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Dominion Fruit Conference Resolutions

THE results of the Dominion Fruit Conference held in Grimsby, Ont., which is in the heart of the Niagara fruit district, on September 2 to 4, are largely summed up in the resolutions that were passed. Leading fruit growers were present from all the leading fruit growing provinces of Canada. Ontario, Nova Scotia, and British Columbia were particularly well represented. Delegates were present also from all the other provinces, including the three prairie provinces. The meetings were presided over by the recently appointed Dominion Fruit Commissioner, Mr. D. Johnson. Early in the proceedings the conference passed a resolution congratulating Hon. Martin Burrell upon having raised the fruit division to the status of a separate department and upon having selected Mr. Johnson to direct the activities of that department.

Elsewhere in this issue appears a general report of the proceedings of the conference. Separate reports are published also of some of the most important discussions. All the matters dealt with were fully and carefully considered. The more important resolutions adopted were as follow:

PATRIOTIC RESOLUTION

"Resolved, That in this great struggle into which Great Britain has been forced, in order to preserve her national hon-

our, the ideals of freedom and democracy, and even her existence itself, that the fruit growers of Canada contribute liberally of their substance in order to support and strengthen the Empire."

FRUIT INSPECTION

"That fruit districts in the different provinces shall be divided into sections.

"That a sufficient number of inspectors shall be appointed so that each inspector shall have a certain section under his charge so that he may be enabled to make at least weekly visits, and when instruction is required to either impart such instruction himself or, when time does not permit, that he be authorized to employ for such purpose and such time as may be required, a competent assistant.

"That in all cases when the pack is not consistent with the Fruit Marks Act, the offender, after receiving not more than one warning, or when it may be deemed advisable by the inspector to allow the offender to grade his fruit down, that on every occasion when the warning is not heeded the full penalty of the law be inflicted, and for every additional offence the fines be inflicted in accordance with the law.

"That all packers and shippers of fruit be compelled to register with the chief inspector of the division in which they reside.

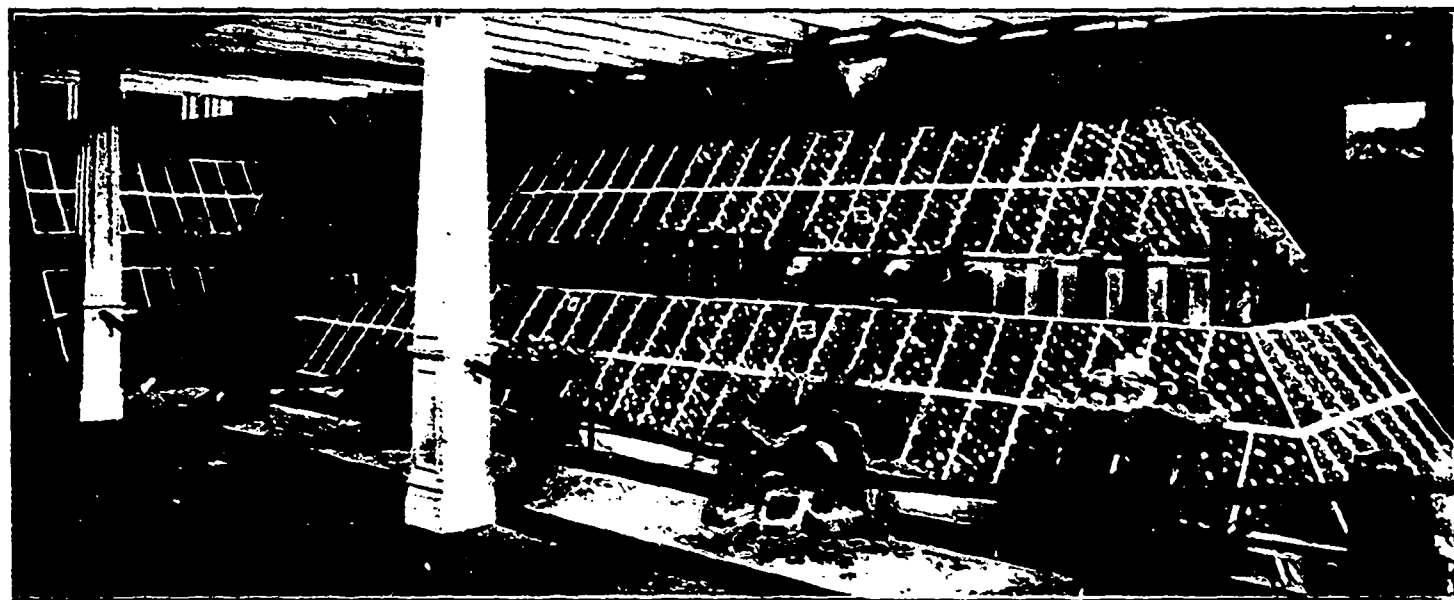
"Ever since the coming into force of

the Fruit Marks Act there has been a growing desire for some kind of report of the result of inspection which could be used as an assurance to the purchaser that the fruit in that shipment which had been inspected was up to the standard of the Fruit Marks Act. We recommend that as far as the plan can be worked out without injury to the work of inspection that such certificate of inspection be given to shippers requesting same; such certificate to be plainly stamped or printed in such a way as to indicate that it only applies to the packages inspected which may, if found desirable, be stamped 'inspected' on such parts of the packages as seem likely to best serve as an intimation that such packages have been inspected."

STANDARD PACKAGES

"Be it resolved, That a full, dry pint berry box be considered a legal measure provided that in shape and form it shall not be made to deceive the public or imitate the four-fifth quart."

"Resolved, That all forms used in the manufacture of eleven and six quart baskets shall be inspected by an officer of the Fruit Branch appointed for that purpose, and when conforming with the requirements of the Inspection and Sale Act shall be stamped with a Government stamp: And further, that the Inspection and Sales Act shall be amended to make it a legal offence to manufacture from



One of the Striking Exhibits of Fruit Made at the Canadian National Exhibition in Toronto in September, was the One Here Shown.

Included in this exhibit were peaches, apples, plums, grapes and some wonderfully well preserved specimens of fruit that were shown in glass bottles. The exhibit showed something of the fruit possibilities of Ontario. It was arranged by the Fruit Branch of the Department of Agriculture.



Mr. D. Johnson, Dominion Fruit Commissioner

Mr. Johnson presided at all the sessions of the recent Fruit Conference at Grimsby, Ont. which is fully reported in this issue.

other than stamped forms on and after January 1st, 1915."

"That we would recommend that the Dominion Fruit Commissioner make inquiries with a view to selecting a standard box for domestic use."

EXPORT PACKAGES

"Whereas, certain countries require, either by law or custom, that fruit imported be contained in packages of a fixed size, thereby preventing our exporting in packages other than those they demand: Be it therefore resolved, That we respectfully ask our Government to legalize exporting in such packages as meet the requirements of the countries with whom we wish to trade."

PACKAGES FOR HOME USE

"Resolved, that we respectfully petition our Government that such legal requirements as to size or capacity of fruit packages for Canadian fruit shall apply equally and as rigidly to fruit imported into Canada."

Note.—This resolution does not apply to boxes or barrels.

MARKING OF IMPORTED FRUIT

"Resolved, That we endorse the following resolution passed by and forwarded by the British Columbia Fruit Growers' Association as follows: Whereas, the amendments to the Inspection and Sale Act recently passed require that all shipments of imported apples should be marked in accordance with the amendments of the Inspection and Sale Act, part 9, and that other marks inconsistent with the marks specified by the Act shall be erased: And whereas the designation

'C' is allowed by the Inspectors to be retained on boxes marked by the importers 'No. 2,' such apples subsequently being sold as 'C,' which is recognized as equivalent to 'choice.' Be it therefore resolved, That we respectfully request the Honourable the Federal Minister of Agriculture to take such steps as are necessary to have this mark, and all marks on imported fruit inconsistent with the provisions of the Act, removed by the importer at point of destination."

SHOULD FILL PACKAGES

"That all fruit packages, including berry boxes, shall be well and properly filled, and in cases where there is evidence of under-filling inspectors shall have the right to weigh or measure fruit in such packages to find out if there is violation, and prosecutions shall follow at the discretion of the Department."

"That this conference respectfully asks the Government to consider the transportation conditions in Canada with a view to having the shipping difficulties with which fruit shippers have to contend removed."

CARGO INSPECTORS

"Inasmuch as a cargo inspector is appointed by the Government, and he apparently has no duties outlined and is practically without authority we would recommend that legislation be enacted giving him authority to protect the unloading, transfer, and packing of our fruit at all terminal points."

FOREIGN MARKETS

"That the Department of Agriculture should take the necessary steps to keep Canadian growers in closer touch with the importers of fruit, if necessary by the appointment of special commissioners in Great Britain, Europe, South America, Australia, and South Africa; and that the Department should set aside a sum of money for trial shipments on a commercial scale for the development of additional markets."

THE LATE ALEXANDER McNEILL,

"Resolved, That this fourth Dominion Conference desires to express its appreciation of the admirable services rendered the fruit growers of Canada by the late Alexander McNeill, chief of the Fruit Division of the Dominion Department of Agriculture, whose unselfish, untiring and capable administration of his office it is desired to record.

"Among other important matters relating to the fruit industry, Mr. McNeill strongly and continuously advocated cooperation among fruit growers in Canada, and did much, both in his addresses and by his reports and bulletins, to bring before Canadians the great advantage of cooperative methods; and it is particularly desired in this resolution to emphasize this phase of his work and

the service he rendered for so many years.

"Owing to Mr. McNeill's attractive personality, his unselfishness, his geniality, and his unbounded enthusiasm for horticulture, he made many friends; and his death late last year has been a great loss to those who knew, admired and loved him; and as most of the members of this conference knew him well, it is hereby resolved that they record in the minutes of this conference the deep sense of their loss.

"It is further desired and resolved that a copy of this resolution be forwarded to Mr. McNeill's daughters, that they may know that though their father is no longer with us he is not forgotten by his many friends."

Several other somewhat formal resolutions were passed. These included one thanking those who assisted in arranging a motor trip given the delegates to St. Catharines and Niagara Falls; thanking the speakers, and thanking the Government for having arranged the conference.

The Exhibition of Fruits

Prof. T. G. Bunting, Macdonald College, Que., President Quebec Province Fruit Growers' Association

The handling, packing and transportation of fruit intended for exhibition purposes should be carefully supervised. Fruits at their best are mature or nearly so and in this condition are very easily damaged, or decay may quickly set in. As little handling as possible should be given in order to avoid bruises. In picking secure plenty of the desired type of fruit which should be immediately taken to some place under cover, where a more careful selection can be made. The specimens so selected should be carefully wrapped and packed away until required for the exhibition. This will lessen the amount of decay that is apt to occur.

The exhibition of fruits is exceedingly interesting and fascinating, so much so that one can scarcely refrain from taking part when once enthused, and the returns are not so much in money as in the pleasure and training obtained. A knowledge of varieties is a splendid thing to have, and few have it for any considerable number of varieties, largely because of lack of opportunity. Exhibiting gives this opportunity, to see and study the varieties of others as well as one's own. It also affords a splendid training to those who may aspire to qualify as judges. There is room for many more exhibitors than we now have, and with the development and improvement of our exhibitions there will be a corresponding development and improvement of the fruit interests of Canada.

The Pre-Cooling of Fruit

MUCH interest was taken in a discussion on the pre-cooling of fruit which took place at the recent Dominion Fruit Conference held, Sept. 2 to 4, at Grimsby, Ont. The delegates having investigated during the afternoon the splendid pre-cooling plant erected at Grimsby by the Dominion Government under the direction of Cold Storage Commissioner J. A. Ruddick, were prepared to discuss the subject to advantage.

Mr. Ruddick led the discussion. "We first heard of the pre-cooling of fruit," he said, "through the establishments erected in California by the railway companies. These were large plants and cooled the fruit in several cars at one time. This led at first to the impression that all fruit was pre-cooled in this way. This is not the case, as most of the plants to-day are smaller and cool the fruit before it is loaded.

"There are a number of objections to the car-cooling plant. Such plants must be large, and therefore are expensive to operate. There is a considerable wastage of the cold air, also in adjusting the ducts between the plant and each car. It is difficult to so adjust them that either more cold air than is needed is let rush into the car or too much warm air from outside is taken into the plant. Then also considerable time is wasted in adjusting the air ducts to each car. This is an important consideration.

"In our small plant here in Grimsby we can cool fruit for shipment in twenty-four hours. Such plants are useful also for the purpose of holding fruit over periods of temporary gluts, or on occasions when there may be delays in the jam factories. Thousands of dollars can often be saved in this way.

"These plants can be used also for the storage of apples in the winter season.

"Our plant is operated on the gravity brine system. Mechanical refrigeration is the other system, often called the ammonia system. There has been some objection to this system on account of the danger of explosions from the gas. Improvements in the methods have largely overcome this objection.

"There is not much difference in the cost of installing the two systems. Our plant cost us \$17,300 for the building and \$6,100 for the cold storage equipment, with some extra charges for carpentry work, the figures for which I have not obtained as yet. We spent also \$250 for electrical thermometers, which are most important and a great convenience. We are able to cool three to four carloads a day.

"When considering the cost of operation, the ice supply is the first consideration. We obtained ours in Burlington Bay. The cost of hauling was quite an item. We have put in about seventy-five tons of sea grade rock salt, which cost us about six dollars a ton laid down in Grimsby. As the control of the temperature is largely dependent on the supply of salt it is most important to have an ample supply of good quality.

"As far as effectiveness is concerned, a mechanical plant has a larger reserve of power than the gravity brine. One system is as dry as the other.

"Dampness in a plant may be due to an improper circulation of the air or to a leakage which allows warm air to come in from the outside. Where the air circulates properly the moisture congeals on the cold surface of the pipes and is drawn off.

"We obtain a temperature of twenty degrees. I have seen a temperature of fifteen degrees. It is now realized that it is more important to hold the fruit

longer than twenty-four hours if necessary to ensure its being cooled to the proper degree of temperature. An extra few degrees of temperature may make a great difference in the shipping qualities of the fruit. I don't think much is to be gained, however, by cooling the fruit much lower than the temperature of a refrigerator car. In one of our rooms to-day I noticed that the temperature was thirty-eight degrees. A temperature of forty degrees is a pretty good one for a refrigerator car. We have a canvas cover that we fasten closely around the door of the building and of the car, which prevents a leakage of air while we are loading the fruit.

PROPER LOADING

The proper loading of a car is just about as important as the pre-cooling. We use a rack, costing about eight dollars a car, which allows a good circulation of air from the ice bunkers. Some growers load so carelessly that instead of facilitating they prevent the proper circulation of the air.

"This plant is largely experimental. It is intended to show us if it will be practical for growers to erect similar plants elsewhere in the fruit districts. In addition, this plant is going to give me a chance to conduct experiments in the marketing of fruit held at different degrees of temperature and with fruit picked and kept at different stages of maturity.

"We are charging the growers one cent for an eleven-quart basket and three-quarters of a cent for a six-quart basket, as well as eight dollars for the framework used in the car. The railways refund three dollars of the cost of putting the flooring in the car."

Q.—"How many barrels would your plant hold?"



Prominent Fruit Growers and Government Officials from all Parts of Canada Who Attended the Dominion Fruit Conference at Grimsby, Ont. September 2nd to 4th.



Loading Nova Scotia Apples at Halifax for Export

A glimpse of Mr. G. H. Vroom, the Dominion Fruit Inspector, may be obtained on the extreme right.

A.—“Five thousand to six thousand barrels.”

Q.—“How big a plant do you require?”

A.—“The one here is not nearly large enough. I heard one grower say that it should be four times as large to meet the requirements of this district.”

Q.—“What is the best insulating material?”

A.—“I do not know of anything better than shavings. They are drier and better than sawdust, which is apt to encourage mould. We have about one foot of shavings in our outside wall.”

Q.—“Do mice ever get in the shavings?”

A.—“Never when the boards are properly put on. If there are knot holes or cracks where mice can get a start, they may make trouble, but not otherwise.”

Q.—“Which is better for covering ice—sawdust or shavings?”

A.—“I would prefer sawdust.”

Mr. M. Snetsinger, Thornbury, Ont.: “One of the best features of a pre-cooling plant is that when fruit is put in it, it not only stops decay but the fruit holds up better after it is put in the car.”

(Continued on page 252)

The Barrel Packing of Apples*

ALTHOUGH the box package for apples is becoming more popular every year, the greater proportion of our apples are still packed in barrels. Packing in barrels is a much simpler operation than packing in boxes, but judging from some of the fruit that we see on the market the packing methods of many growers who adopt barrel packing are in need of improvement.

Clean barrels are a prime requisite. Dirty or second-hand barrels should not be used, especially for export fruit. A necessary convenience is a proper packing table. The most convenient packing bench for orchard use is made on the same principle as the ordinary stretched couch or an enlarged saw horse

with a bolt where the supports cross each other. The upper points of these supports are joined with a two by two strip as long as the required length of the table, and on these pieces a sheet of stout burlap or canvas is securely fastened. For indoor work a more durable table can be built of lumber. It should be lined with burlap having straw or similar material placed between burlap and the wood.

When everything is in readiness the first operation is the preparation of barrels. The quarter hoop should be forced down firmly and three nails driven in in a slanting direction, and clinched upon the inside. The face end of the barrel should be nailed and the headlines placed in it. The fruit for the face should then be placed neatly in the barrel. For this

purpose it is well to support the barrel a few inches from the ground while performing the operation. The grade of the apples should be precisely the same in the face as in the rest of the barrel and there should not be the slightest attempt to get high-colored or specially perfect fruit for the face. Each apple is laid with the stem end down, the stem having been previously cut off with a stemmer. Upon no consideration should a very large or very small apple be used to finish up in the centre of the face. If the apples are colored, the second layer should be placed so that the color of the apples will show through between the apples for the first layer. After this second layer is laid the apples may be turned in from the round bottom baskets in which the graded apples have been placed. Never use any device that will require the apples to fall any distance into their place on grading table or in the barrel.

The presumption is that the grading has been done off the grading table, and that fruit of a perfectly uniform grade is put in each barrel. As each basketful is placed in the barrel, the barrel should be shaken (racked) slightly, not so as to throw the apples against each other or against the side of the barrel violently, but just sufficiently to settle them into place. It must not be supposed that this racking can be done successfully, if it is delayed until the barrel is nearly full.

When the barrel is full to within two or three layers of the top, a “follower,” a round piece of plank slightly smaller than the head of a barrel, is placed on the apples and the packer holds this firmly in place while he continues to rack or shake the barrel. The effect of this is to make a comparatively level surface upon which the last process or “tailing up” can be done. It is well to note here that the “follower” should be covered with heavy felt, such as is used by harness makers for pads.

A TEST OF THE PACKER.

The process of “tailing” a barrel of apples is the severest test of a good packer. It consists in arranging the last two or more rows of apples so that they will project slightly above the barrel. The characteristic of good tailing is to have the apples of the last two rows placed solidly and evenly so that when finished the head will touch with the same pressure each apple exposed. This is a very difficult thing to accomplish even where considerable time is taken in the operation, and it is only a skilful packer who can perform this operation quickly and well. It is a common fault with unskilled packers to allow one or more apples to project above the general surface. When pressure is put upon the barrel, these apples take the whole pressure at first, and are frequently crushed before the head is in place.

*Condensed from a bulletin on Apple Packing, issued by the Dominion Fruit Division.

Planting Notes for the Fall

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

THE month of October may be properly termed bulb planting month, although most of the hardy garden lilies would be better planted or transplanted, if they require it, early in September. It is far better, however, to plant lilies in October than to leave them until spring. It should be remembered, however, that bulbous rooted lilies especially should not be transplanted or disturbed oftener than is absolutely necessary, not until the bulbs have become so thick and crowded that they produce a degenerate type of flower. Lily bulbs do not like to be disturbed or moved very frequently. The same rule will apply to some of the hardy early, spring flowering, bulbous, fleshy or rhizome rooted border plants, such as the Dicentras or Dielytra. Dicentras Spectabilis, the old-fashioned Bleeding Heart, Dicentra Eximia, and the Corydalis nobilis and Corydalis bulbosa are all better planted, or transplanted in the fall, rather than in the spring. The Hemerocallis (Lemon Lily) and the Funkias or Day Lilies can also be planted in the fall to advantage.

GERMAN IRIS

German Iris can also be planted in the fall. In planting German Iris care should be taken not to bury the thick, fleshy rhizome roots far under the surface of the soil. It is best in planting these to first dig the ground well, then to firm it down well with the back of the spade, then insert the spade quite perpendicular to its full length so as to leave a narrow trench or opening the depth of the spade. In this the smaller more fibry roots growing from beneath the rhizome root should be placed, leaving the thick, fleshy rhizome root almost or quite on the surface of the soil. The ground should be pressed or tramped quite firm around the roots after planting. I have had better results by planting German Iris in the fall than by planting in the spring.

PAEONIES

The common garden herbaceous paeonies are best planted in the fall. If old clumps of these require dividing up and replanting there is no better time for both of these operations than early in October. Tree paeonies are best planted in the spring. These last-named are, however, seldom grown, as they are not hardy without winter protection outside of the Niagara district; even there they are often partially winter-killed.

Paeonies succeed best on a well enriched, fairly heavy soil. A well drained clay soil, if not of too close a texture, will suit them, or a clay loam soil is still better. Very light sandy or gravelly soils do not suit paeonies. In planting

paeony roots, the tops of the crowns or buds should be not more than an inch under the surface of the soil, when the roots are planted.

Clumps of paeony roots that have been growing for several years in the same place and become weakened from that cause should be divided and transplanted. One method of doing this is to remove the earth from one or two sides of the root and take off a section or two of the root for planting elsewhere, leaving the major portion of the root still in the ground undisturbed for a year or two, until the young plants taken off have become established and possibly started flowering. Or the old clumps of roots can be dug up entirely and then divided into sections after being dug. A good sharp spade is the best implement for this purpose.

Very often in dividing paeony roots a partial natural division may be found in the clump. By working the spade carefully where this partial division is sometimes seen, any unnecessary mutilation or cutting of the roots can be avoided. At any rate when cutting up a clump of paeonies it is best to be sure of having from three to five or six crowns or buds on each division. These divisions or sections will often give some flower the first season, if the divisions are not too weak and small. The soil should be packed firmly around the roots, leaving about half an inch of loose soil over the tops of and around the crowns after they are planted. A mulching of well-rotted barnyard manure about an inch in depth over and around them will be of great benefit. This should, however, not be put on until later about the middle of November or before hard frosts set in. This manure will serve the purpose of a fertilizer if forked in around the plants in the spring.

The same rule and methods regarding

dividing and transplanting paeonies will apply very closely in dividing and transplanting Dicentras, Corydalis, and German Iris, except perhaps that the last-named should only be mulched very lightly, if at all.

PLANTING BULBS

Outdoor spring flowering bulbs include Dutch hyacinths, tulips, narcissus, crocus, snowdrop, scilla, Chionodoxa (Glory of the Snow), and Leucocjum vernal (Snowflakes). The Fritillaria Imperialis or Crown Imperial can also be included in this list. The best time to plant all of these bulbs is about the second or third week in October. They may be planted later on until hard frosts set in, but late planted bulbs do not, as a rule, give as good results as those planted earlier.

The Crown Imperials should be planted in groups three or five inches below the surface of the soil and six or eight inches apart. These last-named are tall growing, two or three feet in height. Dutch hyacinths, tulips, and narcissus should be planted so that the tops of the bulbs are from three to four inches under the surface of the soil and from four to six inches apart, whether planted in groups, rows, or massed in large flower beds. Crocus snowdrop, scilla, Chionodoxa, or Snowflake bulbs should be planted about three inches deep and about three inches apart. I have found that all bulbs are best not planted too deep in heavy soils, in light soils they may be planted the full depth stated. Strawy manure or some similar material four or five inches in depth may be placed over bulbs late in November, after the ground has been frozen slightly. Green pine boughs placed over them will also serve as a protection for bulbs.

The following are good varieties of bulbs to plant:



A Bed of *Hydrangea paniculata* as Grown in Victoria Park, Galt, Ont.

Tulips for temporary planting—where summer decorative plants are grown such as coleus, geraniums, cannas, etc., early single and double flowering varieties of tulips are best.

Tulips for permanent planting—All kinds of tulips are more or less suited for permanent planting. The Cottage Garden, Darwin, Rembrandt, and Parrot tulip are specially suited for planting among perennial plants or in a position where the bulbs do not have to be disturbed when digging the border in the spring time.

NARCISSUS

Narcissus are best suited for permanent planting where they are not disturbed. In groups in the perennial border they are very effective. Good varieties to plant are Emperor, Trumpet Major, Princeps, Bicolor Empress, Bicolor Victoria, Jonquils. These are trumpet flowering varieties. Barri conspicua, Stella, Sir Watkin, Mrs. Langtry Poeticus Ornatus are good cup varieties for the border, especially the two varieties last named. The Double Van Sion and some of the Polyanthus Narcissi are also suitable for permanent planting. The paper white Narcissus and Roman Hyacinths are not useful for out of door planting, the last-named especially being too tender. Both of these are, however, very useful for growing in pots indoors in the winter, both being early flowering kinds.

All of the varieties of Dutch hyacinths are more or less good for planting. The color and the selection of good quality bulbs are the main points in selecting Dutch hyacinths. They are not as hardy as narcissus and tulips.

Scilla Sibirica, Chionodoxa lucillae, Giant Snowdrops, Leucojum vernal, and mixed crocus are the best kinds of dwarf growing bulbs to plant. These are suitable for permanent planting. The crocus are the best of these for temporary planting where summer decorative plants are made use of.

Well drained, deeply dug garden soil, not too rich in fertilizers, and not of a too heavy, clayey nature is best for bulbs. If soil is heavy clay, dig in some sand or leaf mould, or both. Avoid digging in fresh or strawy manure when planting bulbs. If manure is used it should be quite decomposed, and should not come in direct contact with the bulbs when planting them.

Plant outdoor bulbs, such as tulips, crocuses, and daffodils. They should be set in a well-drained soil about three inches deep. Cover with strawy mulch as soon as the ground freezes.

Remove all weeds from the garden before they are allowed to scatter and ripen their seed. This will reduce the labor of hoeing next season.

Fall Work in the Garden

A GOOD garden rule is to do all the work in the garden you possibly can in the fall, thus avoiding the spring rush.

Japanese lily bulbs do not reach this country until November. Therefore, heap fresh manure over the place where you wish to plant them, and you can have unfrozen ground in which to plant them.

Cannas, dahlias, and gladioli bulbs should be lifted as soon as the tops are killed by the frost. Cut off slightly above ground so that the stalk left may be used in carrying and handling the bulbs. Leave on top of the ground a few hours until the roots and soil dry, then place in a cool, though not moist, storage place. If it is necessary to place them under very dry conditions, they should be covered with dry sand or some material that will prevent the tuber drying out. If they are stored in a moist atmosphere the bulb is weakened.

If an arbor is desired on the lawn or over the porch, select a small fruiting grape vine this fall, mark it so that it will be readily found to transplant in the spring, or cuttings of the vine may be taken and set out next season.

All hardy shrubs that do not bloom in the spring can be pruned now, also vines and hardy roses.

As soon as the annuals and perennials have been killed by the frosts, the garden can be given its last cleaning. Annuals should be pulled up, and perennials cut off about three inches above the

ground. Then weed the entire garden, and, last of all burn all of the refuse, that no seeds of weeds are left for another year and no place is given insects to hide in during the winter. Be sure to burn any foliage that is diseased. Be on the lookout for any winter nests of garden pests and burn them.

If you have any unoccupied land to be used next spring plow or spade it now. The snow, rain, and frost will mellow it and kill the insects.

Poppies and cornflowers can be planted in November for early blooming next year.

A mulch of manure can be given all trees and shrubs, the bulb beds, and perennials that die down to the ground in fall. This mulch to be given after the ground is frozen. Cover perennials that do not die down but carry their green hearts through the winter (such as cantebury bells and foxgloves) first with a little brush and then with leaves, cornstalks, or straw. The covering must not be so heavy as to exclude the air, as these plants are more often killed by rotting than by cold.

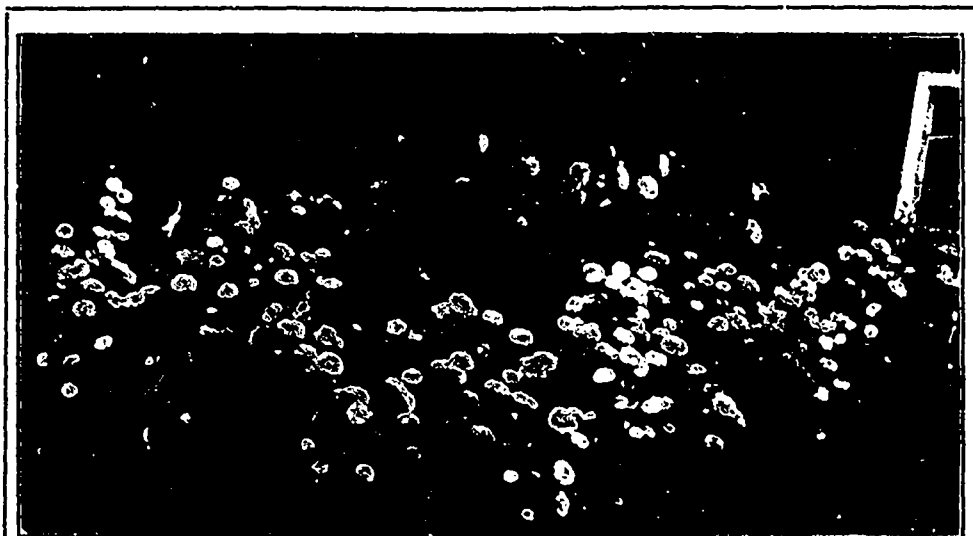
Dry sweet corn carefully for seed. It is usually more difficult to dry thoroughly than other kinds of corn. Store it where it will not be frozen during the winter.

Root crops, such as parsnips, beets, and carrots may be prevented from shrivelling in the winter if they are covered slightly with dry sand in the bin or box.



The First Prize Decorated Table at the Canadian National Exhibition

For several years in Ontario great interest has been taken in the contests held for the best decorated tables that have been held in connection with the Ontario Horticultural Exhibition. This year for the first time a similar contest was held at the Canadian National Exhibition. The winning table, here shown, was arranged by Mr. S. A. Frost, of Toronto. Yellow orchids were used freely.



A Bed of Asters in the Garden of J. Gadsby, Hamilton, Ont.

Planting Shrubs and Trees for Winter Effect

Henry Gibson, Tuxedo Park

THE impression that the spring time is the one and only time for active garden operations is being proved more and more a fallacy each year by the more enthusiastic and progressive of our gardeners. More planting and preparing for the following year's garden is being done in the autumn than ever before. This is a step in the right direction and one that should be encouraged.

Among the many activities that will aid in making the garden and home grounds more beautiful and attractive is the planting of flowering shrubs and trees. This work can be done this fall with equally as good results, and in many cases better results, than if it was deferred until spring. All that is necessary is a little extra care in protecting newly planted stock during the winter.

The number and varieties of summer flowering shrubs are legion. By a judicious selection therefrom, one may have a continuity of bloom from the time that the earliest of the Forsythias throw out their golden bracts, right through the summer and fall, to finish the season with that very popular and much appreciated shrub, *Hydrangea Paniculata Grandiflora*.

It does not necessarily follow that when the flowering period of these shrubs is past that the garden need be a dreary, bleak spot. There are many trees and shrubs whose flowering is only a passing incident, but whose fruits and berries possess the color and stability to brighten the home surroundings long after the foliage has gone. While planting operations are in progress, select a few of the best of these berried shrubs. True, not much could be expected of them this coming winter, but they will prove a source of pleasure later. A little

studied effort in the selection and disposition of certain of those trees and shrubs that possess beauty of bark and berries will go far towards making the garden a very pleasant place in winter.

SUGGESTED VARIETIES

Try grouping a few specimens, as for example, the Bayberry, or wax myrtle, with its shoots thickly clustered with wax-like masses of fruits, with the common barberry, with its orange-red berries in rich clusters. The contrast is a strong and pleasing one. With a background of these two, to the group could be added that very common and useful shrub Thunberg's barberry — a shrub that has many other attractions throughout the year. Add to this the snow-berry (*Symphoricarpus Racemosus*), whose great white fruits hang persistently all through the winter, and its red-fruited relative, the Indian currant, and there exists a group that can be carried out on any scale, according to the space available.

Another group suggests itself in the viburnums: *V. prunifolium*, which grows to the size of a respectable tree and covers itself with deep blue fruit until frost destroys the berries; *V. lantana* and *V. Sieboldi*, with a foreground of *V. cassinoides* and *V. acerifolium*, covered with clusters of black berries that hang long after the foliage has fallen. Some of the thorns (*Crataegus*) that are indigenous to North America, should not be overlooked; they make small, neat trees, and should be far more frequently seen in small gardens.

The Euonymus or spindle tree is also a brilliant spot when it is smothered with its bright fruits. *Ilex verticillata*, very appropriately named winter-berry, make another picture against the snow.

The *Pyracantha* is an evergreen thorn far too little seen in gardens. It will train against the wall, and make an admirable covering and a great mass of color when bearing its clusters of orange-red berries.

Our native holly (*Ilex opaca*) is worthy of the special care needed to establish it in the garden. In order to secure the ornamental fruits a staminate bush should be planted among the pistillate ones. The rowan tree or mountain ash makes a fine specimen for a lawn. Its bright scarlet berries hang from early summer until late winter.

In planning the shrubberies about the home keep in mind the essential point—that of having something that is pleasing and attractive for the greatest length of time. Don't let the factor of flower bloom deter you from planting some of the shrubs that will help to brighten the garden well into the winter.

PREPARE YOUR SOIL

Soil required for vegetable or other plant growth in the spring should be deeply dug or trenched this fall. Anyone who has grown plants in trenched ground only requires the one experience to always practise it in the future. Digging the ground two spades deep turns up dormant food supplies to the action of the air, allows the moisture to penetrate into the hard pan or subsoil, and leaves the soil porous and full of air and full of cavities, into which heated air, moisture and solvent foods for the plants are absorbed. It allows also the young plants of next season's growth to let their roots down into the loose, rich, moist, cool subsoil below, and thus keeps, no matter how great a drought may prevail. Your plants grow as by magic, and all from the important fact that your soil was prepared by thorough deep cultivation the fall previous. I could not enlarge too much on this subject, and I would count my time well spent could I but so convince the reader who has not tried it in his garden to give it but one trial.

Now all this talk is but a repetition of the same advice given every year to the garden amateur, and as this is also the month to plant your tulips, hyacinths, lilies, and other plants of the bulb family, prepare your beds for them by trenching instead of just one spade deep, and you will marvel next spring at the results.

You can have the earliest sweet peas by preparing the ground for them now. Also try planting a part of them in November. They do not make any growth until spring but will be much earlier than those planted then, and some claim their flowers are much larger.

Hardy Conifers *

W. T. Macoun, Dominion Horticulturist, Ottawa

In a country, where the native species of conifers are numerous and where immense areas of evergreen forests exist, and where many kinds of beautiful conifers from other countries can be successfully grown, it is rather surprising that so little has yet been done in Canada to grow conifers under cultivation. Perhaps it is because Canadians are so familiar with them in the wild condition that they do not show more interest than they do in cultivating these beautiful trees. For instance, when one sees the majestic, yet graceful outlines of the native white pine clothed with branches to the ground or grown as a single specimen on the lawn, or in a group massed together and showing their straight, tall trunks, one cannot but be impressed by their great beauty, and this is but one of many conifers that may be grown successfully.

With such long winters as there are in Canada the conifers are very useful in giving, in our judgment, a warmer look to the landscape which otherwise, for more than six long months, would present but the bare boughs of the deciduous trees with, perhaps, the withered leaves of the beech as a constant reminder of the summer that has gone. There are few of the broad-leaved evergreens hardy in Eastern Canada, which, on the west coast of Canada, and in some other countries are used to take the place of conifers for evergreen effects. Hence, the great importance of a free use of hardy conifers in this part of Canada.

Some of the best hedges are made from conifers, and being evergreen they also help to soften the otherwise hard lines about a residence which a Canadian winter does so much to emphasize where there are no evergreens. But perhaps enough has been said of the value of conifers in general; let us see what material there is to draw upon.

At the Central Experimental Farm, Ottawa, more than five hundred species and varieties have been tested during the past twenty-six years, of which a very large proportion have proved hardy, and in the following short list the best in our judgment have been gathered together. It is much to be regretted that the beautiful Lawson's cypress of which there are many attractive varieties is not hardy in eastern Canada, nor the cedar of Lebanon, nor Deodar cedar, nor some of the fine firs of the western coast of the United States, but with the many to choose from that are hardy we can get along without them.

If one takes the conifers in botanical

sequence, the first that should be mentioned is the maiden hair tree (*Ginkgo biloba*), formerly called *Salisburia adiantifolia*. While a conifer this is not an evergreen, but it is such a striking tree that it must not be left out. The leaves remind one of the maiden hair fern. While not particularly graceful, it is very pleasing to the eye owing to its remarkable fan-shaped foliage, and while a rather slow grower it has been used as an avenue tree in some places in the United States. The oldest trees used for this purpose are, I believe, in Washington. This tree while sometimes killing back a little at the tips may be regarded as hardy at Ottawa, some specimens there now being about twenty-five feet high.

THE YEWS

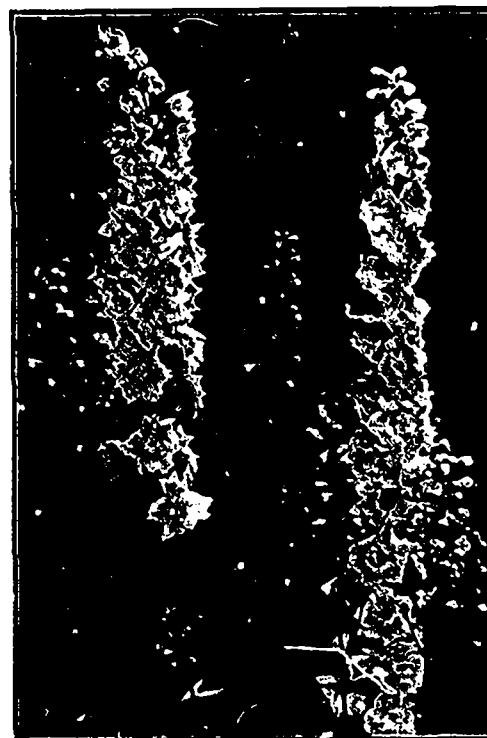
The yews, which are so commonly met with in Great Britain are not hardy at Ottawa, nor would they be satisfactory, I fear, in many parts of Ontario. There is, of course, the Canadian yew, *Taxus canadensis*, a low growing species, which is not to be despised where low growing evergreens are desired. There is, however, the Japanese yew, *Taxus cuspidata*, a splendid substitute for the common yew of Europe. It is perfectly hardy at Ottawa and a specimen planted in 1896 is now seven feet in height and ten feet in breadth. The foliage is attractive. This should prove very valuable in Canada both for massing, for single specimens, and for hedge purposes.

THE JUNIPERS.

Among the junipers are some valuable species and varieties. The most satisfactory is the Savin, *Juniperus horizontalis*, formerly called *Sabina*, a native of Canada and other countries. This is a low growing trailing species of which there are several good varieties. It is very attractive when massed, for not only has it the narrow leaves of the junipers which give most of the species a light appearance, but the branchlets are long and slender, making it particularly striking.

The variety *tamariscifolia* is most marked in this respect and has a somewhat different color effect from the ordinary form.

There are a number of other good junipers, but perhaps the most attractive is the Irish juniper, *Juniperus communis fastigiata*. This is an erect form of the common European juniper, which grows from four to eight feet in height. The foliage is light green above and silvery beneath, and the contrast in color makes it attractive and a noticeable shrub on the lawn. At Ottawa the tips are usually injured by winter, rather hurting its ap-



Delphinium or Larkspur

The larkspur will grow in any soil or situation, but one open to the sun suits them best. They thrive when the soil is well enriched. The flowers here shown were grown in the garden of Mr. J. H. Bennett, Barrie, Ont.

pearance until new growth takes place. It has not been found stiff enough for hedge purposes, the snow breaking it down, otherwise it would be quite attractive.

As a contrast to the Savin in the color of its foliage the native variety of the common juniper, *Juniperus communis depressa*, formerly *J. communis canadensis* or *alpina* makes a fine low growing conifer for massing. Another hardy juniper not often seen, but which will probably be more grown in the future is *Juniperus rigida*, a Japanese species with rather pale foliage and slightly pendulous branches, which make it quite attractive. The largest specimen at Ottawa is about ten feet high.

RETINOSPORAS.

The Japanese *retinosporas* are very useful hardy conifers. They come under the same genus as the cypress, the botanists calling them *Cupressus* or *Chamaecyparis*, and as evergreen shrubs or small trees for the lawn, have a distinct place. Some of them do much better than others. Perhaps the hardiest and most beautiful of all is that known in the trade as the *Retinospora filifera*. This has not been injured at Ottawa in any way, and has made a remarkably graceful and beautiful lawn specimen. Planted in 1893, this is now twelve feet in height and about the same in width. It has drooping branches and slender thread-like pendulous branchlets. Another good one is *Retinospora plumosa*, a compact tree and very orna-

*Extract from an address delivered before the annual convention of The Canadian Horticultural Association.

mental when young. After fifteen or twenty years it loses its compact appearance and is much less ornamental. There is a very beautiful golden-leaved variety of this called *R. plumosa aurea*. These sometimes have their tips injured in winter, which makes them brown in places until new growth starts.

The little heath-like *Retinospora ericoides* reaches a height of about

two feet. It is a very pretty dwarf conifer, with fine, soft, delicate green foliage, which becomes of an attractive purplish tinge in winter. In exposed places the leaves of this little shrub are sometimes injured by winter or scalded in spots. *Retinospora Squarrosa* would be one of the best if it did not scald badly, rendering it unsightly at Ottawa, except where partially shaded.

tario last season by mice girdling them during the winter. In almost every case these trees grow in weeds or grass, which gave ready refuge for mice.

Cut out all dead trees before the leaves fall this autumn. These dead parts may contain the larvae of insects which will lay the foundation for much more injury next season.

Save all the autumn leaves. Make a compact heap of them. It will be worth many dollars to you next year.

Helpful Pointers on Gardening

Carefully clean seeds which are to be used next year, such as melons, cantaloupes, pumpkins, highbush cranberries, sandhorn, and apples. These seeds may be sown in sandy soil this fall or put between layers of sand and kept until next spring. It is better to keep seed of this sort over winter in sand to prevent their drying out or becoming too wet if the ground is heavy, as where seed is planted in the fall in clay soil, the soil will be apt to pack over the seed, making it difficult for the seedlings to break through in the spring.

Celery may be kept pretty well into the winter by digging the plants so as to leave as large a root surface as possible. Remove a few of the scraggly outer leaves and set closely in a cool cellar or in boxes. An ordinary dry goods box from 14 to 18 inches wide and three to four feet long makes a good package for storing celery. Put a little dirt in the bottom of the box, then set the plants in a row close together, just covering the roots with soil. Place another row next to the one first set, as close to this as the soil will permit, in every case setting the plants about the same depth as they grew in the field. Celery stored in this way should not be bleached in the field. If the plants become dry and wilt slightly, they should be watered, care being used not to wet the foliage of the plant any more than is absolutely necessary as this is apt to cause decay. Store the boxes at a temperature as near freezing as is safe, usually about 35 degrees. If stored at a higher temperature, the celery will grow and is apt to decay.

Rhubarb for winter use may be dug just before the ground freezes hard in the fall. Leave the plants on top of the ground, slightly covered with hay, or something to prevent their drying out, and allow them to freeze for several weeks. About Christmas time the roots may be taken into the cellar, or other dark, moderately warm location, and buried in just enough soil to cover the roots. Water and allow the plant to grow.

If rhubarb is grown in the dark, the stalk is tender and very little leaf surface is formed. Plants thus forced are of little value for setting out.

Take up a few plants of parsley and place in pots or boxes in some basement or kitchen window. Parsley will grow with very little light and furnish an abundance of green material which is appreciated in the window.

ORCHARD NOTES

Grape vines should be trimmed as soon as the leaves fall and made ready to cover with soil.

Field mice not only eat almost every kind of root and bulb, but also destroy fruit trees. Do not mulch your borders and beds until after the ground has frozen, and they have found winter quarters. It is a good plan to put some poisoned bait about the beds before covering in case any of them venture in. With a good sharp hoe or spade remove all grass at least one foot from the trunk of apple, plum, or other trees, that are apt to be girdled by mice. It is a good plan to protect small trees with wire netting or by throwing a few shovelfuls of clean dirt around the trunk of the tree. Then after the first snow, trim around the tree so that there will be no place for mice to find a resting place. Thousands of trees were killed in On-

Timely Suggestions

J. McPherson Ross, Toronto, Ont.

This time of the year is the season for many a gardener to augment his stock of grapes, currants, and gooseberries by making cuttings of young wood and planting them. To be successful in raising grape vines, select well ripened shoots of this season's growth, making the cuttings from eight to ten inches long—cutting at an eye or bud for both top and bottom of the cutting. Insert the cuttings in good, prepared soil till the top of the bud is just out of the ground. Level the soil and tramp it firmly.

Mulch the ground well with rotted manure. Over the tops of cuttings in the row place sawdust to the depth of three to four inches, or even sand will answer. This has the effect of keeping the top bud dormant and the soil warms up in the spring and starts the growth in the bottom of the cutting. The top buds may be exposed about the middle of May or June first, when your cuttings will put forth shoots and make good, strong vines for fall.



A Fern Bed in the Garden of Mr. J. W. Harper, Hamilton, Ont.
Bleeding Heart, umbrella ferns, and iris may be seen.

Injurious Garden Insects*

Prof. F. W. Broderick, Winnipeg, Man.

INSECTS attack plants in various ways and the nature of the injury caused by them may be very varied. Very often the severity of the attack, particularly with those insects which burrow within the tissues of trees and plants, is unnoticed until severe injury is done. Some insects may attack the roots and injure the plant in that way, while others work on the buds or leaves, and by defoliating it seriously interfere with its development. Serious injury is often done to trees in wind breaks and in our forests by these leaf eating insects. In regions where fruits are grown the grower has to contend with the injuries of insects which bore into the fruit and cause it to become seriously deformed or to fall and decay.

While many insects bite the tissues of the plants on which they feed, others injure the plants by sucking up the tender juices. These insects, from the nature of their attack are often difficult to control and often do serious injury before remedial measures can be applied.

METAMORPHOSIS

A study of insect life is interesting from the fact that they display many remarkable habits, and that they undergo a rather intricate development. Throughout their life they may pass through a number of well-defined changes. For instance, a common house fly (*Musca domestica*) was not always a fly but lived for a time as a maggot under conditions most unsanitary. As it develops towards a fly, it rests for a time as a dormant pupae, which neither eats nor moves before it emerges as a full grown fly. The period of time that is required for insects to complete their development may vary from a few days, as in the case of our common mosquito, to several years, as in the case of the June beetle.

In the spring and early summer more or less injury is done to garden crops by insects affecting the roots, the more serious of which are the garden cut worms, which are the larvae of night flying moths belonging to the genus *Nocturdae*. With tender garden plants, if unchecked, the ravages of cut worms may become serious.

WHITE GRUBS

In gardens the work of white grubs, which are the larvae of a large brown beetle known as June Beetles (*Lachnosterna fusca*) may often be detected. These insects require from two to three years to complete their development and during their larval period are found feeding on the roots of tender garden plants and grasses. Poultry are fond of these

large insects and if given an opportunity will destroy large numbers of them.

WIRE WORMS

Wire worms are often found in the soil attacking the roots of garden crops as well as field crops. These insects, which are of a peculiar amber color, develop into long narrow beetles known as Click Beetles (*Agriotes lineatus*). They are called Click Beetles because when placed on their backs they turned over with a peculiar clicking sound. Their resistance to poisons makes their destruction difficult. Late fall plowing, which breaks up the pupae cells, is an effective way of dealing with them.

WHITE MAGGOTS

Every year injury is done to the roots of onions and cabbages by small white maggots. These insects prove to be the larvae of small flies (*Phorbia cepatorum* and *P. Brassicae*) about the size of the common house fly. The eggs are laid by the adult insects on the surface of the soil near the roots of young plants. The newly hatched larvae works into the soil and begins burrowing into the roots of the young plants causing a decay. They pupate in the ground and emerge later as flies. In their control rotation of crops should be practiced and a strong growth of plants should be stimulated by the use of such quick acting fertilizers as nitrate of soda. Watering plants every seven to ten days with hellebore solution in the proportion of two ounces to one gallon of water is quite effective in controlling this insect.

Among the insects affecting the leaves of garden crops are the larvae of moths, butterflies and beetles, and the adults of some of the leaf eating beetles.

CABBAGE WORM

An insect common on the leaves of cabbage is the cabbage worm, the larvae of the imported cabbage butterfly (*Pieris rapae*.) These larvae, which are of a pale green color, do considerable damage by eating holes in the leaves of the cabbage. They later develop into the pale white butterfly seen flitting about the cabbage fields during the summer. Collecting and destroying refuse lying about the cabbage fields and spraying the leaves of the cabbage with a solution of white hellebore in the proportion of two ounces to one gallon of water is effective in holding the insect in check.

BLISTER BEETLE AND POTATO BEETLE

Leaves of the potato are frequently destroyed by leaf eating insects. The old fashioned blister beetle (*Epicauta Pennsylvanica*, and the Colorado potato beetle (*Leptinastora decemlineata*) are frequently found in the potato field. The

latter which was first found in the state of Colorado, is particularly destructive, the larvae and adults eating both leaves and stems. There are usually two broods during a season, the second being most destructive. The insect winters as adult beetles, and for this reason all refuse should be collected and destroyed. The spraying of the leaves with arsenical poisons, such as Paris green or arsenate of lead, should be effective in keeping these insects in control.

CURRANT WORM

The currant worm or currant saw fly (*Nematus ribesi*) is particularly injurious to the garden red currant by feeding on the leaves and completely defoliating the plant. The greenish larvae which hatch from the eggs laid on the under surface of the leaves, are very active feeders and soon strip off all the leaves if unmolested. When fully developed they pupate and later emerge as an active four winged fly. They may be controlled by the use of white hellebore in the proportion of two ounces to one gallon of water.

Diseases of Ginseng

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

Sclerotinia disease is widely spread. It is reported as occurring in ginseng gardens in Michigan, Wisconsin and Ohio. I have never been able to find it in Ontario, nor have I met any growers who are familiar with it. Although quite widely spread it does not appear to be very destructive, only a plant here and there in the beds being destroyed by it.

This disease usually appears during wet weather in the spring or early summer. Attacked plants wilt and fall over owing to the rotting of the stem at the base. This rot usually extends into the crown of the root. The rotted stems are soft and white and often covered with a cottony, felty, fungus growth. Black resting bodies of the fungus are often found inside the stem in the pith. The diseased roots become soft and doughy, very watery, and tough, but non elastic. The diseased parts remain white, hence the name White Rot. The fungus threads penetrate through the tissues of the root and grow out through the breathing pores (Lenticels), forming tufts of white, felty, fungus growth which black hard resting bodies develop, varying from the size of a grain of wheat to that of the end of the finger. These lie in the soil and carry the disease over the winter.

To eradicate the disease remove and destroy the affected plants before the resting bodies have time to form. Soak the soil from which the roots have been removed with a solution of copper sulphate.

*Extract from a paper read at the annual convention of the Manitoba Horticultural Association.



Fruit and Vegetable Production Combined

Mr. Taylor's young orchard, Rutland Benolt, B.C., in which onions were grown with marked success. (Photo by G. H. E. Hudson, Kelowna, B.C.)

Forcing Rhubarb*

Claude Dyer, Canadian Trade Commissioner, Leeds, Eng.

ABOUT three-quarters of the total amount of forced rhubarb grown in the United Kingdom comes from within a radius of ten miles of Leeds. Formerly the proportion was even higher, but the methods of production in Leeds have been gradually extended to other parts of the country.

The annual crop in the Leeds rhubarb district is between twelve and fourteen thousand tons, and is valued at from \$650,000 to \$900,000. The amount of capital sunk in the industry is estimated at \$1,250,000. London takes the best quality and large quantities are bought by other cities. Considerable supplies are also exported to Germany and other countries.

The method of cultivation in force may be described for the benefit of growers in Canada. In its simple form the forcing process was merely one of surrounding each rhubarb root with a pot for the purpose of protecting it against the cold and excluding the light. The system has now been elaborated. In place of the crude environment of the pot, big sheds, some of them with a floor space of a thousand square yards, are used. Heat is supplied by coke fires and flues running the length of the shed, and the temperature can be scientifically regulated so as to ripen the rhubarb when it is required.

PROCESS OF FORCING RHUBARB

The forcing of rhubarb is carried on in winter, the season lasting from about October until March. Before being taken into the forcing shed the plant spends two or three years out in the open field gathering strength. It yields no crop

while out of doors; the stalks and leaves grow but are not gathered. Formerly this process of strength accumulation was considered wasteful, but experience has taught growers that leaves are essential to the building up of the plant. If the leaves are taken away the supply of carbonaceous matter is materially curtailed and the plant is deprived not merely of strength but also of the opportunity of gathering strength. The leaves and stalks are therefore now allowed to remain until they rot away. They are not, however, altogether wasted material, as the decayed matter proves useful to the soil. In this way fine productive roots are built up.

When the forcing season arrives these roots are plowed up, taken into the sheds and there planted close together. A large shed with an area of a thousand square yards will take the yield of anything from two to five acres, according to the weight of the roots. Light is entirely excluded from the sheds, and through its exclusion the forced rhubarb is given its distinctive delicate coloring. In a few weeks after planting, white shiny bulbs spring from the roots. These develop into brilliant yellow leaves, and at the end of six to eight weeks, the stalks, pink or crimson, are ready for pulling. The first roots are transferred from the fields to the sheds for forcing usually at the end of October and the crop is ready about Christmas. A second lot of roots then goes through the same process, and the produce is ready for marketing early in March.

The size of the rhubarb farms in the neighborhood of Leeds varies from a few acres up to fifty acres and over. About

six thousand roots are planted to an acre, and if such a quantity yields four thousand roots suitable for forcing, the grower is satisfied. Nowadays the roots are destroyed after yielding one crop of forced rhubarb, whereas, formerly they were replanted in the ground to be used again. The grower finds that if he forces the yield of two-thirds of his land he can replant it all from the crop upon the other third.

What Growers Say

When potato growers have large quantities of seed to be treated, formaldehyde gas, generated by the use of potassium permanganate, is the most practical disinfecting agent. Place seed tubers in bushel crates or shallow slat-work bins in a tight room. For each thousand cubic feet of space spread twenty-three ounces of potassium permanganate over the bottom of a large pail or pan in the centre of the room. Pour over this three pints of formalin, leave the room at once and allow it to remain closed for twenty-four or forty-eight hours. If one is obliged to plant scabby potatoes, one of the methods of disinfecting here recommended should be employed; but absolutely clean potatoes is a luxury which every farmer should enjoy.

Onion seed grown under certain conditions seems to develop thick necks. Our experiments conducted over two years show two definite causes for thick necks. One was climatic conditions and the second the date of sowing. For this climate one needs seed that will mature rapidly and the best time to sow is as soon as the ground will permit.—G. W. Baker, Tamblings, Ont.

In order to get the maximum results from storing any crop it is essential to have the crop well grown. In all cases, with the exception of tomatoes, celery and the like, which of necessity must be placed in storage in an unripe state, the produce to be stored should be ripe and sound.

In the early fall a good top dressing of hardwood ashes for the strawberry bed is most valuable. Beds supplied with this top dressing of ashes produce fruits of the finest possible flavor and color.—W. A. Dier, Ottawa, Ont.

One good result from transplanting celery is that the straight root or tap root is broken, causing a large mass of fibrous roots to be formed.—F. F. Reeves, Humber Bay, Ont.

When taking up celery plants in the fall they must be handled carefully so as not to break or bruise the stock, which hastens decay.—J. C. Black, Truro, N.S.

*Special report to the Department of Trade and Commerce, Ottawa.

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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.

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The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with December, 1913. 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, 1913	11,570	August, 1913	12,675
February, 1913	11,559	September, 1913	13,729
March, 1913	11,209	October, 1913	13,778
April, 1913	11,970	November, 1913	12,967
May, 1913	12,368	December, 1913	13,233
June, 1913	12,618		
July, 1913	12,626	Total	150,293

Average each issue in 1907, 6,827
" " " 1913, 12,536

Sworn detailed statements will be mailed upon application.

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We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of The Canadian Horticulturist are as carefully edited as the reading columns, and because to protect our readers we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with any subscriber, we will make good the amount of 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."

Queries shall not pierce 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.

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THE CANADIAN HORTICULTURIST,
PETERBORO, ONT.

EDITORIAL

METHODS OF THE FUTURE

The Dominion conference of fruit growers, which took place last month at Grimsby, Ont., was noteworthy, possibly not so much for the business completed—important as that was—as for the glimpses it gave of problems still unsolved that will confront us in the possibly not distant future. One of these relates to the marketing of the apple crop. History, by the light it throws on how difficulties have been overcome in the past, often enables us to grapple more intelligently with the issues of to-day. The history of cooperative effort in the marketing of fruit in Canada is soon told. Yet it points to wonderful possibilities in the future.

Within the memory of most of us there were no cooperative apple growers' associations in Canada. Twelve years ago local associations began to be formed in leading fruit districts. A little later these local associations began to cooperate and form central organizations for the marketing of their crops. In Ontario, for several years, there has been a provincial organization which has represented a number of the local organizations of the province. Within the past three years, what is practically a provincial organization has sprung into existence in the Annapolis Valley of Nova Scotia and now controls the major part of the fruit output of that great apple producing district. In British Columbia there are a number of large central associations which cooperate in various ways through the British Columbia Fruit Growers Association and Department of Agriculture in gathering reliable information relating to crop and market prospects and in standardizing their pack.

So much then for the developments of the past few years. What may we expect for the future? An incident which happened at the Dominion Fruit Conference gives us an inkling. The Nova Scotia growers showed that as a result of a threatened advance in steamship freight rates from Halifax they might be unable to find a market for a large part of their crop in the British markets. This would force them to flood the Montreal, Ontario, and western markets with their apples to the disadvantage of the apple growers of Ontario and British Columbia. The growers from these provinces were quick to see the point. They realized that what had appeared at first to be a provincial issue was really of national importance. They quickly agreed to cooperate with Nova Scotia fruit growers in waiting upon the Dominion Government in an effort to have the threatened advance in steamship rates prevented. Thus it was made clear that anything that materially affects the advantageous distribution of the apple crop of one province is likely to have an important bearing on the prosperity of the fruit growers in the other fruit growing provinces.

Thus has the necessity been revealed for the creation within a few years of a strong central organization which will largely control the marketing of the apple crop of the Dominion. Within a few years the various provincial organizations will have increased in strength. When this has taken place they will be quick to cooperate among themselves. Each may be expected to report to the other what their output will be of the different varieties and grades. They

will know the consumptive possibilities of the different markets. The placing of their crops on these different markets to the best possible advantage of each, as well as to that of the consumer, will then become a comparatively easy accomplishment. Together with all this will go joint efforts to develop European markets for the eastern growers and the southern Pacific and Asiatic markets for the growers of the west. Thus it will be seen that the future is fraught with great possibilities and that it will demand the services, in executive positions, of fruit growers of outstanding ability.

CIVIC IMPROVEMENT

There is a great variation in the interest taken by the citizens of different Ontario municipalities in the improvement of their cities by the laying out of parks and drive-ways, the planting of trees, and the making of other civic horticultural embellishments. The responsibility for this condition rests largely on the local newspapers and horticultural societies. Where these show proper leadership it is not difficult to obtain the hearty cooperation of the citizens to any reasonable expenditures.

As far as we have been able to learn, Toronto stands far in the lead of any other town or city in Canada in the interest it takes in civic horticultural improvement. Last year with a population of slightly less than five hundred thousand its expenditures on parks and boulevards amounted to over eight hundred thousand dollars, or to one dollar seventy-four cents per head of its population. The city of Ottawa also makes large expenditures, but being the capital of the Dominion its funds for these purposes are largely derived from Government sources. Even at that it does not expend nearly as much per capita as does Toronto.

The expenditures for park purposes of many towns and cities in Ontario fall far below what they should be to be even creditable. Per capita expenditures of a number of Ontario municipalities last year were as follows: Woodstock, forty-eight cents; Hamilton, forty-six cents; London, thirty-one cents; Galt, twenty-seven cents; Kingston, fourteen cents; Belleville, five cents. Some others spent practically nothing at all. Truly there is room and need for a vigorous campaign in Ontario for civic improvement.

A number of cooperative apple growers' associations, as well as private growers, are likely to experience difficulty this year in marketing their crops to good advantage. There are many thousands of people in the towns and cities of Ontario who would readily pay two dollars to three dollars and fifty cents a barrel for good apples if they knew where they could be obtained. By advertising in the daily papers of the province that they will be willing to ship direct it should be possible for producer to do a mail order business this fall with many consumers to excellent advantage. We would like to see the experiment tried.

What is the Ontario Minister of Agriculture arranging to do to help the apple growers of Ontario to market their crop this fall in the towns and cities of the province to good advantage?

Those cooperative apple growers' associations which this year, in their anxiety to market their output, are spreading false tales about their competitors have much of which to be ashamed.

British Columbia in 1914-15 appropriated one hundred and five thousand dollars to promote the horticultural interests of that province. In spite of her vastly larger production of fruit Ontario will have to "go some" to equal that appropriation.

SOCIETY NOTES

St. Thomas

The membership of the St. Thomas Horticultural Society has long since passed the 1,000 mark and is rapidly forging towards 1,300. This year 100 public beds were planted on the boulevards, containing over 5,000 plants. Over 4,000 roses and shrubs were given to the members last spring and 21,000 tulip bulbs have been ordered for this fall's distribution among the members, as well as 14,000 for use in the public beds. The beds will be of solid colors and of good varieties. A practical gardener has been engaged to take charge of the beds. There was a large number of entries in the contest for lawns, gardens, factories, and schools. The prizes, consisting of cut glass vases, medals, lawn mowers, and water rollers, are valued at over \$400. The contest between the schools this year was so close that three of them stood equal on the first inspection.

Hamilton

As a result of much good work, including the undertaking of a number of new activities, the Hamilton Horticultural Society this year has taken on a new lease of life, with prospects improving for still better work and an increased membership in the future. As much of the credit for this condition has been due to the efforts of the efficient and indefatigable secretary, Mrs. Ada L. Potts, the directors recently showed their appreciation of Mrs. Potts' good work by presenting her with a handsome umbrella, suitably inscribed. Many nice things were said by the directors of Mrs. Potts' accomplishments. Descriptions of some of the leading gardens of the city have been published in some of the city papers, and public visits have been made to some of the best gardens.

Dundas

The Dundas Horticultural Society, only recently organized, has already attained a membership of almost one hundred. The committee is still at work canvassing for members.

Peterboro

Mr. E. F. Collins, Superintendent of Parks, Toronto, acted as judge recently in the annual lawn and garden competition, in which much interest was taken. He pronounced the lawns of Messrs. T. F. Matthews and S. D. Hall as being almost perfect. Mr. W. J. Kennedy won the prize for the best display of flowers, with Mr. John Williams a good second.

During July, Bliss H. Fawcett, Upper Sackville, N.S., marketed twelve tons of strawberries from six acres of land. For other this crop he employed forty men, women, boys and girls for a month. The industry employs five men and five women from May 1 to October 1, keeping down weeds, planting, and keeping the patch in order. Mr. Fawcett planted six acres of new plants this season, and will have twelve acres in strawberries for the market in 1915.

The Fourth Dominion Fruit Conference

THE fourth Dominion conference of fruit growers was held at Grimsby, Ontario, September 2nd to 4th, under the auspices of the Dominion Department of Agriculture. As will have been seen by the list of resolutions adopted by the conference, published on page 237 of this issue, many important subjects were dealt with. The conference proved, as did its predecessors, that the best interests of the fruit industry of Canada require that national gatherings of this kind shall be held in order that national problems may be dealt with on a national basis. These gatherings also serve to bring the scattered fruit interests of Canada into closer touch.

The idea of holding the conference in Grimsby, Ontario, which is in the heart of the Niagara fruit district, proved a good one. The delegates were able to concentrate all their attention on the business in hand until it was completed, and at the same time the fruit growers from the other provinces were given an opportunity to get in touch with the great fruit interests of the Niagara district.

CONVENTION PROCEEDINGS

The conference opened on Wednesday afternoon, September 2nd, with practically all the delegates present. Canada's recently appointed Dominion Fruit Inspector, Mr. D. Johnson, was appointed chairman, to preside at all the meetings. Tables were so arranged throughout the hall that the delegates from the different provinces were able to sit in separate groups around conveniently arranged tables. On the convention platform was a display of fruit from the different provinces, which was examined with much interest by the delegates.

THOSE PRESENT

The conference was a most representative one. The delegates present were as follows:

Prince Edward Island—A. E. Dewar and Theodore Ross, Charlottetown.

Nova Scotia—F. W. Bishop, Paradise; Prof. W. H. Brittain, Truro; Manning K. Ellis, Port Williams; A. K. McMahan, Aylesford; S. C. Parker, Berwick; W. W. Pinco, Waterville; Prof. M. Cumming, Truro; A. S. Banks.

New Brunswick—W. B. Gilman, S. B. Hatheway, and A. G. Turney, Fredericton; H. H. Smith.

Quebec—Robt. Brodie, Westmount; Prof. T. G. Bunting, Macdonald College; Rev. H. A. Dickson, Rectory Hill; N. E. Jack, Chateauguay; Rev. Father Leopold, La Trappe; Peter Reid, Chateauguay Basin; R. A. Rousseau, Acton Vale; Mr. Fisk, Abbotsford.

Ontario—G. C. Brown, Brighton; W. H. Dempsey, Trenton; Dr. A. J. Grant, Thedford; R. W. Grierson, Oshawa; C. W. Gurney, Paris; P. W. Hodgetts, Toronto; Elmer Lick, Oshawa; A. Onslow, Niagara-on-the-Lake; A. W. Peart, Burlington; M. Snetsinger, Thornbury; Robt. Thompson, St. Catharines; F. S. Walbridge, Belleville; Prof. J. W. Crow, Guelph.

Manitoba—Prof. F. W. Broderick, Herbert Emery, and D. Dingle, Winnipeg.

Saskatchewan—C. L. Walker, Regina.

British Columbia—Thos. Abriel, Nakusp; J. G. Metcalf, Hammond; John E. Reekie, Kelowna; R. Robertson, Vernon; Jas. Rooke, Grand Forks; R. M. Winslow, Victoria; Jas. Johnson, Nelson; G. J. Coulter, White, Summerland.

In addition to the foregoing a number of other prominent people were present, in-

cluding W. T. Macoun, Dominion Horticulturist, and J. A. Ruddick, Dominion Dairy and Cold Storage Commissioner, of Ottawa; Prof. L. Caesar, Provincial Entomologist, Guelph; P. J. Carey, of the Dominion Fruit Division, Toronto; and the following fruit inspectors: R. G. L. Clarke, Vancouver; R. R. Waddle, Simcoe, Ont.; C. W. Baxter, Ottawa; G. H. Vroom, Middleton, N.S.; A. H. Flack, Winnipeg; F. L. Gable, Ancaster; B. Honsberger, St. Catharines; J. J. Pritchard, Harrison; W. G. Smith, Burlington; F. L. Derry, and E. H. Wartman, Montreal. In addition to the fruit inspectors, other prominent fruit growers present included Senator E. D. Smith of Winona, M. C. Smith of Burlington, and many others.

OPENING SESSION

The opening session on Wednesday afternoon was occupied with the organization of committees. This was followed by a most able address, entitled "Transportation as Applied to Fruit," by G. E. McIntosh, Traffic Expert for the Ontario Fruit Growers' Association. Mr. McIntosh had prepared a paper, the reading of which occupied an hour. He pointed out that until recently fruit growers had devoted their attention almost entirely to improving their methods of production. Of recent years it has become evident that the question of the marketing and general distribution of the fruit crop is almost equally as important. In this connection the question of transportation presents many important problems. Lack of space makes it impossible to more than mention this paper here. Extracts from it will be published from time to time in *The Canadian Horticulturist*. Mr. McIntosh showed that Canadian railways discriminate against the fruit growers in many important respects and that they are not giving the service that is provided by the railroads in a number of the States in the American Union, which were mentioned by Mr. McIntosh. Later the conference adopted a resolution asking the Government to investigate the various points brought out by Mr. McIntosh.

COLD STORAGE PROBLEMS

On the conclusion of the afternoon session the delegates were invited by Cold Storage Commissioner J. A. Ruddick to visit the pre-cooling and cold storage plant established recently by the Dominion Government at Grimsby, an illustration of which appeared in the July issue of *The Canadian Horticulturist*. The visit proved a most interesting one. Several carloads of fruit were in the building being cooled in the different chambers preparatory to shipment. A car of fruit was being loaded while the delegates were there. Mr. Ruddick and his assistant, Mr. Smith, took the delegates all over the plant, explained its construction, its cost, the system of refrigerating used, and the benefits to be derived by the location of such a plant in all large fruit exporting districts. The plant is splendidly constructed and reflects credit on the Department of Agriculture.

At the Wednesday evening session Mr. Ruddick gave an address on the pre-cooling of fruit. The subject being an important one was followed with interest by the delegates. This address and discussion is reported separately.

STRAWBERRY RATES

One of the most striking incidents of the conference took place over a matter brought up by the Nova Scotia delegates. Mr. McMahon informed the conference that Nova Scotia growers were faced with



Hon. Martin Burrill, Dominion Minister of Agriculture

Being a practical fruit grower, Hon. Mr. Burrill is much interested in the fruit industry. During the three years he has been Minister of Agriculture, he has held two Dominion conferences of fruit growers. He attended and spoke briefly at the conference held at Grimsby, Ont.

a serious situation due to the fact that the steamship companies carrying the bulk of the Nova Scotia apple pack from Halifax to the Old Country had given notice of a proposed advance in carrying charges of 32c. a barrel. As a reason for this they had mentioned additional war risks. At the time the advance was announced it was known that the additional charges due to the war risks would not amount to more than 15c. a barrel. The steamship companies were evidently endeavoring to take advantage of the situation to impose an additional burden on the fruit growers. There was reason to believe also that the advance had been contemplated before war was declared. In view of the fact that the Government subsidized these steamship companies heavily Nova Scotia fruit growers felt that the Government should take action to prevent such a large increase in rates. Mr. McMahon appealed to the conference to assist the Nova Scotia fruit growers in obtaining a satisfactory adjustment.

At first, as the Nova Scotia growers explained the situation, the growers from the other provinces listened with interest, but without showing any tendency to give special support to the Nova Scotia growers in dealing with the situation. They were ready to do what they could to help, but seemed to look on it as a Nova Scotia matter which the Nova Scotia growers should deal with themselves. A sudden and remarkable change in this attitude was brought about when one of the Nova Scotia delegates pointed out that the situation was one which affected the other provinces fully as much as it did Nova Scotia, because unless a considerable reduction was obtained in the proposed advance in the steamship rates it would practically prevent the shipment of certain varieties of Nova Scotia apples now shipped to European markets. Being unable to market these apples in Britain, Nova Scotia growers would be forced to unload them on the markets of Ontario and the west at low prices, where they would compete

with the products of the other provinces.

This point scored a bull's eye. Within a few minutes it was decided to have a delegation wait on the Government at Ottawa. Ontario and British Columbia quickly agreed to stand the expense of being represented on that delegation in order to prove to the Government that it was a matter of national importance. The delegation was duly appointed and waited on the Government on the following Saturday. The Canadian Horticulturist has since been looking into the matter. Partly as a result of an encouraging reception. At the request of the United Fruit Companies of Nova Scotia the Government had already been looking into the matter. Partly as a result of the work of Sir Geo. E. Foster, and partly on account of the fact that the United Fruit Companies had commenced to charter boats independent of the combine, the growers have obtained a reduction in the proposed advance of not less than 19c. a barrel, and are satisfied with the new arrangement.

The incident brought home to all present the solidarity of interests between the fruit growers in all parts of Canada, and seemed to indicate the possibility that within a few years the fruit growers in the different provinces will be cooperating in the marketing of their crops. During the discussion Mr. A. W. Peart pointed out that cold storage charges on shipments of fruit had been greatly increased this year as compared with last year. Mr. Ruddick stated that one of the chief difficulties this year is going to be to get any space at all on vessels, as many of the steamships will be required to be used as transports, and may not be available to handle apples when most needed. About twenty vessels would be required to transport the troops at Valcartier alone. The Nova Scotia delegates did not seem to think that there would be much difficulty in their obtaining all the accommodation necessary. Their chief concern was to prevent the proposed advance in rate.

THURSDAY'S SESSIONS

According to the programme, Thursday morning was to be devoted to an automobile ride through the Niagara district. The drive lasted, however, until six o'clock. Most of the automobiles were loaned by local fruit growers. The delegates were taken from Grimsby to the Fruit Experiment Station at Jordan Harbor, and from there to St. Catharines and Niagara Falls, where dinner was served. The drive took the delegates through some of the best fruit sections of the Niagara district.

SUCCESSFUL COOPERATION

At the Thursday evening conference, Mr. A. E. Adams, the secretary of the United Fruit Companies Ltd. of Nova Scotia gave a most instructive address entitled, "Systematic Cooperation in Nova Scotia." Mr. Adams traced the initial efforts of the fruit growers of Nova Scotia to cooperate, their failures and successes. He told of the Acts that it was necessary for them to get passed through their local Legislature in order that they might cooperate effectively, and concluded by describing the wonderful success that has been attained. Last year the United Companies handled 6,044 tons of fertilizers or over 300 car loads, saving at least \$18,000 to their members on fertilizers alone. In addition they handled 575,000 pulp heads, 35,000 pounds of nails, 67,800 pounds of grass and clover seed, 104,000 pounds of arsenate of lead, 8,900 rods of wire fencing and 1,800 barrels of lime-sulphur, as well as handling many other articles of a similar nature. Last year the companies

did a fire insurance business, exceeding \$450,000. Extracts from this paper will be published in The Canadian Horticulturist as space permits. In reply to questions, Mr. Adams stated that the Companies do not sell to middlemen, nor to private individuals. Their sales are made to the local affiliated companies. Where sales are made to outsiders the companies make a profit on each transaction and the outsiders do not participate in the rebate given to members.

FRIDAY'S SESSIONS

Three busy sessions were held on Friday. These were devoted mainly to discussions of the Inspection and Sales Act and to the standardization of packages. Mr. Robt. Thompson of St. Catharines was the chairman of the committee appointed to deal with standard packages. This committee reported that they had decided after thorough discussion not to recommend any changes in the present standard barrels or boxes. The six-quart and eleven-quart baskets were also looked on as standard. It was felt that it was not desirable that there should be any change here, also except that the style of basket used might be standardized as at present some of the manufacturers were making baskets that, while they contained the same amount of fruit, were made in different shapes.

Senator E. D. Smith said that previous to 1900 there was no standard size of basket. The twelve-quart basket was commonly used. Gradually growers began to shave off half an inch in the length or width or depth of the basket, while still calling it a twelve-quart basket. This continued until the so-called twelve-quart basket contained only nine quarts. Berry boxes were not touched for a long time, but finally the growers began to tamper with them. When standards were set and the fruit division was given power to deal with the matter an improvement in conditions became noticeable.

Fruit Commissioner Johnson wanted to know if the committee did not deem it advisable to require that the baskets should be made of a certain thickness of veneer to ensure their being made of good material.

Mr. Thompson replied that this did not seem practical, as thick veneer made of poor material often was not as strong as veneer, that while thinner was made of better material.

Senator Smith agreed with this contention.

Commissioner Johnson suggested that the law might require that the material used should be of good quality.

THE STANDARD BOX

A discussion was held as to whether or not it is advisable to discard the Canadian standard apple box in favor of the standard box recently adopted by the United States. The discussion soon showed that the British Columbia growers, who have had the most experience in box packing were seriously divided on this point. Aside from some of the western growers, however, the opinion of the western dealers present and others who spoke seemed to be favorable to adopting the American standard box as the Canadian standard. The Canadian standard is 10x11x20. The American standard is 10½x11½x18. It was said that while the American box is twenty odd inches smaller than the Canadian box, it is a little squarer and gives the public the impression that it is larger and holds more. It therefore sells better. It also holds better in the car and loads itself better to certain packs.

Dominion Fruit Conference

At the recent Dominion Fruit Conference, during the discussion of the Standard apple box, one of the arguments advanced favoring the Canadian box was that it can, with only a slight alteration, be made suitable for use in the New South Wales trade.

Messrs Ells and Parker said that as Nova Scotia is beginning to adopt the box with the idea of going after some of the United States trade they would like to have a standard box definitely decided upon.

The discussion was concluded by the adoption of a resolution asking the Government to investigate the matter and report as to the best box.

A NO. 3 APPLE

There was a big discussion over what constitutes a No. 3 apple, and whether or not that grade of apple should be allowed to be placed on the market. The British Columbia delegates claimed that they did not market any No. 3 apples. One of the Nova Scotia delegates said he had seen apples graded No. 3 sold that were a disgrace to the trade. There were some growers who would not spray or take proper care of their fruit as long as they thought there was any chance to sell their No. 3 apples.

Mr. Laing, a fruit dealer of Winnipeg, said that he had handled large quantities of No. 3's with good results, but they were a better lot than usual for that grade.

Fruit Inspector G. I. Vroom said that he had been in England and was asked by some of the dealers why the Nova Scotia growers shipped No. 3 apples. He replied by asking them why they continued to buy them. "Well," they said, "we feel that when men go to the trouble of packing a barrel of apples and sending them over here it is too bad not to be able to

make them any returns." If, therefore, their No. 1 apples sell for 18 shillings, their No. 2 apples for 14 shillings, and their No. 3 apples for little or nothing, we dock a little off their first two grades in order that we can make the growers some return on their poor grade.

Mr. M. K. Ells claimed that there are apples not quite good enough for No. 2's that are too good to be wasted, and for which in parts of the Maritime Provinces and Quebec there is a good demand for use for cooking purposes.

Commissioner Johnson summed up the discussion by saying the question seemed to be governed largely by crop and market conditions. In years when there was a large crop of good quality of fruit it was a mistake to market No. 3's. Other years when there is a shortage in the better grades and a larger percentage than usual of the poorer grades there was often a demand for the poorer grades.

It was decided not to recommend any change in the definition of a No. 3 apple as given in the Inspection and Sale Act.

There has been no serious objection taken to the 20x11x10 apple box. Why not legalize it for the whole of Canada, both for the home trade and for export?—W. A. Pitcairn, Kelowna, B. C.

The Oregon Agricultural College, at Corvallis, Oregon, has issued Bulletin 117, entitled "Loganberry By-Products," by C. I. Lewis and F. R. Brown.

There has been formed in Louth township a new cooperative association, which will be known as The Port Dalhousie Co-operative Fruit Growers' Association. The capital is placed at \$10,000, in \$50 shares.

Douglas Gardens

OAKVILLE, ONT.

The stagnation in many lines of business caused by the European War furnishes an opportunity for many business men to make improvements in their gardens and home grounds. No line of plants will give such large results for the outlay as Herbaceous Perennials. Of these the Paeony, Iris, Delphinium, Phlox, Helianthus and Hardy Chrysanthemum are the best six. We have fine stocks of these and of many others, grown in our own grounds—all described in our Fall Planting List, just issued, which is sent free on request.

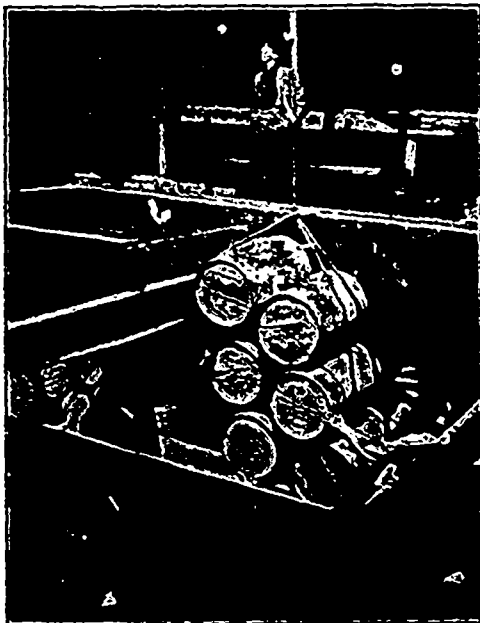
We offer 50 varieties of racemes at from 30c to \$2.50 each. 30 vars. of Irises at from 15c to \$1.00 each. 5 vars. of Phloxes at 15-20c each; 6 vars. of Helianthus at 15-20c each; Gold Medal Hybrid Delphinium at 20c each; 10 for \$1.50. 5 vars. of Hemerocallis at 15-20c each; 6 vars. Astilbe and Spirea at 15-35c each; 4 vars. of Campanulas at 20c each; 5 vars. of Heuchera at 20c each; Dianthus Spectabilis at 20c each; 3 vars. Shasta Daisies at 25c each; 10 for \$2.00, and many others.

At the hour of writing, it is doubtful whether the usual importations of Daffodils and Tulips can be received because of the war. The best substitute for these is Irises, of which we have a good stock. These should be planted at the earliest day possible in September.

Cash with order, including postage, as per schedule, please.

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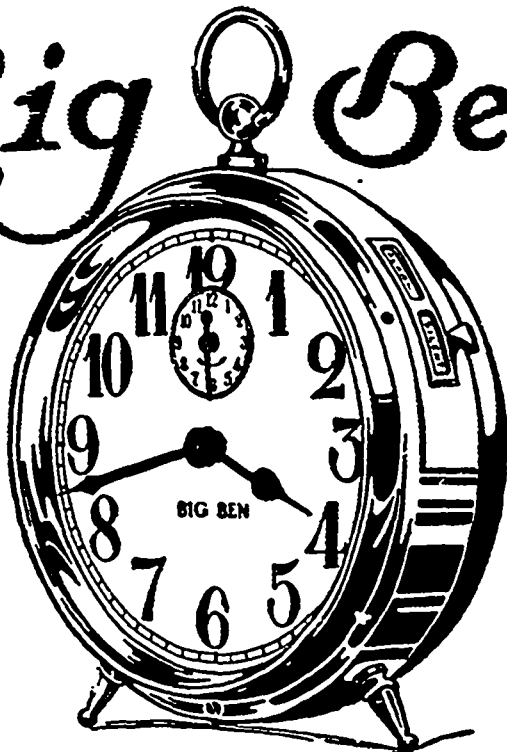
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You pay him only \$3.00 for 365 full 24-hour days a year—and nobody knows how many years he'll last, for he has never been known to wear out.

His board amounts to a drop of oil every twelve months—that's all the pay he asks.

His work is getting the farm hands in the fields on time, starting the before-breakfast chores on time, and telling the right time all day so the women folks can have the meals on time—these are easy jobs for him.

Big Ben stands seven inches tall. He is triple-nickel plated and wears

an inner vest of steel that insures him for life. His big bold figures and hands are easy to read in the dim morning light. His keys almost wind themselves. He rings for five minutes straight, or every other half minute for ten minutes as you prefer.

The next time you're in town just drop in at your dealer's and ask to see Big Ben. If your dealer hasn't him, send a money order for \$3.00 to Westclox, La Salle, Illinois, and he'll come to you, transportation charges prepaid, all ready for work. Hire Big Ben for your farm and he'll prove the promptest hired man on the place.

The Pre-Cooling of Fruit

(Continued from page 240)

When hot fruit is put in a car the ice in the bunkers goes down fast."

Mr. Ruddick: "One objection to cooling fruit in cars is the long time it takes to cool the fruit. In some cases it requires three or four days to cool the fruit."

Q "Would you prefer one large or several small plants?"

A.—"Where there are several storage warehouses around one shipping point, a central plant connected with the others is probably the best. Often some of the warehouses are not in use when the others are. In such cases the supply of cold air can be shut off in those warehouses."

SMALL PLANTS

Mr. Edwin Smith, assistant to Mr. Ruddick: "There are certain fruit districts where tender small fruits are shipped during limited periods where it is not practical to establish large plants, as the overhead operating expense would be too great. The Washington Department of Agriculture has devised a simple system that is sufficient for such districts. I put up one of these in British Columbia, with satisfactory results. It cost to construct about \$2,500, not counting a few extras. The rooms have a capacity of about two carloads. Such a plant is all right for holding temperature for short periods, but not for use as a cold storage."

Recent Bulletins

Recent circulars and bulletins that have reached The Canadian Horticulturist include Circular No. 172, issued by the Agricultural Experiment Station, Urbana, Illinois, entitled "The Blight of Apples, Pears, and Quinces." This bulletin is by Prof. P. S. Pickett, formerly of Ontario. The same Station has issued Circular No. 173 entitled "Onion Culture," by John W. Lloyd.

The Dominion Department of Agriculture is distributing a number of circulars for use at the fall exhibitions. These include three by the Dominion Horticulturist, W. T. Macoun, entitled "How to Make and Use Hotbeds and Cold Frames," "Protection of Fruit Trees from Mice and Rabbits, including the care of Injured Trees," and "Top Grafting."

The largest and heaviest apple ever grown in the world, says an English paper, has been raised this season in England. It is a Gloria Mundi, and was produced by the same grower who a few seasons ago raised the famous giant apple of the same variety, which measured 26 inches in circumference and weighed 27 ounces. Sent for sale in Covent Garden in October the 19th, 1909, it realized the astonishing price of £14 (\$70) by public auction, breaking all previous records. The new record breaker weighs no less than 32½ ounces. This wonderful apple was grown in an 11-inch flower pot, the tree producing six mammoth fruits at the same time. It was this very tree which bore the giant of 1909.

An unusually full description of the Codling-Moth is given in Bulletin No. 147 of the Iowa State College of Agriculture, Ames, Iowa. It is entitled "The Codling-Moth in Iowa." Bulletin 148, issued by the same college, is entitled "The Effect of Potato Treatments on Seed Vitality."

The Michigan Agricultural College at East Lansing, Michigan, is distributing Bulletins 67, 68 and 69, entitled "Onion Culture on Muck Land," "Two Michigan Bean Diseases," and "Spray and Practice Outline for 1914."



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HAMILTON, ONT.

WE ARE NOW BOOKING ORDERS

For Fall Planting, which is the best time to plant. My apple trees are grown from French Crab Seed, which is the hardiest and best for Orchard Planting; also a long list of leading varieties of Fruits and Ornamentals.

FRUITLAND NURSERIES - FRUITLAND, ONT.
G. M. HILL, Prop.

Cold Storage Fruit Warehouse

Finest Apple Rooms in the Dominion for Export and Local Trade.

Special Rooms for All Kinds of Perishable Goods.

THE CANADA COLD STORAGE CO. Limited
533 William St., MONTREAL, Que.

than unwrapped as any packer skilled in both methods will testify. The fruit stays where it is placed.

As to the benefit to the fruit of wrapping, there is no question. It prevents the rapid spread of disease, the fruit keeps longer, it is protected from outside influences, as sudden changes of temperature and excessive moisture. It tends to prevent the apples bruising one another, it makes an elastic but firm pack much less liable to shift than unwrapped fruit, and it gives a more finished appearance to the package. It presumes a high grade product so finding a readier sale and a higher price.

In wrapped fruit, the top of the box should be packed last, while in unwrapped fruit the top is packed first. Packing the top of wrapped fruit first is a poor method. It wastes time and should be discouraged.

PACKING FOR EXHIBITION.

Packing for exhibition is essentially the same as commercial packing in so far as the actual operation is concerned. Great care should be taken, however, to choose only apples that are as near perfect in regard to color and freedom from blemishes as it is possible to get them. A single wormy apple in a box is enough to disqualify that box in the eyes of most judges, if the competition is at all keen.

It is good practice to clip the stems of the top layer of apples so that the apples may be packed stem end up. They present a better appearance than if packed calyx-end up.

In competitions where more than one box is called for, have the same pack and the same number of apples to each box. In fact, have the boxes as nearly alike in every respect as possible. Uniformity counts many points in judging.

Before shipping your fruit to the exhibition, take every precaution to ensure its arrival in perfect condition. It is a good plan to line your boxes with corrugated paper, double wrap your fruit, and re-pack at the exhibition. It takes only a short train journey to loosen up what looks like a perfect pack. Needless to say the pack should be firm at judging time.

Above all things keep to the letter of the rules as given in the prize list. In close competitions judges often have to resort to technicalities to simplify their work, and if you don't agree with the judges' decision—don't kick. He has a thankless job at best.

Items of Interest

Philip J. Gabler, Cargo Inspector for Canada at Liverpool, reports in the Census and Statistics Monthly as follows. "It will be generally admitted that in these days of keen competition continued improvement is necessary if we are to hold our own or keep ahead, and I would like to call the attention of Canadian packers to the fact that the Western New York State people are making a big effort to capture the best of this market. Their fruit is of very good quality generally, and very well graded, and they go sometimes to the extent of what may be termed fancy packing in barrels (i.e., fancy paper lace for the face of the barrels and a pad at top and bottom.) These apples easily command top prices."

An association with 50,000 or 100,000 barrels to sell can command a better price than an association with 2,000 to 8,000 barrels, because the cost of making sales in large bulk is much less than the cost of making a number of sales in small bulk.

SMALL FRUIT PLANTS

Gooseberries, Josselyn! Josselyn!! Red Jacket, Downing, Pearl, Houghton.—Currants, Perfection! Perfection!! Ruby, Cherry, White Grape, Lee's Prolific, Champion, Black Naples, Black Victoria, Bocoop—Raspberries, Herbert! Herbert!!! Outhbert, Marlboro, Brinkla's Orange, Golden Queen, Strawberry-Raspberry. — Garden Roots, Asparagus, Rhubarb. Write for Catalogue.

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Kelly Trees are sold at Growers' Prices—shipped direct from our own nurseries in Dansville and guaranteed sturdy, free from disease and True to Name.

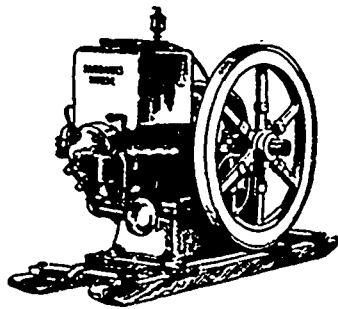
For 28 years we have had the name of knowing how to grow trees right. From seedling to freight car we watch our own trees personally and know we are shipping just what you order. We have an up-to-date nursery plant and can ship all orders promptly, as well as grow and ship at a low cost. We give you every advantage on price. Plant apples this fall.

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Send for free booklet, "Farm Power."

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Canada's Departmental House for Mechanical Goods

Should Fruit Inspectors Give Out Certificates

SHOULD the Dominion fruit inspectors, after they have inspected packages of fruit, give the growers a copy of their report concerning it? This point was raised at the Dominion Fruit Conference held in Grimsby, Ont., September 2 to 4, and led to a lively discussion. It resulted finally in the conference adopting a resolution favoring the idea if the Government can arrange to do so without injury to the work of the fruit inspectors.

When the point was first raised Dominion Fruit Commissioner D. Johnson explained how the work of inspection is conducted. He said that Ontario has been divided into districts, but the districts are so large it is impossible for the fruit inspectors to get around as often as the growers seem to desire. This is because there are not enough inspectors.

Mr. P. W. Hodgetts, of Toronto, said that he had heard the suggestion made that if necessary fewer inspectors should be engaged permanently in order that more inspectors might be engaged temporarily during the shipping season.

Fruit Inspector C. W. Baxter pointed out that where a buyer was handling a lot of different packs the inspector might inspect only one pack. Were he to give a certificate for one pack it might not be representative of the other packs, and yet the dealer might use it to help to sell the other packs also. Some method of guarding this point would have to be found.

Mr. M. Snetsinger, of Thornbury, Ont., did not think this difficulty was likely to be serious, as each packer has to be responsible for all the packs he sells.

Mr. A. E. McMahon, Aylesford, N.S., pointed out that the inspectors have to re-

port to the Department of Agriculture on each lot of fruit they inspect. He thought that it was only fair that the packer should be given a copy of that report.

Mr. Elmer Lick, Oshawa, Ont., thought that it would be a good idea if an association or packer could get a report covering a lot of inspections showing them to have been packing a consistently uniform and high quality pack.

Prof. M. Cumming, Deputy Minister of Agriculture for Nova Scotia, was in favor of copies of the inspector's reports being given to the packers, although there was a danger that the reports might be used as a guarantee of quality to help sell other fruit and thus lead possibly to law suits. This would have to be guarded against.

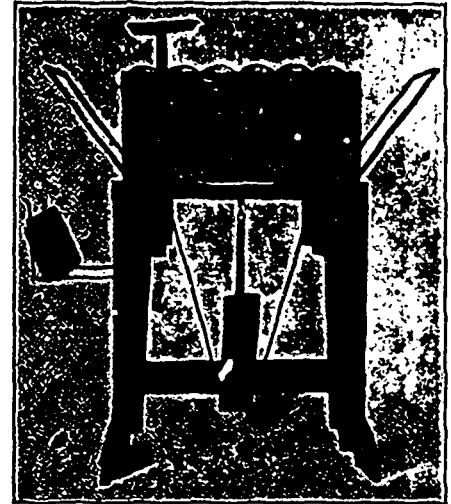
Mr. P. W. Hodgetts pointed out that Ontario fruit sent to the west sometimes deteriorates in the dealers' hand. He has it inspected there, and in some cases has used the inspector's reports when applying for rebates from the packers. If the packers had a copy of the inspector's report as obtained at their end of the line, it would in some cases serve to protect them. He felt that it would not be long before the trade would recognize that the reports were in no sense a guarantee of quality, but merely a report on conditions at the time of the inspector's visits.

Mr. A. E. Dewar, Charlottetown, P.E.I., was afraid that after the inspector left, dishonest packers would take advantage of the inspector's reports to use them in selling inferior lots of fruit that the inspector had not inspected.

Mr. A. W. Peart, Burlington, Ont., favored the suggestion that the inspectors should give the packers a copy of their reports

Quick and Easy

That is the way the DAISY APPLE BOX PRESS works. A simple pressure of the foot brings the arms up over the ends of the box, automatically draws them down and holds them in place while being nailed. The fastest and only automatic press on the market.



Pat. No. 104,535

If you pack apples in boxes, this machine will be a great convenience to you and will save you time and money. Write for price list.

J. J. ROBLIN & SON
Manufacturers Brighton, Ontario



Associating the Garage and Greenhouse

TWO pleasure givers—two essentials—the auto and the greenhouse. Adding so much to the enjoyment of country living, the associating of them in thought seems but natural. To carry the thought still farther: The garage and the greenhouse are a logical link-up. Logical and economical. You save the cost on one gable of the work room. The one boiler will heat them both, to the economy of both. There

are, however, certain important factors that must be considered for the safety and efficiency of each. We won't go into them here, but will gladly advise you about them. If you would like our suggestions concerning the design and layout of the "link-up," we will gladly arrange to make them for you. Or should you employ an architect, we would be glad to cooperate with him. In any event, let's talk the question over.

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Thorough tests, both before exportation, and at the Carter establishment at Raynes Park, London, England, healthy bulbs of the very highest quality. Our Tulips and Narcissus are exceptionally hardy and well suited to the Canadian climate.

Carter's Bulbs

are unequalled for bowl or bed culture.

The Carter catalogue and handbook—"Bulbs"—illustrates and describes the choicest varieties of Tulips, Narcissus, Daffodils, Crocus, and many others. It lists all well-known favorites and many exclusive kinds not to be had elsewhere. Complimentary copy on request. Write for it to-day.

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133A King St. East : Toronto



Mr. McMahon favored every packer being registered. It would help the inspectors in the performance of their duties and in looking after some of the packers.

Mr. Max Smith, Burlington, Ont., claimed that an honest packer does not need an inspector's certificate. Dishonest packers are the men who need certificates to help them make sales. Dealers in the west would require that all shipments should be accompanied by certificates. To start giving certificates would make it necessary to employ an army of inspectors.

Lorne Carey, of the Wentworth Fruit Growers' Association, told of a carload of apples that had been shipped west. The retailer wired back on its receipt that it was unsaleable. The fruit inspector was called in and reported that the fruit was first-class. In the course of the trouble the apples became frozen and had to be sold at a great loss. Had the shippers had an inspector's certificate in the first place, it would have been a great protection.

Senator E. D. Smith, of Winona, Ont., was strongly in favor of the granting of inspectors' certificates. If necessary a nominal charge per barrel might be imposed in connection with each inspection to deter an undue number of applications for inspection being made. The granting of certificates would tend to help young growers whose pack was unknown to the trade to gain a quicker acceptance for their fruit.

Rev. Mr. Dickson, Rectory Hill, Que., wanted to know if the first inspection would be final.

Mr. Lick replied that this would be impossible, as it would lead to many attempts at fraud. Fruit might deteriorate and require to be reinspected.

The matter was referred to the committee on resolutions, which later brought in a report which was adopted recommending the Government to issue the certificates if a satisfactory method of doing so could be devised.

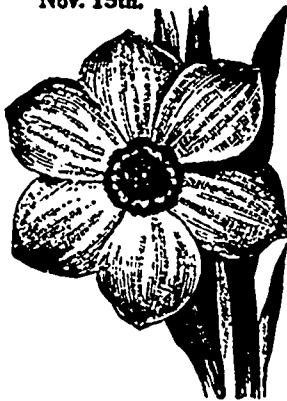
I know of claims in Ontario that have been standing against railway companies for five years, and for amounts as great as \$1,500. One of the powers that should be given to the Dominion Railway Commission is the right to adjudicate cases that have been standing for over three months.—Geo. E. McIntosh, Forest, Ont., Traffic Expert for the Ontario Fruit Growers' Association.

Mr. Charles H. Williams, B.S.A., who has for the past two years been resident horticulturist at Charlottetown, in connection with the Dominion Department of Agriculture, has been promoted to the position of Assistant Superintendent of the Dominion Experimental Farm at Nappan, N. S.

BRUCE'S REGAL FLOWERING BULBS

We offer a complete assortment of Bulbs for Winter Flowering in the house and Spring Flowering in the garden—Planting time Oct. 1st to Nov. 15th.

PRICES AT HAMILTON	Each	Doz.	100
Crocus, in 4 Colors	\$.02	\$.15	\$.75
Freesias, Refractor Alba, large	.03	.25	1.50
Lilies, Calla, White, large	.20	1.30	
Lilies, Chinese Sacred, large	.10	.80	
Hyacinths, Roman, 4 Colors	.05	.50	3.75
Hyacinths, Dutch, 4 Colors	.06	.55	4.00
Narcissus, Paper White Grandiflor	.05	.30	2.00
Narcissus, Single, 6 varieties	.01	.30	1.75
Narcissus, Double, 4 varieties	.04	.30	2.00
Scilla Siberica	.03	.25	1.50
Snowdrops, Single	.02	.15	1.00
Tulips, Single, named, 6 colors	.04	.30	1.75
Tulips, Single, choice mixed	.03	.25	1.25
Tulips, Single, good mixed	.03	.20	1.00
Tulips, Double, named, 6 colors	.04	.35	2.00
Tulips, Double, choice mixed	.04	.30	1.50
Tulips, Double, good mixed	.03	.25	1.25



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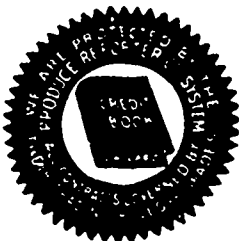
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WE GET YOU BEST PRICES

OUR facilities enable us to realize top prices at all times for your fruit, vegetables or general produce. Aside from our large connection on the Toronto market, we have established branch warehouses with competent men in charge at Sudbury, North Bay, Cobalt, Cochrane and Porcupine. In time of congestion on the Toronto market we have a ready outlet through these branches. We never have to sacrifice your interests.

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



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H. PETERS
88 Front St. East, Toronto



Quebec Fruit Growers Meet

THE summer meeting of the Pomological Society of the province of Quebec was held at Abbotsford, September 9-10th, in conjunction with the exhibition of the Abbotsford Fruit Growers' Association.

The programme included an introductory address by the President, Prof. T. G. Bunting, of Macdonald College, and an address of welcome by J. M. Fisk, of Abbotsford; Mr. C. E. Petch, of the Experimental Farm, Ottawa, spoke on "New Sprays," Mr. Robt. Brodie, of Montreal, on "An Amateur Rose Garden," Mr. M. B. Davis, of the Experimental Farm, Ottawa, on "Cooperation," and Rev. Father Leopold, of La Trappe, on "Cherries."

Among those present were delegates from Quebec, who had been in attendance at the Dominion Fruit Conference held in Grimsby, Ontario, shortly before. Rev. H. Dickson, of Rectory Hill, presented a report of the proceedings at the conference at the Thursday morning session. This was followed by an address entitled "Insects of the Orchard," by Prof. Lochhead, of Macdonald College, and a talk on "The Packing of Fruit," by Mr. P. J. Carey, of Toronto, representing the Dominion Fruit Division.

A keen interest was taken in the papers which were followed by animated discussions. Much interest is now being taken in orchard pests of all kinds and means of control, and Prof. Lochhead's and Mr. Petch's papers were specially interesting.

During the past four years there has been a great improvement in the general care of the orchards in regard to spraying and as marked results are now showing in these well-sprayed orchards the growers are keen for information. The five demonstration orchards of the province have fine crops of beautiful fruit this year, and the influence of these is being felt in their respective districts. From general reports there will be a great increase in the number of sprayed orchards next year.

Much interest was taken in Mr. Carey's address on the packing of fruit, which had special reference to box packing. In the afternoon a practical demonstration in box packing was given by Mr. Carey. As yet the box has not been adopted to any extent in the province, but now the growers of the Fameuse and McIntosh are beginning to take to it as a package for these varieties.

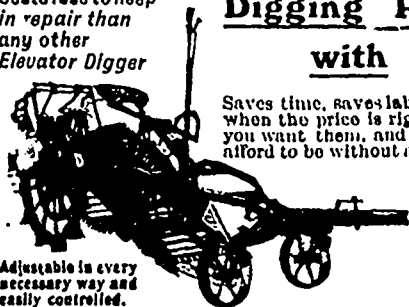
A new mechanical grading machine was in operation during the afternoon. It made a very favorable impression.

Between meetings a visit was paid to a neighboring orchard owned by Dr. C. W. Byers of Montreal. This orchard largely consists of Fameuse and McIntosh, and it is about eighteen years old. It is estimated that there will be twelve hundred barrels of these two varieties, and a finer, cleaner or better crop was never grown. The color and uniformity of the apples on the trees was particularly noted by the visitors. This orchard is considered one of the best in the province. The annual meeting of the society will be held at Macdonald College, December, 2nd and 3rd, 1914.

Bulletins and Reports

Recent bulletins and reports that have reached The Canadian Horticulturist include the following: "Fertilizers in Relation to Soils and Crop Production," by R. Harcourt, Professor of Chemistry, and A. L. Gibson, Demonstrator in Soils, of the Ontario Agricultural College. This is Bulletin

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Four styles from which to choose the one that suits your conditions best. You pay for and your horses draw only what you need. We have been making Diggers 10 years and know what to build for this work. Our Booklet "D" tells the whole story in an understandable way. May we send it?

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A large order placed with a local wholesale house enables us to offer these sets to you in return for a very small amount of work on your part and without a cent's expense.

If you will send us 8 new yearly subscriptions to The Canadian Horticulturist at 60c. each, or 5 new two year subscriptions at \$1.00 each, we will send you one of these sets at once.

This is a wonderful opportunity for you to get a Tea Set FREE. Write us immediately.

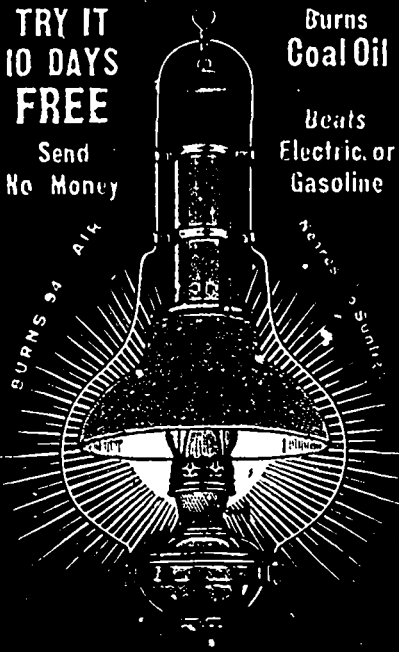
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Recent tests by noted scientists at 14 leading Universities, prove the Aladdin gives more than twice the light and burns less than half as much oil as the best round wick open flame lamps on the market. Thus the Aladdin will pay for itself many times over in oil saved, to say nothing of the increased quantity and quality of pure white light it produces. A style for every need.

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delivering Aladdin lamps. No previous experience necessary. One farmer who had never sold anything in his life made over \$500.00 in six weeks. Another says: "I disposed of 34 lamps out of 31 calls.

No Money Required We furnish capital to reliable men to get started. Ask for our distributor's Easy-System-of-Delivery plan quick, before territory is taken.

223. It is being issued by the Ontario Department of Agriculture, Toronto.

"Plant Lice on Currant and Gooseberry Bushes," is the title of a circular by Edith M. Patch, being issued by the University of Maine, Orono, Maine, which is also distributing Bulletin No. 227, entitled, "Powdery Scab on Potatoes." The author of the bulletin is Dr. W. J. Morse.

Apple Crop Prospects

The present season, so far as production is concerned, and speaking broadly for the whole Dominion, is a most satisfactory one. The crop is large and the fruit is clean and of good size. Such a condition is exceptional, and if the means of distributing and marketing were normal, the growers would unquestionably reap abundant returns.

The foreign market, however, at the present time is greatly demoralized. In practically every section of the country the growers are exceedingly pessimistic regarding the ultimate distribution of their fruit in a satisfactory manner. This feeling is particularly marked among independent growers, who have in previous years relied upon the itinerant buyers to purchase their fruit. Many of these buyers are not operating this season, and even in cases where they have quoted prices, their offers are far from alluring. The consequence is that growers are practically at a loss as to any means of selling their crop. Many of them have had no experience in marketing, having formerly sold their fruit on the trees or packed in the orchard. Cooperative associations are not so seriously affected. Being groups of growers under capable management and with experience in disposing of previous crops, most of the associations have established connections upon which they can place some reliance in the present season. The average over the whole Dominion for early apples is seventy-eight per cent., for fall apples seventy-eight per cent., and for winter apples seventy-four per cent. This gives a total crop of seventy-six per cent., which is an increase of twenty-eight per cent. over that of 1913.

HARVESTING

On account of the very exceptional conditions which are at present existing throughout the world, there are certain features which Canadian fruit producers should keep in mind when harvesting their crop. There is a general laxity on the part of consumers in making purchases, and the demand for any inferior fruit from present indications, will be slight. It is therefore desirable that only the better grades should be packed and shipped, at least until a more equable state of affairs is reached. There should be a satisfactory home market for the better grades, and the growers would be wise to limit their shipments to such grades and hold the lower grades for later sales. The main thing to bear in mind is that, just as long as the demand for fruit is limited, it should be supplied only by the better grades and every barrel of No. 2 or No. 3 apples that is placed on the market interferes to just that extent with the sale of higher grades.

FOREIGN CONDITIONS

The crop in Great Britain is larger than was anticipated early in the season, and the markets are well supplied. Large quantities of bananas and pineapples, originally intended for European points, have been diverted to British markets, with the result that the public are being well supplied at low prices. Local apples, pears, and plums are all excellent crops.—Dominion Fruit Crop Report.

FRUIT MACHINERY CO.

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Manufacturers of Fruit Sprayers

and a complete line of

Apple Evaporating Machinery

Our complete POWER SYSTEMS for evaporating, when installed by our experienced millwrights are the most practical, sanitary and labor saving to be found anywhere. Our prices and terms always reasonable.

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For full information as to terms, regulations, and settlers rates, write to

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Minister of Agriculture

Parliament Bldg., Toronto

GLASS GARDENS

Canadians will be glad to learn that it is possible to get Glass Gardens entirely made in Canada by a Canadian Company—Glass Garden Builders, Limited.

The Company will erect private or commercial greenhouses of any type or size with full equipment of any sort.

The Company's staff includes Mr. Isaac Cassidy, formerly of Lord & Burnham Co., Mr. R. L. Derbyshire, formerly Canadian Manager of the Parkes Construction Co., Mr. W. J. Keens, of Toronto, is President, Dr. J. M. Baldwin, late Vice-President of Toronto Horticultural Society, Vice-President, and Mr. C. M. Baldwin, Secretary-Treasurer.

It has already under construction two large houses for J. H. Dunlop, of Richmond Hill, and several private gardens in Toronto.

Further particulars or plans and estimates will be gladly furnished to anyone interested.

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THE CANADIAN HORTICULTURIST

Market Prospects

P. W. Hodgetts, Sec'y, Ontario Fruit Growers' Association,
Toronto, Ont.

The apple markets still continue very slow and prospects are not brightening as yet. It is felt that there may be a fair market in Great Britain for shipments going forward up to the first of October. Liverpool advises us that only about half of the usual quantity will be required, and that largely of the No. 1 grade. The people who are suffering most from the war are those who consume the lower grades of apples.

Sales of apples have been made for the western market at prices all the way from \$2.00 to \$2.70 per barrel f.o.b., depending on the percentage of Spys in the shipment. Competition is very severe, many salesmen being in the west and some unfair tactics have been adopted. One of our Ontario Associations in a circular issued to the trade, stated that they are continuing to use the large Ontario barrel, but that some Ontario Associations and Nova Scotia are using the small barrel. The fact is that not an association nor dealer in Ontario is using the small or what is generally known as the Nova Scotia barrel.

Horticultural Exhibition

In spite of the war and the change in conditions created by it, the Ontario Horticultural Exhibition will be held this year as usual. For a while it looked as though the exhibition would have to be abandoned. Certain financial support that the Association has always received, it was found could not be counted upon. Hearing of the situation the exhibitors quickly rallied to the support of the directors with the result that at a meeting of the directors held on Friday, September 18th, it was decided unanimously to hold the exhibition as usual. The dates selected were November 9th to 14th.

This year's exhibition may surpass all previous ones. Desiring to show their patriotism, both to their country and to the exhibition, the exhibitors have offered to make exhibits without drawing any prize money. In consequence no prizes will be offered. Sufficient promises have already been made from the flower, fruit, honey and vegetable sections to ensure a splendid exhibition. The city of Toronto has agreed to give the use of their Horticultural Building on the Exhibition Grounds, heated and lighted, free of cost. The entire gate receipts will be given over to the Red Cross Society, which will look after the advertising and ticket selling, the funds going through this channel to aid in caring for the sick and wounded in the war. Not a cent of the gate receipts will be taken for the expenses, the growers receiving only the advertising for their expense and trouble of putting up an exhibit. The names of all growers will be placed on the fruit or other produce which they send in, and a sale will be held of all the goods on exhibit on the last day of the show. Exhibits on these terms are invited.

Market Fruit Carefully

Only a little extra time and skill are required to market plums and apples properly. If they reach the market poorly graded and bruised, or in dirty, broken packages, they cannot command good prices. Clean, neat packages are necessary to show fruit's advantageously.

Pick with care. Don't wait for plums to soften or apples to become mealy. They should be well colored and large, but still

Ontario Horticultural Exhibition

EXHIBITION GROUNDS

TORONTO, ONTARIO

November 10, 11, 12, 13, 14

Fruit Flowers Honey Vegetables

This year's Exhibition promises to be just as large and splendid as the many successful Exhibitions of former years.

The Growers in each section have consented to exhibit the best in their possession, and to forego the acceptance of prize money, which will enable the giving of the **entire proceeds, including the gate receipts, to the**

Red Cross Society

Entries should be made at once with the Secretary.

P. W. HODGETTS, Secretary

Parliament Buildings, TORONTO

WM. COUSE

President

FOR SALE AND WANTED

Advertisements in this department inserted at rate of 3 cents a word for each insertion, each figure, sign or single letter to count as one word, minimum cost, 30 cents, strictly cash in advance.

ALL KINDS OF FARMS—Fruit farms a specialty.—W. B. Calder, Grimsby.

NIAGARA DISTRICT FRUIT FARMS—Before buying it will pay you to consult me. I make a specialty of fruit and grain farms.—Melvin Gayman & Co., St. Catharines.

ASK DAWSON. He knows. **IF YOU WANT** to sell a farm consult me. **IF YOU WANT** to buy a farm consult me. **I HAVE** some of the best Fruit, Stock, Grain and Dairy Farms on my list at right prices. **H. W. Dawson,** Ninety Colborne St., Toronto.

WANTED—Clean, bright beeswax and fancy comb honey.—R. N. Smeall, 95 4th Ave., Viauville, Montreal, Que.

RHODES DOUBLE OUT PRUNING SHEAR



Cuts from both sides of limb and does not bruise the bark. We pay Express charges on all orders. Write for circular and prices.

RHODES MFG. CO.
536 E. Division Ave. GRAND RAPIDS, MICH.

FRUIT FARM FOR SALE
Complete in every way and situated on outskirts of growing county town in Ontario. Completes 28 acres, planted with young apple, peach and pear trees, and bearing small fruits, etc. Greenhouse, 25 x 50 feet, also steam boiling and preserving outfit. Complete water system and natural gas. Houses and barns in first-class condition, with newly erected fruit-packing barn having cement lower story and storage cellar. Very valuable grape-vine next to road. Write now, before this is snapped up, and get full particulars from the owners.
BOX 19, CANADIAN HORTICULTURIST

FACTORY CLEARANCE SALE



Unusual business conditions are forcing large manufacturers to sacrifice stocks in order to keep their mills running. To the alert buyer this represents an unprecedented opportunity to save money. These chances come only once in a long time—when they do come it pays to act quick.

WALL BOARD
Wall Board takes the place of both lath and plaster. It gives a finished wall without further decorating. Anybody can put it on. Now selling at a special price.
SAMPLE FREE.

ROOFING
Lowest prices on record. Genuine Asphalt Flat Roofing 100 per cent. saturation, contains no tar or paper. In full rolls of 128 square feet with nails and cement.
SAMPLE FREE.

BUILDING PAPER
A great snap at this price. Full measure rolls 400 sq feet in each. Use at wholesale at this price. **SAMPLE FREE.**

The Holliday Company Ltd.
FRANCIS STANLEY MILLS & CO.
HAMILTON CANADA

firm. A soft plum will not stay up in the market, and neither will the price. Fall apples may be picked when full size is reached without regard to color, or the color may be allowed to develop if desired, but the fruit must not be allowed to soften or drop if it is to be handled profitably.

Discard all bruised, stung, or mis-shapen plums and grade as No. 1 those of good color, and as No. 2 those inferior in coloring. Sort according to size so that every package is uniform throughout in size of plums which it contains. The same suggestions apply to apples, especial care being taken to discard those that are wormy, scabby, bruised or stung. Uniformity in color and size of fruit and size of package, combined with neatness and cleanliness of package, will add greatly to the market price of fruit.

Eastern Annapolis Valley
Eunice Buchanan

We now find that the apple crop of the Annapolis Valley is not as large as was at first expected; probably the United Fruit Companies will handle about seven hundred thousand, and a liberal estimate of the Valley yield would be eight hundred thousand packed out of nine hundred thousand barrels.

Golden Russets have a full crop, while Starks seem to be generally scarce. Where the fruit has been sprayed it is very clean, but spot has developed in unsprayed orchards and there is likely to be fifteen to twenty per cent of spotted fruit. At first it was thought that there were no aphids worth mentioning, but now the damage by these insects is noticeable.

Cherries have been plentiful, and plums promise to be good, this year the growers are thinning them. Currants were eight cents to eleven cents a quart. Strawberries and raspberries have been scarce owing to the effects of frost and gall-root on the latter. Blueberries have not been less than eight cents a quart. Tomatoes and other things are late.

The price of barrels is twenty-six cents to twenty-eight cents delivered with time until fall for payment. Some barrels have been sold for twenty-five cents cash.

Mr. George Saunders, entomologist of the Bridgetown Dominion Experimental Station, has succeeded with experiments which indicate great cheapening in the cost of arsenical sprays; these experiments will shortly be made public. Mr. Saunders finds that powdered arsenates have not the adhering qualities of the pastes.

Of course the thing uppermost in the minds of the farmers is the war, and its effect on the apple market and harvest. Several men are holding themselves in readiness to leave the Valley should the militia or volunteer regiments call upon them, some have already gone. However, the apple companies are hoping to send fruit to England and to receive fair prices, also they are sending men to open up new markets in western Canada, South America and Cuba. Much depends on the shipping rates and increased marine insurance.

Items of Importance

It is reported that the Dominion Government is arranging to conduct an energetic advertising campaign in the leading consuming centres of Canada with the object of aiding apple growers to market this year's crop to the best possible advantage. Canadian Trade Commissioners resident in the United Kingdom as the result of a special enquiry, report that so far there have been no indications that the requirements of the United Kingdom for canned fruit and vegetables will be greater

this year on account of the war than in ordinary years. It is not anticipated that the army and navy will purchase any considerable quantity of these goods.

According to investigations conducted by the United States Department of Agriculture it is estimated that the commercial apple crop of 1914 will be much larger than that of last year, but not so great by several million barrels as in 1912. A total production of 220,000,000 bushels is forecasted.

CHOICE SELECTED BULBS

Tulips, mixed, single or double 75c. per hundred; separate colors \$1.00 per hundred; Daffodils, single or double, 25c. doz.; \$1.75 per hundred. Mixed Hyacinths, 40c. doz.; \$2.75 per hundred. Mixed Hyacinths, 50c. doz.; \$3.50 per hundred. Order of \$2.00 and up sent free. Address—**W. W. WALKER**
108 St. Paul Street - St. Catharines, Ont.

SKINNER THE RAIN SYSTEM MACHINE

OF IRRIGATION TRADE MARK

Write for six books on indoor and outdoor irrigation.

THE SKINNER IRRIGATION CO. DEPT. R., TROY, OHIO

Protect Your Fruit

BY USING **WARNER'S APPLE BARREL PAD**

It costs LITTLE and PAYS BIG

Manufactured by **ROSSELL B. WARNER, INWOOD, ONT.**

Ploughs—Wilkinson

TRADE MARK REGISTERED

U.S.S. Soft Centre Steel Moldboards, highly tempered and guaranteed to clean in any soil. Steel beams, steel landsides and high carbon steel coulters. Clevises can be used either stiff or swing. Each plough is fitted especially with its own pair of handles—rock elm, long and heavy and thoroughly tested. The long body makes it a very steady running plough. Shares of all makes—specials for stony or clay land. The plough shown turns a level furrow, with minimum draft and narrow furrow at bank. Ask for catalogue.

The Bateman-Wilkinson Co., Limited
461 Lynnington Ave., Toronto, Canada.

No. 3
Sod or General Purpose Plough. 25 styles to choose from.

GINSENG

True Canadian Nursery Stock for Fall Planting. 1,000 Stratified Seeds \$3.00. 1,000 one year old roots \$20.00. 1,000 two year old roots \$40.00. Write us for full particulars.
I. E. YORK & CO. - WATERFORD, ONT.

LANARK GINSENG

Fortune awaits any man who will give time and attention to the growing of Ginseng. We have made a complete success of it and are ready to point the way to others. The time to prepare the ground is now, the time to plant is September and October.

Lanark Ginseng Seed is noted for its strong germinating qualities. Lanark Ginseng Roots are sure growers and great producers.

Don't fail to make investigation of this highly profitable industry. Write to the Secretary and he will tell you all about it.

Address **C. M. FORBES**
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