. If this operation should be done later in the summer it would probably kill the tree, but if done at the proper time the wound readily heals over. The practice is not generally recommended. In the east it is believed that better results will follow summer pruning.—C. D. Jarvis.

The Amateur's Home Greenhouse

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

TO many the small greenhouse attached to a private home appeals as a luxury which requires a greater share of their time and money than they care to give. To others, and especially to those who like to indulge in

without the cellar, was only about half that sum. The glass used is twenty-four by twenty-four inches for the sides and sixteen by twenty-four for the roof. Part of the floor is of cement and part is floored with wood in order that it might

small sum lasts him two years and saves him a great deal of time and trouble.

Proper understanding of the watering problem means success with plants where some people have failure. Mr. Whyte has found from experience that in his greenhouse he must water about every other day in the summer and twice a week in the winter. Plants should be watered when they need water and generally at some regular period. No other correct rule for watering can be given. Just when they need water will depend upon the conditions under which they are growing.

Closely allied to the problem of "watering" is that of "ventilation." In a small greenhouse a good ventilation system and a proper attention to the atmospheric conditions are fully as necessary as in a large greenhouse. During the very hot days of summer it is always necessary to provide some shade for those plants which are left in the greenhouse. Mr. Whyte has tried several systems but states that he finds whitewashing the glass, a practice followed by commercial greenhouse men, is the best and cheapest method of providing shade.

Plants grown under glass are just as liable to be troubled with insect pests and fungous diseases as are those grown outside. Perhaps the worst enemy of indoor grown plants is that known as aphids or "plant lice." As a remedy against these Mr. Whyte has found the following simple procedure perfectly effectual. To one pint of water placed in a flat dish he adds two teaspoonfuls of Nicotine (tobacco extract) and then places in the dish a hot smoothing iron. The heat from the iron evaporates the mix-



The Simple Greenhouse in which Mr. R. B. Whyte, of Ottawa, Spends Many Happy Hours
See accompanying article.

one of the finest hobbies in the world, the small, modest, "home greenhouse" is not looked upon in the light either of a luxury or a burden, far from it. To the latter class of people such an addition to the home is an investment, an investment bringing in a constant revenue of enjoyment and satisfaction.

The "amateur's greenhouse" of these notes is quite a modest little structure and a stranger perhaps might be pardoned if he questioned the owner as to the returns on the sums spent in its construction and upkeep. Those who know Mr. R. B. Whyte, of Ottawa, however, as a shrewd and successful business man, as well as a noted amateur horticulturist, know full well that he would not speak in such unmeasured terms of satisfaction in regard to the pleasures as well as the rewards derivable from such structures if he did not base his remarks on the experience of many years.

SIZE AND COST

Mr. Whyte's greenhouse is built on the east side of the house, and under it at the time of construction a cellar was also built in which the Dutch bulbs and similar flowers might be stored as soon as they are potted in the autumn. The greenhouse itself is ten feet wide, twenty-seven feet long and averages eight feet in height. The initial cost of the house, together with the cellar, was some six hundred dollars. Mr. Whyte thinks that perhaps the actual cost of the house,

be used as a sewing room. The greenhouse is heated by pipes connected to the house furnace as this plan entails less work. A door connects the greenhouse to the living room and since this is often left open the former may be considered as really one of the rooms of the house.

To obtain proper soil for his plants, Mr. Whyte adopts a very simple plan. He orders a load of greenhouse soil from a local florist. This costs him only a



Corner of a Conservatory that is also a Living Room—Residence of Mr. T. A. Truhelm, Montreal



Exterior View of Mr. T. A. Trenholm's Conservatory, Montreal, Que.

Note that there is a continuous row of ventilating shaft at the ridge on both sides, so that whichever way the wind may be blowing the opposite each can be opened so as to prevent a draught on the plants.

ture, the fumes of which destroy the lice. The doors and ventilators must, of course, be tightly closed during this fumigation process.

In this small house of his Mr. Whyte has tried many kinds of plants. His chief show plants, however, are the bulbs and never from early winter till late spring is his house without a beautiful display of these gorgeous and most satisfactory flowers. Freesias, narcissi, tulips, hyacinths, form the staple crops, while crocuses, grown in flat pans, also make very effective shows. Several hundred pots of these plants are grown each winter. In addition to the bulbs, he finds geraniums, begonias and cacti are among the best plants to grow. He is quite partial to the cacti, chiefly because all of them are quaint and practically proof against all injury from no matter what cause, and also because the two classes which he chiefly grows, namely the Epiphyllum or Crab Cacti, and the Phyllocactus, are showy flowering plants and their blossoms last during a whole season. Cacti may be neglected for days and no injury will result. In this regard no other flower can compete with them.

Ferns are such useful plants that everyone should possess at least a few varieties. Mr. Whyte finds the sword ferns, or the Nephrolepis type, do best with him, the maidenhairs or Adiantum are apt to dry up too quickly. Palms and shrubs although tried he has not found so satisfactory on account of the large amount of space they require.

Vegetables, such as lettuce and radish, are not grown to any extent for the same reason that shrubs are not grown. That is, Mr. Whyte loves to have a big display of flowers to which he is partial, and does not care to crowd them out to

make room for a greater variety of plants, and besides this, vegetables require a somewhat lower temperature than suits most other plants.

ADVANTAGES OF A SMALL GREENHOUSE

A large amount of interest and pleasurable recreation is attached to the care of a small "home greenhouse." The real labor on the other hand is very slight. The advantages of growing plants in a small greenhouse as compared to growing them in the rooms of the house, may be summed up as follows:

The light conditions are better and more easily controlled.

Temperature conditions may be made nearly perfect. A temperature of sixty-five to seventy-five degrees by day and fifty-five to sixty-five degrees at night are the optimum temperatures.

The humidity of the atmosphere may be kept more regular; the dry atmosphere of rooms often causes the death of plants. In a greenhouse the floor can be sprinkled.

Such work as potting is more easily and pleasantly performed than in a room.

Proper ventilation can be given with less likelihood of direct draughts.

All types of flowering plants may be grown, as well as foliage plants.

Insects can be dealt with more easily. No injury results from leaking gas pipes.

Cuttings may be grown in a propagating bench.

What lover of flowers would not have a greenhouse?

For the important task of thorough weeding I find the trowel a great help, especially where I do not care to trust the hoe.—H. M. Speechly, Pilot Mound, Man.

Preparing Plants for the Winter Conservatory

Wm. Hunt, O.A.C. Guelph, Ont.

The all-enduring, useful geraniums are often imposed upon by flower-lovers and expected to continue growing and flowering the whole year round without cessation. Most plants require a season of rest and special preparation to do their best in the winter season. The geranium is no exception.

If there should happen to be a few geraniums left over after finishing up the bedding out and window boxes, they will come in splendidly for winter flowering if properly treated. They should be potted up at once into six or seven inch pots, using plenty of drainage at the bottom of the pots. Give them a good, rich, loamy soil, and when potted plunge the pots (that is, sink the pots up to the top) in the open ground in the garden. It is well to put about an inch of coal ashes or a piece of slate or flat stone underneath when doing so to keep earthworms from getting into the pots. Keep them well watered and all bloom buds and blossoms picked off until September.

About the first or second week in September the pots may be lifted from the ground and taken into the greenhouse. If the plants are given a little liquid fertilizer every week or ten days from this time on, they will flower well all the winter. You may have some old plants of geraniums in pots that have grown tall and unsightly. If so, they may be cut well back to where the stems are getting slightly woody. Leave them in the pots, giving them enough water to keep the soil moist. In about three or four weeks signs of young growth should be seen on them. They may then be taken out of the pots, all the soil shaken from the roots, the roots cut back nearly one-half, and the plants potted into a rather sandy soil in a one or two sized smaller pot. This is called "potting back." They should not be given too much water at this time.

When the new growth has five or six leaves developed, they can be potted carefully without disturbing the roots into the original sized pot or one size larger. Use nearly an inch of drainage and good, rich loamy soil when repotting them. Old plants treated in this way, in July or August, will give good flowering results during winter, much better oftentimes than young plants will.

PELARGONIUMS

The fancy type of pelargoniums or "Lady Washington" geraniums, as they are sometimes called, should be treated just in the same way as the old geraniums just mentioned. About the end of August is the best time to cut them back. They should be cut back so that only three or four inches in length of the base of the shoots or growth made last year is left. The future treatment is the same.

as that for the common geranium plants mentioned. These plants can often be kept out of doors until well into October, if given the protection of a sash and frame, or brought indoors on cold nights.

OALLA OR ARUM LILLIES

These lilies should be repotted, if they require it, early in August. They like a little humus or leaf mould in the soil. One part sand, one part leaf mould or black soil from the bush to six or seven parts of good, rich, loamy potting soil will suit callas very well. Use drainage in repotting them. If the growth on these plants is well started at this time of the year, it is better to top dress the plants, as it is termed. This is done by removing about an inch of the top soil without removing the plant from the pot, and putting in the place of the soil removed, some good rich potting soil composed of about one-half well rotted barnyard manure and half potting soil. This treatment, with an application of liquid manure once or twice during the

winter, will often give better flowering results than repotting them.

Toward the end of August is a good time for repotting this class of plants if they were not potted in the spring. Use soil similar to that recommended for callas and pack it well around the roots. These plants should be standing out of doors during the summer months where they are shaded from the hot sun. They should be watered and sprayed daily in hot weather. They are best stood on a layer of coal ashes to keep out earth worms. These last-named are sure to collect where the soil is kept moist, and often cause considerable trouble by choking the drainage in winter. A sprinkle of lime under the pots will serve in place of the ashes if more convenient.

CINERARIA AND CALCEOLARIA

Seedling plants of these from seed sown in July should be ready for transplanting. Transplant them when four or five small leaves have developed, into

shallow, well-drained flats, into a good-loamy compost to which a good sprinkling of sand and leaf mould has been added. A cold frame with a cotton shading over, raised at both ends to admit plenty of air, is a good place for them. The shade of a tree, if not too dense, is also suitable. A piece of slightly shaded glass placed over them and tilted to throw off the rain during storms is advisable. Green fly and thrip often bother these plants. A good plan to prevent their appearance is to place some tobacco stems or tobacco dust, sweepings from a cigar factory will do, around and under the flats they are in. This will save a lot of trouble oftentimes until later on, when the plants can be more easily fumigated than when in the frames out of doors.

Seed of pansies should be sown early in flats for planting out in cold frames in September to winter over. These will make plants for early flowering in spring.

The Importance of Right Greenhouse Construction

L. W. C. Tuthill

A RIGHTLY constructed greenhouse costs more to build, but less to keep built.

It means better plants—more blooms—less care and lower running costs.

It means a perpetual satisfaction instead of recurrent disappointments.

There are several distinct types of acknowledged standard constructions, each with its fast adherents. The underlying principle of all, however, is practically the same—that of making as light a house as possible, and yet be as strong as possible.

When it gets right down to the last analysis, results in any case are what count. It is, however, an undeniable fact that every once in a while, there is a wizard sort of a plant lover who is able to grow surprisingly fine plants under most adverse conditions. Just as there are some women who can break off a slip from a plant and apparently carelessly put it in the ground, and it thrives.

Such persons, to the casual observer, almost defy the laws of cause and effect, but in reality their extreme fondness for growing things supplies them with a kind of second sense to which the plant responds almost humanly. Give these plant loving folks a heavily constructed greenhouse, with poor ventilation and imperfect heat, and in spite of the handicap they get surprising results.

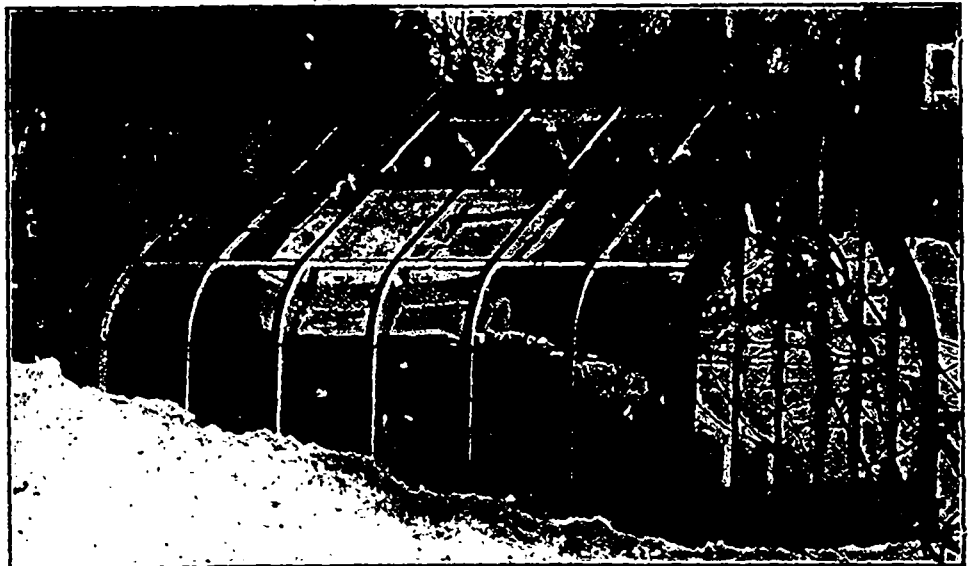
Taking your observation from what they accomplish, you argue: if they can do it, so can I. What is the use of spending additional money for a house built by the greenhouse experts when one of our carpenters here in town can build me one that will do? The answer

to that is: Are you sure you are one of the wizard folks? Even if you are, wouldn't you prefer to get the same results with less care and less actual running costs? Or wouldn't you rather have a neat attractive glass enclosed garden that looked its part, than a carpenter-built affair, having the appearance of a big box full of windows?

Looking at it still another way—what does your carpenter know about plant requirements? Does he know whether orchids should be grown in a north light, or the best way to locate a house in relation to the points of the compass to

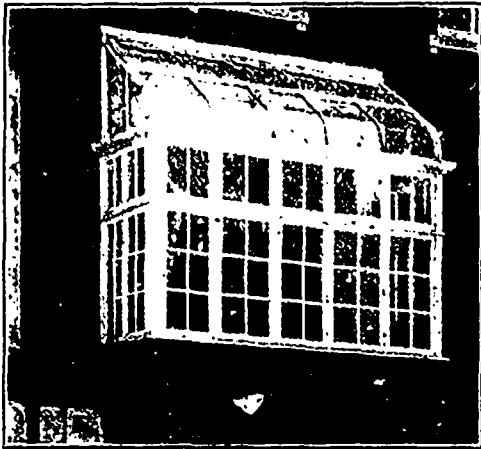
grow the best roses? What concern does he give, that a wooden erected house to be strong enough, must be so heavy as to seriously retard plant growth because of the shade it casts? What does he know about the correct slant of the roof to obtain greatest deflection of the sun's rays into the house during the shortest days in winter when your plants so seriously need every ray of light and sunshine procurable?

Does your local heating man know about the temperatures necessary for different plants or whether hot water or steam is best adapted to your particular



A Small Greenhouse Built to Connect With The Cellar Where The Boiler is Located

This illustration shows how attractive a little curved eave house of this kind can be. The screen on the roof near the residence is to protect the glass from the ice and snow that fall from the eave of the house.



A Charming Little Bay Window Conservatory

Although the side architectural details are somewhat heavy, the roof is exceedingly light, allowing an abundance of sunlight to reach the plants

plant purposes? Is it reasonable to expect that a man whose training has all been along the lines of vertical heating piping, (where air locks and sluggish circulation are by the very nature of the case not a problem) to know the many kinks in the horizontal piping where rapid circulation is so vital and air locks so exasperating? How logical it is to put these things up to men who you know, know.

So much for a bird's eye view of the situation. Now, let's get down to facts instead of generalities.

CYPRESS BEST WOOD

Cypress, because of its great endurance under conditions of alternate climes and moisture, such as exist in greenhouses, is acknowledged by all builders to be the best wood for the purpose. To secure as light a frame as possible and further increase the endurance, steel whenever possible has been substituted for wood.

The construction now most generally in use, both for private greenhouses and the big commercial affairs covering acres, is the sectional iron frame construction. No other meets so successfully as wide a range of requirements. In this construction for private uses, the walls are topped or capped by sills of cast iron. To these sills are bolted the steel side posts which curving at the eaves continue to the roof, forming the rafters.

Extending horizontally between these rafters, at stated intervals, are connecting tiers of angle iron, which the builders call purlines. On these purlines, and screwed to them are placed the cypress roof bars upon which the glass rests on a bed of putty, and is held firmly in place by glazing brads driven into the bars. The ends of the glass are lapped over each other about a quarter of an inch, so the joints will keep the weather out and the heat in.

The roof bars have little grooves or gutters on each side into which the condensation gathers from the glass and is

carried off, instead of dripping on the plants or down one's neck. One of which may be harmful—the other surely most vexatious. Such a construction is simplicity itself and because of its obvious practicalness, has long been the standard construction in the States and is fast finding favor in Canada.

STEEL AND WOOD COMBINATION

Another construction which has been used extensively, especially, in the Montreal section, for the last ten years, has a complete steel frame of steel encased cypress roof bars. This combination of wood and steel makes so strong a framing member that the usual flat steel rafters can be eliminated. The steel portion of the bars is galvanized and then aluminum coated, making them rust-proof and overcoming the necessity of frequent painting. When first introduced the main distinguishing feature of this construction was its curved eaves. But it is now being used with success on some other constructions.

The striking advantages of the curved eave are the entire freedom from any shade at the eave line, making the side benches in the house just as productive as the centre one. Another point in its favor is the roof and side being free from ridge to sill, the snow slides off the roof without assistance. There being nothing for the icicles to adhere to at the eave, it is always clear and free from ice. These advantages are of greatest importance in a country like Canada, where snows are heavy and winters long.

PARTS FITTED BEFORE SHIPPED

The greenhouse builders have reduced their manufacturing to such a science that all the materials are cut to fit at their factories before being shipped. With the material on your grounds, it's truly surprising the rapidity with which they can be assembled and your house turned over to you ready to be planted. The fact that such houses cost a bit more than the usual wooden ones is many times compensated for in their freedom from repairs, and increased returns. In fact, such houses built such a way, ought to last a life time. It is a significant fact that such greenhouses built thirty

years ago are still as sound as ever.

So much for the house itself, now a word about the heating. Most gardeners agree that hot water is preferable because of its uniformity and less intensity. It costs more to install than steam but somewhat less to operate. When it comes to your boiler, it is better to have a regular greenhouse boiler that is made especially for the purpose, than a residence boiler, which not being designed for greenhouse use, requires more care and invariably burns more coal.

Although good results are often obtained by connecting the conservatory or greenhouse heating pipes with the residence boiler, the chances are decidedly against it, because the time most heat is required in a greenhouse is at night, just the time when the fire in the residence boiler is generally allowed to run low. In any event, a separate boiler is an economy.

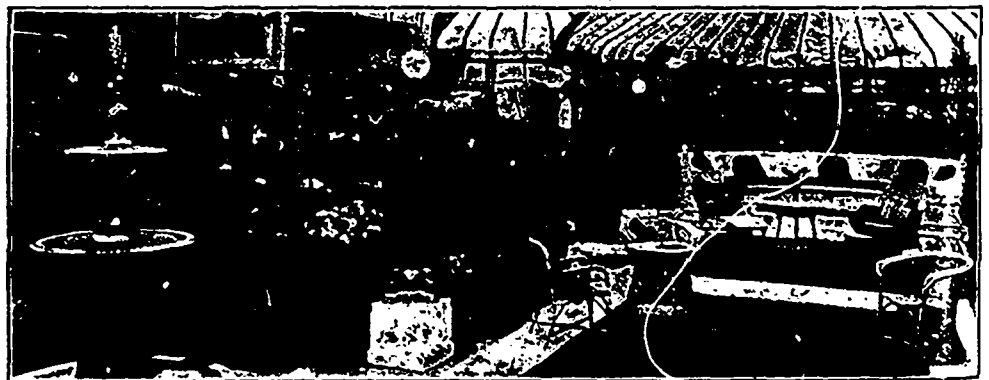
THE BENCHES

When it comes to the benches to hold the soil, you certainly would not think of building a house of endurance like we have been talking about and then put in benches that in a few years would decay and have to be replaced. Quite the best all-round bench is undoubtedly one having a galvanized steel frame, cypress sides and tile bottoms. The tile besides being long lived, hold the moisture in a way that is very agreeable to the plant roots.

The cypress sides will last a good many years, and when they do show decay can easily be replaced. If you want an indestructible bench in all points then the one having cast iron sides and bottoms and galvanized pipe legs, is the one to buy.

After all, buying a greenhouse is quite like buying an automobile. You would not think of going to your blacksmith's for one. Neither do you expect a low-powered runabout to perform like a six cylinder car. You generally get what you pay for.

The point of resistance with so many people is, they don't want to pay, what they surely have to pay, to get the really worth while things.



An Interior View in The Beautiful Conservatory of Lord Strathcona, of Montreal

This magnificent conservatory serves as a connecting passage between Lord Strathcona's two houses in Montreal. The illustration tells its own story of plant surrounded joyousness and comfort.

What the Gardener can do in August

Henry Gibson, Staatsburg.

AUGUST, with its hot and lazy days, invariably brings to the amateur gardener the temptation to let

has not been over-abundant, and even if you have kept the hoe busy in order to conserve all possible moisture, your



In the Garden of Mrs. H. H. Champ, Hamilton

The rose beds are at the right. The edging is Centaurea.

things slide. The first and most appreciated of the flowers are over, and fresh, green vegetables are an old story. In some places the weeds are getting the upper hand, but the crops are all grown, so "what's the use?"

Well, there's a whole lot of use. In the first place more than half of the garden's good things and still more of the flower garden's beauty is yet ahead of us. Moreover, now is a good time to plan carefully for next year.

Just take a look around your grounds and see if there is not a spot that could be improved by the addition of an evergreen tree or two or a few clumps of shrubbery. Now is the time to plant these if the ground is not too dry. There are many varieties of spruces, pines, hemlocks, and shrubs that can be used for beautifying the home grounds, and that are available at prices within the reach of any one. Get a few catalogues—they are full of fine illustrations and good suggestions—and look into the tree business. You will never regret the time and money spent, for nothing else will give your home as permanent or cumulative an improvement as will a judicious planting of trees.

In the flower garden there is much that will need attention. The rainfall

flower border would be greatly benefited by a thorough watering. Get busy with the sprinklers or the hose, and don't let

up until you are sure that the ground is thoroughly saturated. The "little and often" system of watering is a delusion and a snare and should not be tolerated. A thorough watering will last for some time and thus allows one more opportunity to attend to other duties.

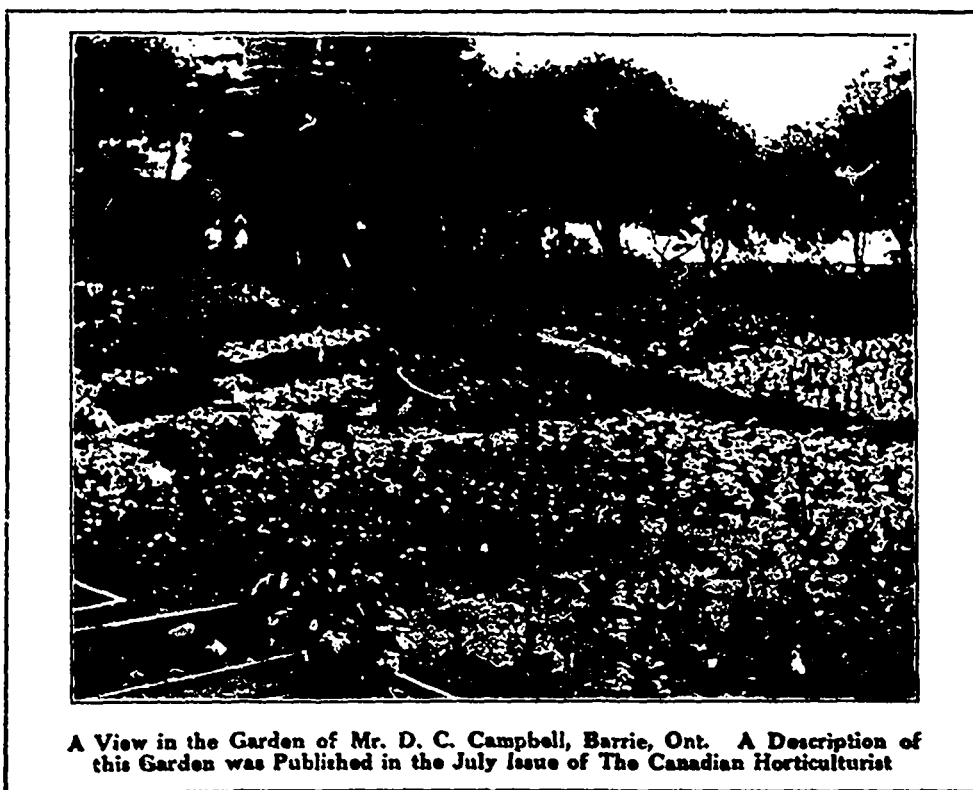
PLAN FOR HARMONY

Then again there may be some in-harmonious combinations that can be remedied. Attend to these while the new ideas that you have picked up elsewhere are still in your memory. Get them down on paper. Make a complete and harmonious plan. To follow this plan, you may have to move some of the occupants of the border, but the shift will do them good. Many of the clumps can each be separated into three or four. This will not only give you more flowers next spring, but better ones, for nothing is more conducive to poor quality than overcrowding.

New varieties of perennials for next year are to be thought of too. You can easily grow your own, especially if you have a cold frame. By so doing you can have a few hundreds of them just as well as a few dozen, which isn't the case if you purchase them from the florist in the spring.

PANSIES EASILY GROWN

Among the many plants that can be raised in this way, few give a greater display of bloom and beauty than do the pansies. They are easily wintered with slight protection. The best plan is to start them in a cold frame. The seed should be sown before August 15th—the sooner the better. Make the soil as fine and mellow as you can, and if dry, give it a good soaking the day before



A View in the Garden of Mr. D. C. Campbell, Barrie, Ont. A Description of this Garden was Published in the July Issue of The Canadian Horticulturist

sowing. Sow the seed thinly and press evenly into the fresh soil. Cover with clean sand to the depth of one-quarter inch or less. Water thoroughly, and cover up the frame.

For five or six days it must be kept dark. As a prevention against the "damping off" fungus, dust powdered sulphur on the sand at the rate of one ounce to a three by six foot sash. No more water will be needed until the plants are above ground; be sure to take off the dark covering as soon as they are up. As a means of protection against heavy rain and too hot sun, cover the frames with two thicknesses of black mosquito netting. The plants can be watered through the netting, and in bright hot weather should be given a shower every afternoon.

TRANSPLANTING

In about six weeks the plants will be ready for transplanting, which should be done as soon as two complete leaves have been developed. Set in rich, mellow soil, six or eight inches apart each way. Keep clean, and before severe freezing sets in cover with a few leaves and pine boughs or, if kept in the frames, with cotton cloth, the object not being to keep the plants from freezing, but to prevent alternate thawing and freezing.

There are two beautiful and easily grown flowers that should be planted now if you would add their beauty to your collection next spring. These are the Madonna Lily and Spanish Iris. The latter should not be confused with either the popular German and Japanese Irises, as it is quite distinct. It may be rather early to procure these yet, but as soon as they are to be obtained they should be planted, for it is important that they start growth this fall, in which respect they differ from most fall planted bulbs.

IN THE VEGETABLE GARDEN

In the fruit and vegetable garden, too, there are several things that could be attended to even in the dull and dusty month. There may be a few weeds, which have escaped the numerous hoeings and weedings, that still remain unpulled. Don't leave them for a minute, as they are not only robbing the vegetables of valuable nourishment, but they are producing thousands of seeds which will give you more trouble by and by.

Purslane, that watery-stemmed pest of midsummer, must be cleaned out as soon as it appears, for it will develop seeds long before you are aware of it. One plant in rich soil will grow as big as a bushel basket, and will ripen seeds when only a few inches high. It won't die; it must be pulled out and carried from the garden before you can be free from it.

Now is the time to commence earthing up the early celery in order to blanch it. Before starting this work, see that the plants have an abundant supply of

moisture at the roots. Celery is naturally a water-loving plant. An occasional dose of clear soot water will be of benefit to it.

To make this, get a fair-sized barrel, fill it with water, and place in it some old soot (not fresh) in a bag. Tie a weight to the bag to make it sink. Let it soak until the water has cleared and then use the clear water for the celery. Before earthing, tie the tops of the celery with raffia to prevent the soil from getting into the crowns of the plants, as this would cause them to decay.

PREPARING THE STRAWBERRY BED

In the fruit garden the strawberry patch may be made ready for next year. Get a few dozens of good, strong plants from your nurseryman, set them out in rich soil, and keep all runners pinched off. With mulching and proper care you will have some of the finest berries next summer that you ever saw.

Grapes, too, should be looked after at this time. If they are not developing evenly, it is because too many bunches have been left on the vines. If this is the case they should be thinned. If only a few bunches are grown and proper spraying has been neglected, results may be made more certain by "bagging" the bunches with manilla bags.

Then about that cold frame that you have been going to build for so long. Get busy at it now or get some one to build it for you. Just think of the nice, fresh, green vegetables that you could be enjoying away along into the fall, when the cold nights of late September and the frosts of October have ended the outdoor supply. Think, too, of the advantage of getting four or five weeks ahead next spring by having everything in readiness for the preparation of a hot bed.

An Inexpensive Greenhouse

Prof. E. M. Streight, B.S.A.

THE modern greenhouse, artificially heated, is an extremely valuable adjunct to a market garden. The profits arising from gardening under glass are large when properly managed; but the initial cost of installing such a plant is considerable; so considerable that many are deterred from the use of glass even when convinced that it is desirable and profitable.

To the general grower or market gardener whose business is not a large one, we recommend the glass house or unheated greenhouse. A house of this de-

scription was built on the Government farm at Truro, N.S., a few years ago for the purpose of showing the farmer boys that a few feet of glass might be enjoyed by all, and that it was really necessary on every farm. For the purpose for which it was built it has worked well.

The house is twenty feet wide and twenty feet long. The height at ridge is ten feet, with six foot posts on north side, and two feet eight inches on the south side. The rafters on the north slope are six feet long, boarded and



A Strawberry Patch that Soon After being Photographed was Ruined by the White Grub

This illustration of the strawberry bed of J. W. Taylor, of Exeter, Ont., was obtained in June 1912, during the harvesting of a profitable crop. Four months later the white grub had created such devastation in it there were scarcely enough plants left to set a new bed.



A 150-Foot Tomato House
Crop Grown in York County, Ont.

shingled. The part of the roof next the ridge is hinged and used as a ventilator—a space about eighteen inches wide. The south slope of twelve feet is of glass with wooden sash bars. The ends are partly of glass. The rest of the house is boarded singly and battened.

The door is wide enough to admit a wheelbarrow. Inside the house is a bench two and one-half feet wide under the south wall. The walk is two feet wide. A hotbed is placed in the centre six feet wide and two and one-half feet high. The ordinary amounts of soil and manure are used in the bed, and ordinary hotbed sash used as a cover. On the north wall are two shelves wide enough to hold seed flats.

The cost of the building for material did not exceed sixty-five dollars. In some sections where lumber is cheap, and where the greater part of the work is performed by the farmer, the cost would be much less.

The possibilities of such a house are great. The hotbed in the centre is doubly protected and any desirable temperature may be maintained there in March. This will be found a desirable place for starting tomato plants and celery and other plants requiring like treatment. By the time the seedlings are large enough to prick out in flats, the temperature of the main house will be found sufficient for the purpose. After the hotbed is cleared melons or cucumbers may be permanently planted over the spent manure with good prospects of success.

Lettuce is a cold weather crop, comparatively speaking, so that it has been found possible to grow an excellent crop of lettuce in early spring and late autumn without further heat than that given by the sun.

Rhubarb may be forced under the benches, and a surprising amount of stalks obtained, out of season, on a small scale.

Houses of this kind are very popular in some sections. Some are large, comparing favorably with the modern greenhouses and are satisfactory for the purpose for which they are used.

Methods of Blanching Celery*

C. P. Halligan, East Lansing, Michigan

There are different methods that may be used to accomplish the blanching of celery, but on a commercial scale, the only ones of importance practised are blanching by boards and by banking with soil. Formerly most of the celery was blanched by the latter method, but to-day the method employed depends largely upon the time of the year the crop is used. When a crop is to be blanched during the summer months, one of the self-blanching varieties is grown and the plants blanched by the use of the boards, for if the soil method is used at this time, it causes the plants to rust.

When celery is to be blanched during the cool weather of the fall, however, it is blanched by banking with soil which produces celery of an excellent flavor and protects the plants from light freezes. When the crop is to be stored for winter use, it will blanch in storage if the temperature is not too low, and will keep better if not blanched too much in the fields.

BLANCHING WITH BOARDS

When a crop is to be blanched by the use of boards, sound hemlock lumber one inch thick, twelve inches wide, and twelve, fourteen, or sixteen feet long, is selected, although at times boards ten inches wide are used to blanch the ear-

liest crop when the plants are not too large. If small cleats are nailed across the ends and middles of the boards, it will tend to prevent splitting and warping.

In placing the boards for blanching, they are first laid flat along both sides of the row; then two men working together at each end of the board, raise the edge nearest to the plants, catching up the outside leaves, until the board is brought into a vertical position along the row; then, holding it in place with one hand, the board on the opposite of the row is likewise brought into position. A little soil should be thrown along the lower edge of the boards to close any openings that may be caused by the unevenness of the surface of the soil.

TIME REQUIRED FOR BLANCHING

From two to three weeks will be required for blanching the summer crops, depending much upon the rate of growth and weather conditions. As soon as the crop is properly blanched, it should be harvested, because when left too long it loses its weight and flavor. After the day's harvesting and packing is finished, the boards are carried to another patch of celery and used to blanch another crop. In this way, they are used several times in a single season.

The blanching of fall and winter celery is generally accomplished by the use of soil. This method produces crops of the highest flavor, and for the extensive grower, is the most economical. The banking of celery is generally done by the use of a plow or celery "hiller," which throws the soil up in ridges against the plants. The presence of soil in the heart or crown is conducive to the rapid decay of the plant.

To prevent the soil from covering the hearts of the plants, the rows are first cultivated and then a small amount of soil is banked against the base of the plants by hand to straighten up the stalks and hold them together. This practice, which is called "handling," leaves the plants ready to be banked by the plow or "hiller," and as the crop continues its growth the "hiller" is used to keep the soil thrown up against the plants.

Examine the bark of trunks of all trees, especially peach and plum trees, for borers, also all gummy places on peach and plum trees, and dead places on apple trees, as these are probably caused by the borer. Destroy by digging out with a knife.

Nitrogen promotes leaf and stem growth. So powerful is this influence, that the profitable character of fruit trees and fruit bearing plants may be destroyed and all their energies diverted to the production of coarse, rank shoots and leaves by too liberal an application of nitrogenous manures.

*Extract from Bulletin 80 of the Michigan Agricultural College Experiment Station.

The Canadian Horticulturist

COMBINED WITH

THE CANADIAN HORTICULTURIST AND BEEKEEPER

With which has been incorporated
The Canadian Bee Journal.
Published by The Horticultural
Publishing Company, Limited
PETERBORO, ONTARIO

The Only Magazines in Their Field in the Dominion

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2. Subscription price of The Canadian Horticulturist in Canada and Great Britain, 60 cents a year; two years, \$1.00, and of The Canadian Horticulturist and Beekeeper, \$1.00 a year. For United States and local subscriptions in Peterboro (not called for at the Post Office), 25 cents extra a year, including postage.

3. Remittances should be made by Post Office or Express Money Order, or Registered Letter.

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

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CIRCULATION STATEMENT

The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with December, 1912. The figures given are exclusive of samples and spoiled copies. Most months, including the sample copies from 13,000 to 15,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruits, flowers or vegetables.

January, 1912.....	9,988	August, 1912.....	11,148
February, 1912.....	10,437	September, 1912.....	10,997
March, 1912.....	10,977	October, 1912.....	10,571
April, 1912.....	11,768	November, 1912.....	11,162
May, 1912.....	12,112	December, 1912.....	11,544
June, 1912.....	10,946		
July, 1912.....	10,966		132,556

Average each issue in 1907.....	5,817
" " " " 1908.....	8,885
" " " " 1909.....	8,576
" " " " 1910.....	9,967
" " " " 1911.....	9,541
" " " " 1912.....	11,857
July, 1913.....	12,240

Sworn detailed statements will be mailed upon application.

OUR GUARANTEE

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

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

THE CANADIAN HORTICULTURIST,
PETERBORO, ONT.

EDITORIAL

MISTAKES IN MARKETING

In nineteen hundred and twelve there was a fairly large crop of peaches on the Pacific Coast, for which the only available market was Alberta, Calgary being the chief distributing point. With commendable enterprise those who had charge of the selling of the peaches visited the large wholesale merchants in Alberta and sold a fair proportion of the crop at a stated price. As the season advanced, it developed that there was still a considerable surplus for sale in the hands of the growers. The selling agents made their mistake in the sale of this surplus, if indeed so mild a term as "mistake" can be applied to the transaction.

With the full knowledge that the wholesale merchants had bought all that they considered it discreet to buy, they still took this surplus fruit and shipped it to other merchants in the same market, on consignment. The fruit, of course, could only be sold at prices lower than that which was held by the other dealers and, as a consequence, the market generally was badly demoralized. Surely it was only a matter of common honesty on the part of the peach growers to protect the men who had bought outright and at a fixed price earlier in the season. In all probability, the growers will have plenty of opportunity to reflect on their mistake when they again try to dispose of the crop at fixed prices.

Another instance: A cooperative association in Ontario, putting up a splendid brand of fruit, shipped to the north-west and sold largely early in the season at a fixed price. They still found themselves with several thousand barrels unsold. These they stored at a convenient selling point in the north-west, and during the selling season they were disposed of at whatever price they would bring, in direct competition with their own fruit in the hands of those who had bought outright. As a matter of record the prices in February and March were lower than the prices paid by the dealers for the same trade of apples in October, and this lowering of the price was largely the result of the surplus fruit thrown indiscriminately on the market by the agents of the growers.

One more instance, this time from Aberdeen, Scotland. When urged to buy the apples of a cooperative association, one of the largest firms replied:

"As a rule I have found that the cooperative societies hold their prices so high at the opening of the season that business has been quite impossible, and then what surprises me all the more is that later on in the season, I can usually buy the packing of the same cooperative societies on one or other of the largest markets at a great reduction. If cooperative associations wish to develop a regular trade, then it is unwise to pretend inflated values because they imagine that when they get an inquiry they have a man on the line who must buy."

What might have been but was not done in the peach deal and apple deal here noted was to have re-embursed the merchants with the difference between the slaughter price of the surplus and the fixed price at which they sold fruit to these merchants earlier in the season. Unless fruit grow-

ers are willing to deal upon these terms there appears to be little chance of confidence developing between producer and merchant—as long as practices, such as those recorded, are continued. The central selling agencies that have been formed by the local organization should bear these conditions in mind and build up the confidence of the trade by striving for their removal.

OUR WILD FLOWERS

True lovers of nature cannot but view with regret the rapid disappearance of many of our wild flowers. Unaided by the hand of man, nature has given to these products of her art a charm that is all her own. In what more delightful way could one spend an afternoon than by strolling through the shady woodland aisles, and in her perfumed jewels in their mossy settings, see nature at her best.

Against the onward march of civilization nature has had to give way. The wild flowers that were once so plentiful are rapidly disappearing. Our woodlands have become the grazing grounds of cattle or have been turned into parks. Probably the former practice has been responsible more than any other for the destruction of the wild flowers. Woodlands are of little or no value as pasture and for the conservation of our forest wealth, cattle should not be allowed to graze in wood lots.

In the management of our parks more attention should be paid to the preservation of the wild flowers. Every effort should be made to introduce the once profuse flowers that are now so conspicuous by their absence. Some varieties are now almost extinct. The Ontario Horticultural Association might well devote attention to their preservation.

ADVERTISING THE APPLE

Fruit growers have recognized that if the buying public is to be convinced of the importance of the apple, both as a food and a table delicacy, constant and judicious advertising is necessary. Just how to obtain the money necessary to finance an advertising campaign, and in such a manner that those who would derive the greatest benefit from such advertising would bear the larger share of the burden, has been a knotty problem.

The Advertising Committee of the National Apple Shippers' Association in the United States has evolved a unique solution to the difficulty, which promises to meet with considerable success. In brief, it is the "Stamp Plan." The committee are to issue stamps of one and two cent denominations, which will be purchased by the shippers and placed on the packages of fruit, a one cent stamp being placed on a box and a two cent stamp on a barrel. Thus the man who has one hundred packages to ship will buy one hundred stamps, paying in direct proportion to the amount of fruit shipped and in direct proportion to the benefit which will accrue to him from the advertising.

These stamps will be sold by the Equitable Mortgage and Trust Company of Baltimore, through the many banks throughout the country which act as its agents. The funds received will then be placed to the credit of the Advertising Committee. Experts in advertising are to be retained and an extensive educational campaign carried on.

RAVAGES OF CATERPILLARS

Reports from many districts, but more particularly from the eastern counties of Ontario and western Quebec, state that tent caterpillars have this season been unusually numerous, and the damage done has assumed serious proportions. In fact this pest has been prevalent during the past three years.

The depredations of these insects are over for this season. The caterpillars have successively passed through the pupa and the adult or moth stage and the new generations are now in the egg stage of their existence. The moths lay their eggs on the small branches or twigs of the tree, the egg mass being in the form of a girdle. The eggs hatch in a few weeks but the minute caterpillars remain in the eggs during the winter.

Preventative measures consist in removing and destroying the egg masses. These can be found quite readily when the leaves have fallen. The offering of prizes to school children for the collection of the eggs would prove of great assistance in the control of this pest.

A copy of the annual report of the Ontario Vegetable Growers' Association has come to hand, and as usual is full of information of interest and value to vegetable growers. We notice, however, that unlike most reports of this character it does not contain a statement of the receipts and expenditures of the association for the year. While it is true that the year of the association does not end at the time the annual convention is held, arrangements might easily be made for the publication of a statement which would show the financial standing of the association and character of the work it is doing. This is information with which the public has a right to be furnished, and which should be included in the report.

PUBLISHER'S DESK

Year by year an increasing number of the readers of The Canadian Horticulturist have been asking us for information concerning greenhouses in the home and their management. In some instances there has been a desire for articles dealing with large conservatories such as owned only by the wealthy few. An effort to meet this demand has been made in this issue of The Canadian Horticulturist. This is the first occasion on which we have devoted so much attention to greenhouse work. We feel sure that those of our readers who have been looking for information along these lines will appreciate this issue to the full as well as many others who may not be as yet in a position to own a greenhouse, but who have pleasant visions for the future.

The September issue of The Canadian Horticulturist will be our third Annual Fall Packing and Exhibition Number. It will maintain the high standard established by the first two issues. There will not only be a special front cover, showing a packing scene in a large Canadian orchard, but the articles throughout will be appropriate and timely in character. While we cannot as yet speak definitely with regard to all the articles we expect that the subjects that will be discussed, each by one of Canada's foremost authorities, will include the following: "Packing Peaches for the Export Trade," "Interprovincial

Trade-Needed. Regulations," "Improving Nova Scotia's Apple Pack," "Common Mistakes in the Packing of Fruit," "Improvements Needed in the Barrel Pack," "Packing Tender Varieties of Apples," "What the Western States can Teach us in Packing," and "Popular Packs for Ontario Apples." In the vegetable department there will be a special article dealing with the preparation of vegetables for market. The floral pages will also be strong. They will include the description of a garden of a rose enthusiast, by Mr. F. E. Buck, of Ottawa, as well as a page of timely notes dealing with the work every amateur gardener should attend to during September. There will be a number of other short articles, and numerous illustrations. Throughout it will be possibly the strongest issue of The Canadian Horticulturist we have ever published. The issue will be national in character as the contributors will be leading authorities from each of the principal horticultural provinces. The illustrations will be a special feature in this number. Advertisers will do well to apply for space early.

A glance at the circulation statement on the adjoining page will show that last month's issue of The Canadian Horticulturist was mailed to the largest number of paid subscribers in the history of The Canadian Horticulturist. Nothing is done to force the circulation. It is a natural growth that reflects the steady development of the fruit growing and horticultural interests generally of the Dominion. While the development during the past few years has been rapid we anticipate still more satisfactory progress for the future.

Those readers of The Canadian Horticulturist who have subscribed for the second edition called The Canadian Horticulturist and Beekeeper, seem, from all we hear, to be delighted with the publication. Its circulation is growing rapidly. The Ontario Beekeepers' Association alone has forwarded some eleven hundred subscriptions. The subscriptions received are from persons living from one end of Canada to the other. Thus this edition of the paper is as truly national in character as is the general circulation of The Canadian Horticulturist.

A number of our readers have written asking why they have not received their songs in accordance with the offer made in our June issue. We regret the delay. It has been owing to the slowness on the part of some of our readers in sending in their answers. The list is now under preparation, and the songs will be sent out this month. We desire to thank our subscribers for the interest which they took in the contest.

SOCIETY NOTES

Ottawa

The annual rose and peony show held on June 24, was one of the prettiest exhibitions ever held by the Ottawa Horticultural Society. Garden flowers of every kind were there and the artistic arrangement did much to add to the beauty of their general appearance. Probably the most beautiful exhibit was that entered by the Experimental Farm of Ottawa, including a large number of peonies in full bloom. These plants had been imported from abroad, and had been raised at the

Experimental Farm. Another attraction was a special exhibit of roses from Mr. R. G. Farrell.

A splendid collection of palms and potted plants was loaned to the society by Scrimis, the Ottawa florists and made a most effective decoration. The entry list was a large one, and numerous prizes were given.

St. Catharines

The tenth annual Rose Show of the St. Catharines Horticultural Society, held on June 20, was an unqualified success. When compared with some of the first shows held by this society the progress made has been almost phenomenal. The showing of roses was magnificent. The judges, H. G. Mulliss, of Brampton, and Mr. S. E. Davidson, of Fonthill, had a difficult task to pick the winners. When it came to the selection of the prettiest exhibit at the fair it was a toss up between the lovely sprays of Lausendshose exhibited by Miss Helen McFarlane and the President rose shown in Major Leonard's collection.

In the floral table decorations the first prize went to Miss L. Watson. The silver cup for the twelve best blooms was won by J. A. Abbs. Mrs. J. W. Gordon won the gold medal for the six best bleas, the silver medal going to J. A. Abbs, and the bronze medal to A. E. Austen. Much praise is due the officials of the society for the splendid manner in which the show was conducted.

Toronto

"The best ever," was the opinion expressed by those who attended the monthly show of the Toronto Horticultural Society, which was held in Forrester's Hall on July 5th. The display of roses was judged to be the finest ever staged in the city. An encouraging feature was the large number of exhibits from amateurs.

A charming display of sweet peas in all the newer and rarer varieties was made by Sir Edmund Osler. Large displays in roses and other flowers were shown by Sir Henry Pellatt, Mr. J. P. Moore, Miss Jardine, Mr. Geo. Baldwin, Allen Gardens, Mr. D. A. Dunlap, president of the society, Mrs. Allan Baynes, and many others. Many varieties of Giant Larkspur were exhibited, forming a bank of solid blue along one side of the hall. An orchestra added to the enjoyment of the evening.

A feature of the work conducted by the society is a campaign for city beautifying. Citizens are urged to beautify their front lawns by planting flowers and by other means. Competitions for the best kept lawns are being held on the various streets.

Ontario Rose Society

The newly organized Ontario Rose Society held its first exhibition on July 3rd, in George's Hall, Toronto. In spite of the hot weather much interest was taken in the event and the show was a decided success. The largest exhibit was that of Mr. Bryson, rose grower for Mr. T. J. Moore. The society's cup went to the Alexandra Art Gardens and the challenge cup offered by Mr. Moore, to Mrs. T. A. Chisholm.

The object of the society, as outlined by Mr. Moore, the Honorary President, is to encourage the cultivation of roses in Canada, as well as to encourage the beautification of Canadian towns and cities. After the show the flowers were presented to the different hospitals in the city.

Better Transportation Facilities Needed

THE need of something being done to ensure a better railway service in the supplying of cars, a better mileage rate in transit, and a more prompt delivery at terminals for fruit shipments was forcibly brought before the Railway Commission at a sitting in Ottawa, June 16th, by G. E. McIntosh, the transportation agent of the Fruit Growers' Association of Ontario, when the questions of reciprocal or average demurrage were considered.

At present a shipper who allows his car to remain more than twenty-four hours of free time at terminals before unloading is fined one dollar a day for every day beyond such free time. Last winter the Board raised this to two dollars and three dollars for the first and second day, for four months as an experiment, but the experiment did not bring about the result which the railways claimed would be forthcoming, viz., that cars would be released by consignees and could then be supplied promptly to the shippers. The fact, then is apparent that the fault is really congestion at terminals, which can only be remedied by the railways in providing better terminal facilities.

RECIPROCAL DEMURRAGE

The fruit shippers are asking for reciprocal demurrage, that is a system by which the railway, as well as the shipper, would be fined for delay in unloading, according as one or the other was responsible. The same would apply in the ordering of cars. If cars were not supplied in forty-eight hours, the railways would pay the shipper demurrage for each day's delay, and if supplied and not loaded in proper time, then the shipper would pay the same rate. Delays in transit, or in placing would, or should, be in the form of a penalty.

By the average demurrage system the charge on all cars held for loading or unloading by shipper or receiver would be computed on the basis of the average time of retention to all such cars released during each calendar month, as follows:

A credit of one day allowed for each car released within twenty-four hours of free time, and a debit of one day charged for each twenty-four hours beyond the first forty-eight hours of free time.

At the end of the month the total number of days credited will be deducted from the total number of days debited, and one dollar a day charged for the remainder.

Mr. McIntosh said the fruit shippers of the province favored the reciprocal plan, believing that its adoption would be a fair settlement of the question, whereas the average plan would discriminate against the small shipper in favor of the big one. They, however, would gladly accept any ruling whereby the service would be made more satisfactory, irrespective of a penalty.

DELAYS COSTLY

The delays last season in supplying refrigerator cars for the fruit shipments of this province, according to Mr. McIntosh's evidence, had cost the growers several thousands of dollars. He reported that out of forty shippers, requiring one thousand one hundred and eighty-six refrigerator cars, twenty-six of them experienced delays in getting cars after ordering them, of from four to thirty-eight days, and in some instances were compelled to use box cars. An instance was given of one shipper who ordered eight refrigerators on October 24th. He received two on November 28th, one on November 30th, and one

on December 1st, but no more until December 13th. Another ordered six on November 4th, and received the first car on December 10th. So on all through the list of twenty-six shippers, ridiculous delays were referred to.

Delays in transit was another matter upon which some striking evidence was submitted by Mr. McIntosh. These were on everything required by the fruit grower, from the nursery stock to the orchard product, including spray material and fruit packages. On fruit shipments to the western market, Winnipeg shipments traveled as slow as two and three-quarter miles an hour; Brandon from four and three-quarter to ten miles an hour; Regina four and three-quarters, five and one-half, and six miles an hour, and several other points about as bad.

Conditions at export points were also referred to, instances being quoted where cars were held back a full week and more during severe cold weather, and were badly frosted. Fifty-seven shipments of nursery stock by one shipper to points in Ontario, during the month of May, was even acknowledged by the railway representatives to be a most shameful condition of

Central Selling Agency for Ontario Fruit Growers

ONTARIO fruit growers have decided on advancing another step, as they are now to have a central selling agency. Representatives of the various local associations met in the Parliament Buildings, Toronto, on June 17th, for the purpose of amalgamating the local associations into a central agency. Of the fifty-two associations in the province, twenty-four were represented at the meetings.

During the discussion it was shown that more centralized cooperation was necessary in the marketing of Ontario fruit. Heretofore, the different associations had been bidding against one another, and buyers had been inclined to pit one company's offer against that of another. Under these circumstances the formation of a central selling agency was deemed advisable.

After some considerable discussion it was decided that the local associations should guarantee fifty thousand barrels of apples, or the equivalent in their fruits. Each association will subscribe for stock at the rate of one hundred dollars for every thousand barrels of apples or the proportionate amount of other figures which it shall offer to the company for sale. The minimum amount of stock which will be allotted is two hundred dollars, representing two thousand barrels or forty carloads of tender fruit. A charge of twenty-five cents a barrel will be made for selling apples, the amount to be withheld from the returns made to the company. After paying the running expenses of the company and setting an amount for dividends and reserved fund, any surplus earnings will be returned to those associations which took stock in the company in proportion to the number of barrels of fruit sent in by them for sale. According to the by-laws only one vote is allowed to the shareholders, no matter how much stock is held.

The charter of the association gives the company power to manufacture and handle all supplies and appliances required by the

affairs. Some of these required seventeen days going twenty-three miles, fifteen days going twenty-eight miles, twenty-two days going thirty-seven miles, twenty-six days going seventy-two miles, and so forth throughout the whole fifty-seven shipments.

Similar reports to the above were submitted on the placing of carload shipments of fruit after arrival at destination.

RATE OF TRANSIT

Ten miles an hour, was Mr. McIntosh's reply to Chairman Drayton's inquiry as to the rate of transit at which he thought the fruit should be delivered. This he said, was not unreasonable, when the high rate charged on fruit is taken into consideration.

To the great fruit industry of this province the decision of the Board upon this important problem means considerable. Fruit growers pay a high rate because of the perishable nature of their commodity and deserve, therefore, the service for which they pay. "No company obtaining its right of operation from the Government, which is in reality the people," said Mr. McIntosh, "should be allowed to serve or so humbug the people, causing those who make their operation possible, great loss either through carelessness or a defective system."

association and also to carry on a business of refrigeration, cold storage, forwarding agents, and packers of provisions of all kinds.

It is understood that the fruit offered for sale shall be a proportionate amount of all varieties or a stated number of barrels of all varieties grown by the members of such associations. All apples offered for sale shall be subject to the inspection of the company's officers, who may reject same before shipment if not up to grade. Any car lots reported as arriving in bad condition will be examined and where the local shipping association is at fault the matter will be adjusted and such association will have to stand the loss and expense. Where the transportation is at fault the company will look after the collection of damages from the railway company, no loss being incurred by the local associations. Apples of each variety and grade shall be pooled, the directors at the close of the season setting the prices to be paid to the local associations for their output.

The officials are: President, Elmer Lick, Oshawa; vice-president, Robt. Thompson, St. Catharines; directors—C. W. Gurney, Paris; Adam Brown, Owen Sound; Roy A. Carey, Oakville; sec.-treas., P. W. Hodgetts, Toronto.

STOCK ALL PLACED

In a recent letter to The Canadian Horticulturist, Mr. Hodgetts says: We have practically closed our stock book for the first issue of stock and find that we have thirteen associations who have subscribed for the minimum amount of stock, two thousand dollars or over. This is about one-quarter of the Associations in the province, but will represent about fifty thousand barrels of apples for the first season's business, which is the amount that the directors of the company felt able to handle the first season. We hope next year to issue more stock, so as to take in a number of the other associations that were not able to see their way clear to joining this season.

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 Safe delivery at your Post Office guaranteed.
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 Untested Queens, \$1 each, \$5 for six
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THE CANADIAN HORTICULTURIST AND BEEKEEPER
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THE BEEKEEPERS' REVIEW was fortunate in securing from its correspondent, Mr. J. J. Wilder, his write-up of a successful system of management of 3000 colonies of bees, in 50 yards. As all up-to-date honey producers will be interested in this great series of ten articles beginning in the July number of the Review, we will for 50 cents mail the Review for the last half of 1913, containing the first six articles of the series, and in addition (to those who ask for it) send the April and May numbers of the Review containing the report of the National meeting at Cincinnati. Those two numbers alone contain 96 pages. Subscribe to-day! Don't miss a single number containing the series, 3000 colonies in 50 yards managed from one office.
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THE BEEKEEPERS' REVIEW
 NORTHSTAR MICHIGAN

Ontario Fruit in the West

The complaints from Western buyers in regard to the condition of Ontario fruit as received by them are still far too numerous. It is noticeable, however, that conditions are improving. Affairs are not in such a bad condition as some of the reports that have been appearing in the public press would indicate. In a recent letter to The Canadian Horticulturist, J. A. Ruddick, Cold Storage Commissioner, writes:

"It must be admitted that there is still great room for improvement in the packing of Ontario apples, but the packing is very much better done now than it was a few years ago. The operation of the Fruit Marks Act has made everybody much more critical and we now hear complaints about defects in the packing that would have formerly gone unnoticed. That Ontario is still supplying the larger proportion of the market in our Canadian West is proved by the following figures: In the season of 1912 and 1913 the quantity of apples marketed in Manitoba, Saskatchewan, and Alberta was four hundred and ninety-five thousand barrels, of which Ontario supplied two hundred and thirty-eight thousand barrels, British Columbia seventy-five thousand, Nova Scotia eighteen thousand, and the United States one hundred and sixty-four thousand. This estimate is based on figures secured by the fruit inspectors who are located at all car load points."

MUST USE BOXES MORE

"It is to the growing market of the West that Ontario fruit producers must look," is the manner in which P. W. Hodgetts, of the Ontario Fruit Division, sums up the situation. "The Old Country market is at present not very strong. To cater to the demand west of Winnipeg the boxpack will have to be adopted almost entirely. For points east of Winnipeg there is still a good opening for barrel packed apples. The Western Grain Growers' Association is planning to work up a fruit trade in the west through the twelve hundred branches of their own organization." The opportunity to thus build up a trade through the Western Grain Growers' Association is one that should be grasped by Ontario Fruit growers.

An Important Ruling

Early in the season the Fruit Growers' Association of Ontario, through their transportation agent, G. E. McIntosh, of Forest, appealed to the Railway Commission for an order directing the railway companies within the legislative authority of the Parliament of Canada, to furnish refrigerator cars equipped with rack or slatted floors, and to reimburse the cost of such when they have to be furnished by the shippers themselves.

The Board at that time directed that the railways report the number of refrigerator cars in service so equipped, and the number not slatted.

On June 21st the following order was issued:

"It is ordered that where shippers furnish slats for the floors of refrigerator cars not equipped with permanent slatted or double floors, or for the floors of box cars tendered to and accepted by shippers in lieu of refrigerator cars, for the carriage of fresh fruits, railway companies subject to the jurisdiction of the Parliament of Canada shall allow the shipper three dollars (\$3.00) per car for the said slatting; the shipper to be permitted to deduct the

DOUGLAS GARDENS, OAKVILLE ONTARIO

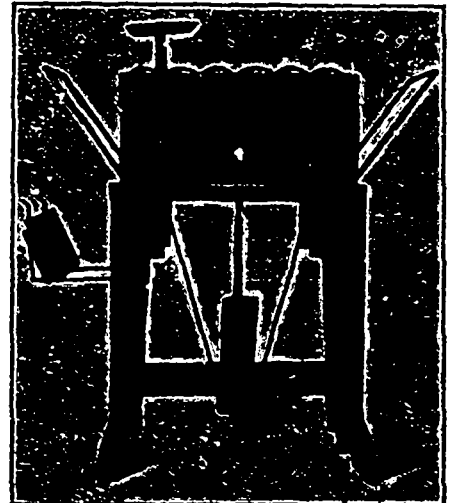
PEONIES

In Peonies, the trend is to select the finer sorts rather than the low-priced ones. In plants of such a permanent character as these the first cost should be a secondary matter; quality should be the first consideration. Too much cannot be said of the following sorts, viz.:

- No. **WHITE**
- 8. Avalanche, strong grower, free bloomer, fragrant, late, extra fine. Each \$2.50.
 - 40. Dupont, Mons. tall, free bloomer, fragrant, midseason. Each \$1.
 - 50. Festiva Maxima, tall, strong, vigorous grower, early, very popular. Each 50 cts., 10 \$4.50.
 - 76. Duchesse de Nemours (Calot), vigorous grower, medium height, fragrant, early. Each 75 cts.
 - 79. Or. Couronne, d. splendid grower, free bloomer, late, one of the best whites. Each 80 cts.
- PINK**
- 18. Calot, Madame, pale Hydrangea pink, extra fine. Each 60 cts.
 - 42. Edulis Superba, strong, upright grower, fragrant, early. Each 40 cts., 10 \$3.50.
 - 43. Elle, Mons. Jules, very large bloom, strong grower, fragrant, early. Each \$1.25, 10 \$12.
 - 61. Golden Harvest, dwarf grower, free bloomer, fragrant, midseason. Each 75 cts.
 - 96. Umbellata Rosa, very strong, upright grower and free bloomer, very early. Each 75 cts., 10 \$7.25.
- RED**
- 25. Crouse, Felix, vigorous grower, med. height, fragrant, midseason. Each 75 cts.
 - 36. Deved, Constant, med. height, strong, erect stems, fragrant, very late. Each \$1.
- We have many other fine sorts described in our Fall Planting List, which is now ready for distribution.
 The buying of fine Peonies is a good investment.
 These prices include carriage prepaid.
JOHN CAVERS

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said allowance from the freight charges payable by him upon the shipment in such car in which the said shipment has been furnished; the shipper's receipt for the amount so allowed to be given to the railway company's agent at the forwarding station, and to be accepted by him as so much cash in the prepayment of the freight charges.

"(Signed) H. L. Drayton,
"Chief Commissioner."

The commission's rulings upon this matter means considerable to a great many shippers of fruit. The cost to come in the Niagara district has run over three hundred dollars in one season for flatting cars. From all over come reports of this extra expense in fitting cars before the same are suitable for carrying the fruit.

Ontario Fruit Crop Conditions

The latest report on the crop prospects for the Niagara district issued by the Fruit Branch of the Ontario Department of Agriculture, under the direction of Mr. P. W. Hodgetts, is not over-optimistic. The apple crop is estimated at forty-five per cent. of an average yield. The early season prospects were good, but the cold weather has resulted in a heavy falling off. Baldwin and Spys are light but Greening and Kings will average better.

The outlook for early peaches, including St. John's and Crawfords, is for a light crop. Late peaches promise better. The following percentages show the estimate of the general crop of the district: Red currants, 73 per cent.; gooseberries, 70 per cent.; raspberries, 84 per cent.; cherries, 76 per cent.; Japan plums, 70 per cent.; European plums, 66 per cent.; early peaches, 72 per cent.; late peaches, 76 per cent.; pears, 75 per cent.; grapes, 75 per cent.; tomatoes, 86 per cent.

Canadian Fruit in Holland

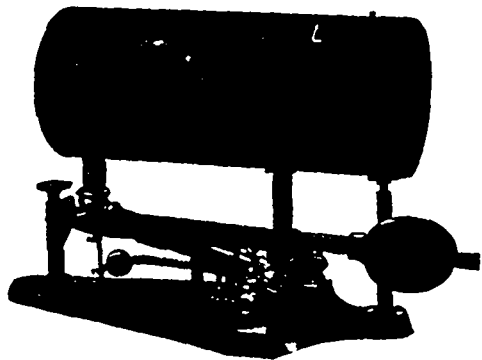
Canadian Trade Commissioner, Rotterdam, Holland

Judging from the number of enquiries from firms in Holland in regard to the output of evaporated apples in Canada, it is certain that a great market exists for these products. Experience in the United Kingdom leads to the belief that the lower grades of fresh apples sold in barrels at very small prices might, when carefully packed and boxed, be marketed to better advantage as evaporated. A high class and dependable brand of evaporated and dried apples should take well here even in competition with the California dried fruit.

The fruit crop throughout this country will be light. Late in May a severe frost storm did much damage. The apple crop promises fair but conditions are far from satisfactory. Because of frost during July plums will be very light; English Daxons almost a failure. Pears blossom abundantly, but are not bearing well.

National Land and Apple Show

Considerable interest is being taken in the Land and Apple Show to be held in Winnipeg from October 10th to 14th. This is the first National Land and Apple Show to be held in Canada. The managers report that it is to be distinctive for the products of the land, not for the land itself. It will provide opportunity for displays of the products of the orchard, the farm, the forests and the water of Canada. Eastern fruit growers will be given an opportunity to show what they can produce in the line of good fruit. Of the years Ontario fruit has received a number of bad reports from that market.



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ANY QUANTITY

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LIMITED
BOXES AND SHOOKS
Toronto, Ont.



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References: The Canadian Bank of Commerce, (Market Branch) and Commercial Agencies.





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TORONTO.

hibits of good fruit at this show may help to set things right.

The show is not a private enterprise. Any surplus earned will be devoted to the establishing of scholarships in provincial agricultural colleges. The prizes to be given for fruit will be announced at a later date as will also the special passenger and freight rates.

Annual Meeting of United Fruit Co's, Ltd.

One hundred and twenty delegates, representing thirty-two local fruit companies, met at Berwick, N.S., on July 2nd and 3rd to hold the first annual meeting of The United Fruit Companies of Nova Scotia. The success that has attended the formation of this company has been watched with interest by fruit growers throughout Canada. Great optimism and enthusiasm was shown by the delegates for, as the president, Mr. John Donaldson, of Port William, said in his opening address, "what other countries and other organizations have taken years of work and thought to accomplish, has been done in one year by the fruit growers of the Annapolis Valley."

The president urged the members to maintain the high standard that had been set for the fruit pack. A pleased customer is the best advertisement for the company. The following he considered as some of the problems that would have to be met: The necessity for more rapid packing and shipping; of early varieties, and for cold storage facilities, the advisability of box packing; the need for more expert knowledge in barrel packing and imposing of a penalty for careless packing; the advisability of raising the standard for number threes, and thus reducing the amount of fruit to be packed; the establishment of evaporating and vinegar factories for the disposition of culls; better methods of managing subsidiary companies.

SECRETARY'S REPORT

The annual report was presented by A. E. Adams, the executive secretary. It called attention to the difficulties that had been met in operating the company in the initial year of its existence. While large savings had been effected it was expected that still better work would be done this year. The total expenses of the central had amounted to only \$12,000, or three cents per barrel on all fruit handled. On this basis there was absolutely no comparison between the expenditure of the company and that of other similar but small institutions throughout the North American continent.

The company had fought a hard battle to obtain a stand on the western market. T. H. Morse, the company's representative, had sold some sixteen thousand barrels of Gravensteins at two dollars twenty-five cents a barrel, ones and twos. Speculators, however, began to quote one dollar fifty cents and one dollar sixty cents a barrel, with the result that the market was demoralized. The result was that the price had to be dropped to two dollars and further sales were made impossible. The reason that speculators were thus enabled to underbid the company was that growers outside of the association had been stampeded into selling their Gravensteins to the speculators at one dollar twenty-five cents a barrel for ones and twos. The company lost five thousand dollars on Gravensteins alone.

MARKETS EXTENDED

In New Brunswick, M. K. Ellis, another of the company's representatives, had sold a firm eight thousand barrels. The firm

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SEPTEMBER 5th to 13th, 1913

\$2000.00 in Cash added to the Prize List

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Concerning Locating and Planning Your Greenhouse

Speaking of location, it is a mistake to think that the greenhouse should be placed in some isolated corner where it will be out of sight. If properly planned and designed, it can well occupy a prominent location and become one of the most interesting features of the grounds.

If possible, your location should be one that will make the care of the houses a convenience—an arrangement that will secure the amount of light required for each compartment, and economy both of fuel and labor in operation.

Also of great importance is the right placing of the cellar for the boiler, to secure perfect heating conditions. Last, and by no means least, you want the

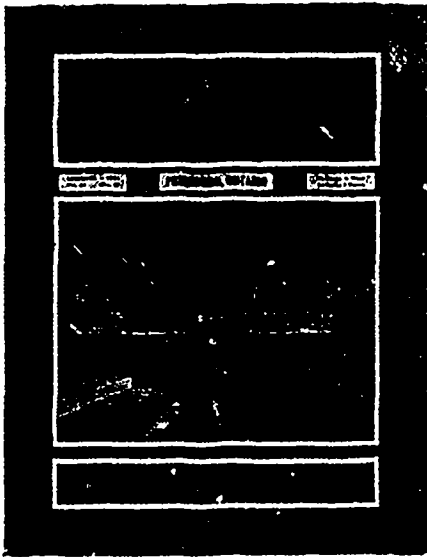
best possible setting, architecturally. All of this, of course, applies to the small house as to the larger groups.

If you have more extensive ideas for a greenhouse than you feel your pocketbook will immediately permit you to build, then have the greenhouse builders plan the scheme as you want it to be when fully completed—then erect such houses as it is important to have at once, and from time to time, add others until the plan is carried out.

In doing this the importance of preserving an attractive architectural balance can always be foremost in mind.

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The
Canadian Horticulturist

PETERBORO, ONT.

was so pleased with the pack that they sent in an order for thirty thousand barrels for this season, which would constitute their entire stock.

J. N. Chute, the London representative, had handled over three hundred thousand barrels for the company on the European market. On the whole, prices received by the company were well above those generally received by the average grower.

Over three hundred car loads of fertilizer had been bought for the members at a total saving of eighteen thousand dollars over previous prices. The total supplies purchased by the company amounted in all to one hundred and fifty-three thousand dollars, "which had been paid for in spot cash."

The members showed their appreciation of the services rendered by those who had charge of the operation of the company by re-electing them to office: President, John Donaldson, Port Williams; recording secretary, M. B. Davis, Bridgetown; board of management, chosen from the directors elected by each company, John Donaldson, Port Williams; Fred Johnson, Bridgetown; E. McMahon, Aylesford; E. B. White, Berwick.

Grant for Agricultural Education

According to the announcement of the Ontario Department of Agriculture, a rather small portion of the one hundred and ninety-five thousand dollars granted by the Federal Government for agricultural purposes, will be devoted to the extension of the fruit industry. The largest item, eighty thousand dollars, is to be devoted to the upkeep of the district representatives.

For demonstration work on spraying, pruning and packing of fruits, only three thousand dollars is voted, a diminutive grant when we consider the importance of the fruit industry. In addition, five hundred dollars has been voted for lectures on horticulture. The beekeeping industry has been recognized as well worthy of consideration, and one thousand dollars has been voted for demonstrations along beekeeping lines.

Fruit Growers Organize

The number of fruit growers' associations in Ontario has been augmented by the formation of an association for the counties of Stormont, Dundas, and Glengarry. The new organization will be known as The St. Lawrence Valley Fruit Growers' Association. Its object is the cooperative selling of fruit, which will consist chiefly of Macintosh red apples.

At the organization meeting it was decided to affiliate with the Provincial Fruit Growers' Association and to make an exhibition of apples at the next Ontario Horticultural Exhibition in Toronto. The president of the new association is W. G. Robertson of Morrisburg; vice-president, L. A. Parisian, of Summerstown; secretary-treasurer, E. T. Bradt, district representative, Morrisburg.

The Canadian Horticulturist is very interesting. I spend many happy hours reading it.—Thos. K. Hogg, Birkenhead, Eng.

Enclosed you will find \$5.00 to pay my subscription ten years in advance.—W. M. Haight, Lozells B.C.

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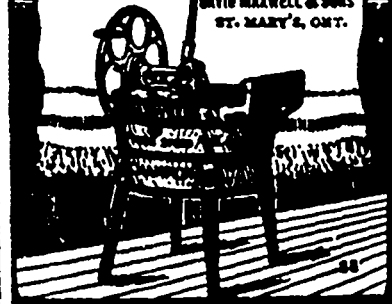
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The Ruling on Express Rates

In announcing the ruling of the Board of Railway Commissioners reducing express charges in western Canada by twenty per cent., the recently appointed chairman of the Board, H. L. Drayton, reported as follows:

"In my view the express rates charged by the defendant companies in the prairie provinces and in British Columbia are unreasonable. Reductions which have been made, and they are many, as shown by the companies' tariffs, are reductions which only little affect the manner in which the bulk of the tariff is moving, or are perhaps compensated by additions which have been made to the rates, presumably in the levelling process, in establishing a mileage basis of standard rates, as provided by the judgment. I am of the opinion that an approximately average reduction of twenty per cent. should be made by the companies in the standard maximum tariff for traffic classified as merchandise to apply only to the prairie provinces and to British Columbia."

DIFFERENCE DEFINED

After defining the difference between freight and express traffic the judgment continues:

"Both Mr. Hanna, of the Canadian Northern, and Mr. Stout, of the Dominion Express, urged very strongly that the proposal of a twenty per cent. decrease was entirely too radical, not called for by the conditions of business, and unduly oppressive.

"In my view no smaller reduction should be considered. The express business is a matter of railway operation in this country, and the capitalization and bonded indebtedness of the different express companies have been created under such circumstances as to require no consideration in striking a rate. I can add nothing useful to what the late chief commissioner under this head said in his exhaustive judgment. The test of the rate is largely its reasonableness, in view of the service supplied, and in directing the reduction now made by this judgment, the board, I think, would be but adopting a rate basis at the present time, and in the light of the different aspects of revenue and operation now presented certainly as reasonable from the standpoint of the carrier as from that of the shipper."

Oppose Increase in Tariff

Should the Dominion Government act on the request of the British Columbia Fruit Growers' Association and move to increase the duty on fruit imported from the United States it is evident that the proposal will be vigorously fought by the people of the prairie provinces. This was shown by the discussion which took place in the House of Commons, when Hon. Martin Burrell introduced his resolutions to amend the Inspection and Sales Act as it relates to foreign fruit, and designed to compel foreign growers competing in the Canadian markets to conform with Canadian regulations regarding the marking of boxes, inspection, and similar points.

Mr. Burrell said that the proposed amendment had been prompted by representatives from fruit growers all over Canada, and was designed to place Canadian fruit growers and United States growers on an equal basis.

Mr. Knowles of Moose Jaw saw in the proposed amendment an underhand attempt on the part of the government to increase the protection of the British Col-

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umbia fruit growers. The resolution proposed to place in the hands of the minister power to impose a duty by stopping the importation of fruit. The minister was a fruit grower, and the fruit growers apparently had his ear to a greater extent than had the grain growers, who were fruit consumers. The growers of Oregon and Washington had such a wide market that any restrictions which might be placed on their exports to Canada might have the effect of making them abandon the Canadian market altogether.

Mr. Burrell declared that there was no underhand intention in the resolution. It was simply designed to place both competitors on the same footing. The growers in Canada, under present conditions, had to adhere to strict regulations, which the United States growers had not.

Mr. Buchanan, Lethbridge, while favoring the fostering of the Canadian fruit industry, did not believe anything should be done which would lessen competition.

Mr. Douglas, of Strathcona, feared that the proposed amendment would place large powers in the hands of the fruit inspectors of the department, which might be used to cause delay and vexation to importers and increase the cost to consumers.

British Columbia

This summer will see the establishment of a pre-cooling plant at Summerland, B. C. Two rooms in the big packing house at the C.P.R. wharf are to be fitted up for the purpose. One room will be for the rapid cooling of the fruit, the other for cold storage. Ice will be used for cooling, the cold air being driven through the packages of fruit by fans.

The Provincial Department of Agriculture will supply all the equipment and the necessary electric power will be furnished by the municipality. This plant will be a big boon to the Summerland fruit growers.

Bulletins and Circulars

An attractive publication is the 1912 report of the Dairy and Cold Storage Commissioner. It gives a full resume of the work being done by the department in the dairy and fruit industries. The inspection of fruit and dairy products, the extension of markets, cold storage investigations, the shipping of perishable fruits, special information on the packing of fruit, the proper handling of cheese and reports of fruit growers' and dairymen's conventions are dealt with in a manner which makes the report a most valuable one.

A full review of the progress being made in the fruit growing industry in New Brunswick is contained in the 1912 report of Horticulture for that province. Combined with this report is the eighth annual report of the New Brunswick Fruit Growers' Association. It is evident that parts of New Brunswick offer good opportunities for fruit growing. Every phase of the industry practiced in that province, is fully dealt with in this report.

The Nova Scotia Department of Agriculture has recently issued a bulletin, No. 3, compiled by Robert Matheson, Provincial Entomologist, dealing with the San Jose scale situation in that province. This serious pest has gained a foothold in some sections of the Annapolis Valley. The bulletin discusses the work being done for its detection and eradication.

Keeping in all its phases is the subject of bulletin No. 9 of the Tennessee State Board of Agriculture. This publication contains much information of value to beekeepers.

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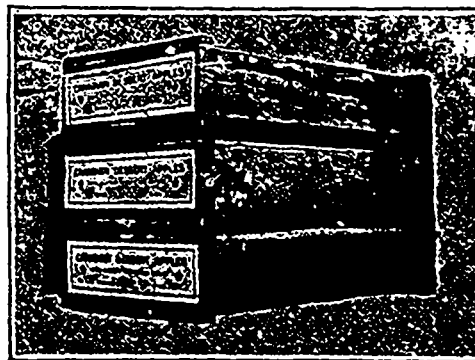
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