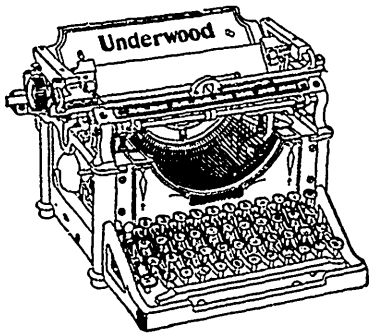


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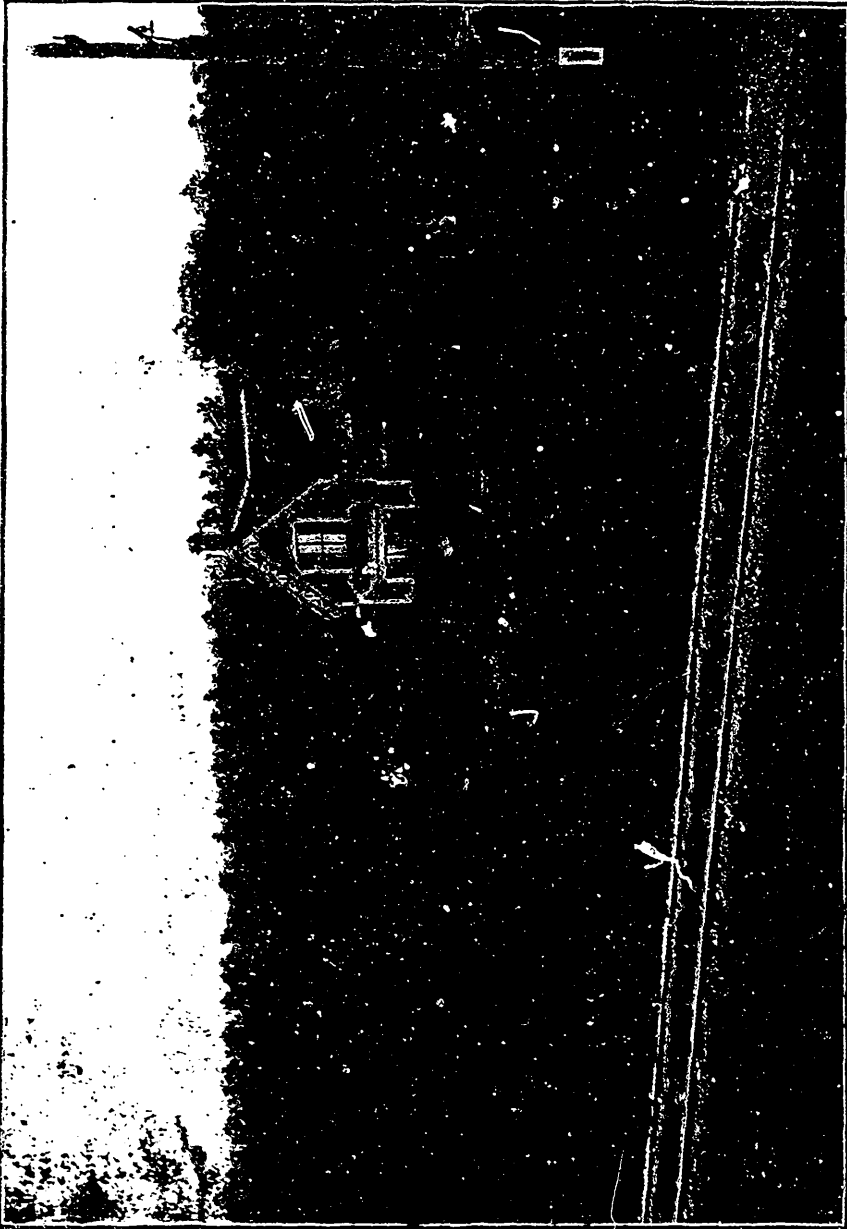
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The Home of a Fruit Grower in the Niagara District.

One of the most enjoyable features of a trip on the electric car line which runs from Hamilton, through one of the principal sections of the ar famed Niagara District, is afforded by the glimpses that may be had of the comfortable homes of the fruit growers. A number of these homes are almost mansions, while practically all present a most attractive appearance. The illustration shows the home of Mr. J. W. Smith, of Winona, one of the leading growers. The manner in which certain parts of the country are being opened up by car lines is here shown, the tracks in the illustration being those of the electric car line which runs through the district and which has been a great boon to the fruit growers.

The Canadian Horticulturist

NOVEMBER, 1905

VOLUME XXVIII



NUMBER 11

METHODS OF SELLING FRUIT

A. E. SHERRINGTON, WALKERTON, ONT.

AFTER visiting all of the principal fruit markets in England and Scotland, I am more convinced than ever that cooperation among the growers and shippers of Canada and other countries is an absolute necessity if the growers are to retain that market and receive a share of the profits on the products of the orchard. I saw some dickering in Great Britain last summer that could scarcely be called square dealing, in fact, it was anything but square. Who was the loser in this particular transaction? No one but the shipper. The commission merchant had his commission and was at no loss. The time is coming when our fruit and other produce will be sold F.O.B. here, instead of by consignment.

Retail merchants I saw expressed themselves as very much pleased with our method of cooperation in packing apples, and agreed that all products should be sold direct, and not handled on commission.

I interviewed several retail fruiterers in regard to shipping apples in boxes. A number of them had had no experience with boxes, but said they were willing to give them a trial, believing that they would be very convenient for their trade. Others who had handled apples in boxes were perfectly satisfied that it is the right package for the finer sorts.

During the short time that I was in Europe I had no difficulty in arranging with

reliable parties to take all their requirements from our cooperative association F. O. B. here. If the right kind of man was over there one season he would be able to place nearly all the apples grown in Ontario by straight sales to reliable parties. It does not pay to send anything to Europe but first-class goods. When good fruit was offered the buyers vied with each other in bidding, but when the goods were inferior bidding was slow.

It is a great mistake to mark the barrels wrongly. I saw some apples on Covent Garden market, London, put up at Colborn, Ont., marked XXX Duchess. I opened some of the barrels and found one marked XXX Duchess which had not a Duchess in the barrel. They were green apples without a particle of color. Another barrel contained Duchess, but only number two, and marked XXX. This kind of packing will not do. It can be prevented cooperation in packing.

The need for greater cooperation on the part of Canadian growers becomes more apparent every year. Cooperation will mean better packing and higher prices and will strengthen the fruit industry in all its branches. Wherever it has been given an honest trial in Ontario it has been a great success. The more of these associations we can have the better for the growers of the province.

COOPERATIVE WORK IN ONTARIO

THE rapid increase in the number of fruit growers' cooperative associations is one of the most encouraging signs of progress in the development of the fruit industry in Ontario. The success of the St. Catharines, Walkerton, Chatham and Forest associations has done much to educate the growers of the province in regard to the value of cooperation in the handling of fruit. Not only have these associations had a successful season this year, but success has also attended the efforts of the two new associations at Oakville and Thornbury.

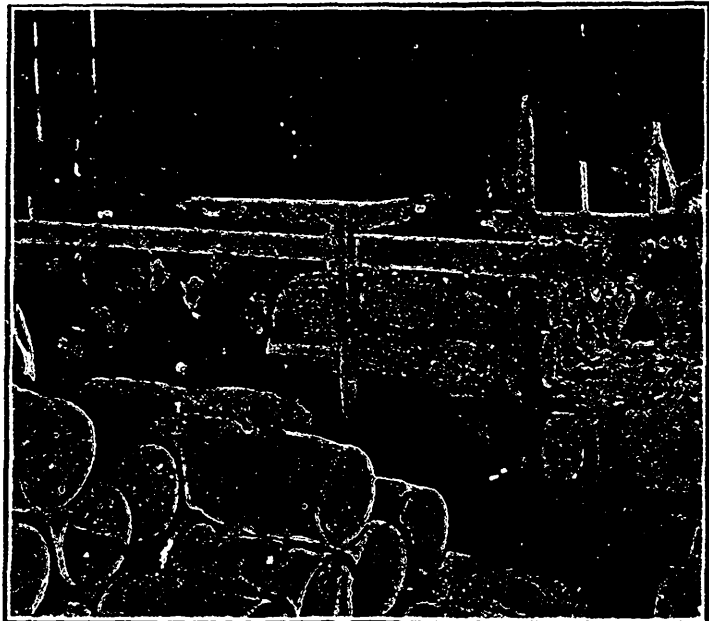
The Oakville Fruit Growers, Limited, was the name adopted for the company organized last spring by some 40 growers in the vicinity of Oakville. A few days ago a representative of The Horticulturist visited this plant and was greatly impressed by the large amount of business being done.

The building, in which the fruit is packed, is a temporary structure, 50 x 80 feet long, located on Mr. Inglehart's property near the railroad. The fruit is received at one end of this building. There is a passage way down the centre, on each side of which are bins in which the fruit of the members is stored as rapidly as it is received. On each side of this passage, at the opposite end of the building from which the fruit is received, there are two large spaces. In one of these the fruit is graded and packed. The culls are dropped through a chute to the basement. As soon as the apples are packed the barrels are rolled across to the space on the opposite

side of the passage, where they are kept until taken to the station. The culls are sent to the evaporator. A careful record is kept of the amount of fruit sent by each man, and of the number of barrels of first and second grade fruit, and of culls, it grades into.

"Our first season," said Mr. Walter A. Inglehart, the manager, "is going to prove a most successful one. At the beginning of the year we expected to handle some 4,000 barrels, but we are going to handle about 7,000. We have some 40 growers in our company, and at the outset placed our shares at \$10 each, on which we have called up 25 per cent. The fruit of our members is picked by them, and all the fruit, including the culls, is brought direct to the packing house. We only handle apples.

"We have been paying \$1 a barrel for all fruit packed during the week. The balance is kept for working capital, and the surplus will be divided at the end of the season. We do not pay dividends, as everything goes back to the growers. All our stock has been subscribed. The prices we have



Part of the Stock at Oakville Waiting for the Graders

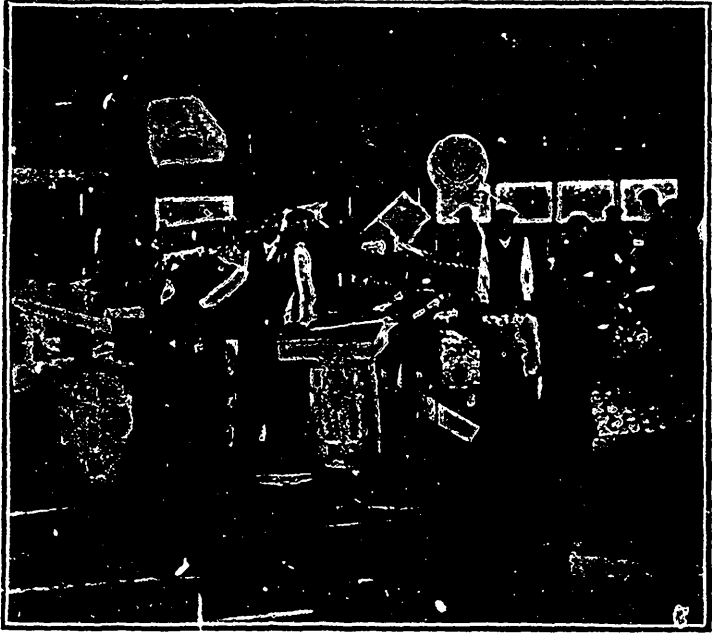
obtained are higher than most of the growers in this section, who are not members of our association, have been able to secure for their fruit. I look after all the grading and packing and the sale of the fruit, in return for which I am paid a regular salary.

"We made a considerable saving on our supplies at the beginning of the season by purchasing in bulk. We bought the stock and contracted with a co-
op-
erage firm to make the barrels. They have cost us an average of 35c. In this way we have

saved at least two cents a barrel, or \$1.40 on this item alone. In order that we might work at night during the busy season we have had the building equipped with electric lights, and in this way are able to get through our work more expeditiously.

"So far the venture has been a perfect success. Our growers have been delighted with the results obtained. Some buyers have been offering our members inducements to leave the company and to sell their fruit independently, but as yet only one grower has done so. Every member of the company had to sign a statement at the beginning of the season agreeing to sell all his fruit to the company, and with the exception of the one man referred to they have all done so.

"Some idea of the amount of the work we do in a day can be gained from the fact that we have been sending as much as two tons of fruit a day to the evaporator. During a great deal of the time I have to keep 10 to 12 assistants at work, who are em-



Packing Apples at the Oakville Fruit Growers, Limited

ployed by the month. In addition to the packing house we have a storehouse which will hold 2,000 barrels. Two teams are kept going all the time taking the fruit from the packing house to the station and storehouse and looking after other work."

"Have any of the growers complained of the manner in which their fruit has been packed?" was asked.

"No," replied Mr. Inglehart, "they all seem well satisfied. I have had experience as a buyer of fruit, and they seem to have confidence in my packing. One thing I have noticed is the great difference in the quality of the fruit sent in by the different growers. The fruit of some growers grades 50 per cent. firsts, while that of other grades 50 per cent. culls. Considerable fruit has been injured by the codling moth, but there has been little trouble from fungi. To keep everything straight I have found it necessary to balance all the stock on hand and the fruit shipped during the week every Saturday night. In this

way we keep careful track of the amount of fruit sent in by each grower, when it was packed, when shipped, and all other information concerning it.

"The great bulk of our fruit has been purchased by British importers, and will be shipped to three or four different firms. In this way we will save the commission of the middlemen who have generally bought the fruit of our members. We have adopted the Oak Leaf brand, and all our boxes are marked with a stencil. In this way we hope to establish a demand for our fruit which next year will help us dispose of our supply.

WHAT THE GROWERS SAY.

Several growers in the Oakville district who have contracted with the Oakville Fruit Growers, Limited, were interviewed by *The Horticulturist* and all seemed well satisfied with the outlook for good returns for this season's crop.

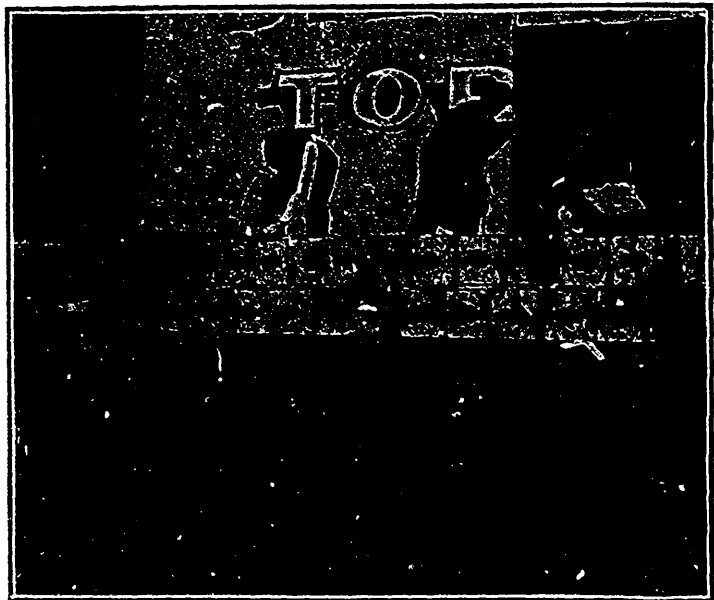
"Selling to the company," said Mr. F. G. McCraney, "is the only way. Selling to buyers is always more or less unsatisfactory. The buyer looks over an orchard and then makes an offer, grading firsts and seconds to suit himself. If the fruit turns out well he takes nearly all, but if it is not good and the Old Country market is dull, only a few are taken and the bulk of the crop is left on the grower's hands. The buyer makes the grade and practically fixes the price as well. He will never make a contract in writing, so that there is nothing to compel him to take the fruit.

"When selling to the company all the fruit is brought in, and Mr. Inglehart and his men do the grading and packing, while the managing committee attends to the selling. I have every confidence in this method, and if rightly managed it should prove more satisfactory to the grower than the old way. It is a new departure in this section, but something must be done to make the apple industry pay better, and I intend to stand by the company. There should be one in every neighborhood."

A BETTER SYSTEM.

"This method is far superior to the old way," remarked Mr. Alex. Belyea. "When sales are made to the buyers the apples are picked and left in heaps under the trees. Sometimes the buyer does not come for days, and often weeks, and the fruit lies there exposed to weather, mice and insects. The top layer of some varieties is damaged by the sun, and the mice and insects destroy many.

"When contracts are made with the com-



At Oakville—Eighty-Five Boxes Ready for the Car

pany there is no waste. The fruit is put directly into barrels and taken to the packing house. There, uniform grading and

packing is done and the Old Country buyer sees that he can get larger quantities and a more uniform grade, and pays a better price.

PRINCE EDWARD ISLAND'S POOR APPLE CROP

REV. FATHER A. E. BURKE, ALBERTON, P. E. I.

SELDOM or never has a more bounteous crop been garnered into the barns in Prince Edward Island than this year. The fruit crop, however, is not abundant, and, grateful as we are for small favors, there is no ground for exuberance on this count.

Last year, when all the world enjoyed a full measure of apples, ours was fairly good too, but the conditions of the fruit market gave only moderate returns for the orchardist's toil. It was a very dry season—five months of complete drought, where rain is required every week for best results. The trees bloomed profusely, and, though they bore a fair crop, strange changes in the size, color and quality of the fruit were noticeable. Owing to the extreme drought the Ben Davis apples had become ripe enough for eating by October, whereas, ordinarily, they are not so mellow until the following June. The same changes were common to all the winter varieties. The general result was only a medium return from the orchards, and, naturally, fruit growers expected an average crop for 1905.

Why, then, are we so stinted in the apple production? The trees bloomed; there were no frosts at the time to kill the blossom; the protection, defective enough, it is true, was no worse than usual. There must be some other reason for this dearth of fruit. Here is the explanation. The trees passing through such a drying-out period in 1904 were engaged in a life and death struggle. They were able to fix fruit buds but had not sufficient strength to vitalize them thoroughly. These buds were sufficient to produce blossom but not strong

enough to fix fruit. This year's famine, therefore, is due to last year's drought. Nay, more. In many cases the trees themselves were unable to store up sufficient nourishment to hibernate, and hence the many mysterious cases of what is called "blasting," resulting in partial or complete destruction of the tree.

THE REMEDY.

The natural question is, could these misfortunes not be avoided? Might such conditions not militate against the Island as a fruit country? No easier task could be set than the conservation of our apple areas. The trouble is, the orchards are not sufficiently fertilized. With water, the soil will give crops every season. In dry seasons they grow where there is sufficient humus in the soil. If the orchards had been well fertilized, they should have been able to produce vital fruit buds for this season. In fact, some of the well cared orchards did do so. Protection must be found in this exposed province every year and sufficient fertilizers must also be added if prime fruit is to be grown and money made.

The far famed Annapolis Valley, too, is comparatively bare of fruit. A study of conditions there and a comparison of the situation and soil with Prince Edward Island shows that they have an advantage in shelter. The valley is completely protected by a fringe of hills. On the island the protecting forest has been shamefully cut down until artificial windbreaks have to be depended on.

Despite untoward circumstances, Prince Edward Island fruit at the Charlottetown show excelled the exhibits at Halifax and

Frederickton. The judge, Major Shepard, of Queenston Heights, said that Island fruit was easily superior to that from the other provinces. With normal conditions the quality of fruit grown here is unexcelled. The soil of the Annapolis Valley is not equal to that of the Island. With as

much manure added as is used in the valley just as abundant crops will be produced. Prince Edward Island should be the best apple producing region in Canada—aye, in the world—but the growers have not learned enough about the business to bring the best results.

PROTECTION FROM MICE

IN Bulletin No. 144, Ontario Agricultural College, Guelph, Professor Hutt, in dealing with the damage done to fruit trees by mice in the winter, says that the rapid increase in numbers is due largely to the indiscriminate destruction of the farmer's best friends, the hawk and the owl. The hawks feed largely on mice by day and the owls take up the work by night. These birds should be protected so that the equilibrium of nature may be restored. Mice seldom harbor in a green crop and never on clean fields. They are found along old fence bottoms and in meadows. As there is usually some shelter for the mice near orchards it is advisable to guard against their depredations. In localities where snow falls early and remains on the ground all winter the simplest and cheapest preventive is to tramp the snow firmly around the base of each tree early in the winter. A mound of earth is also said to be effective in diverting the runways of the mice from the tree. Building paper or tar paper is frequently tied around the trunk and is recommended as cheap and effective.

The remedy recommended by Prof. Macoun, and practised at the Experimental Farm at Ottawa, is the use of veneer around the trunk. This veneer is cut six to 10 inches wide and 18 inches long from elm or other cheap wood.

Different methods are adopted by leading orchardists. "I use tar paper for all my orchards, both young and old," writes Mr. A. H. Brooks, of Dixie. "I have prac-

tised this method for three years and have lost only one tree in that time. That tree was girdled above the paper. Four years ago I banked with earth and lost 38 trees. These trees were all on the outside row near an old fence. I have taken away the fence, plowed the grassy bottom and put a wire fence in its place. By keeping the grass away from fence bottoms and practising clean cultivation, no lodging places are left for the mice. I have tried tramping the snow around the trees but always suffered considerable loss until I used the tar paper.

"I tie the paper around with binder twine very loosely so that when the trees swell the bark is not injured. In a year the twine will have become so weak that the tree readily breaks it as it grows. If tied tightly the bark will be injured if the string is not cut in the spring. One man and an assistant to carry the string and help in other ways can go over a 12-acre orchard in a day."

"In a sod orchard," said Mr. Jos. Tweddle, of Fruitland, to *The Horticulturist* recently, "mice are very troublesome. I dig the sod away about 10 inches around the tree and bank up 10 inches above the level of the ground with earth taken from another hole, burying the sods in this hole so that the mice will not find a convenient harbor. This is practically complete protection. Tar paper is more trouble, but is effective if banked around the bottom and extended at least one foot above the surface of the ground."

METHODS OF A SUCCESSFUL GROWER

ALTHOUGH apples are a light crop in most sections of Ontario, orchards can be found in favored locations with somewhat abnormal crops. One of the finest orchards seen this fall by The Horticulturist is owned by Mr. W. G. Watson, near Dixie. It is situated on a light loam which is moist during the summer if well cultivated, and is protected from the sweeping winds by bush.

The bearing orchard was set out at three different plantings. The oldest trees are 26 years old and the youngest 18. About half the trees bear one year and the other half the following season.

"There is not a tree," remarked Mr. Watson, "that should bear this year that has not got a large load. The Alexanders, Snows, Russets and Spys never had a better crop."

There are 12 acres in bearing, and Mr. Watson placed this year's crop at 1,200 barrels, but if the unharvested trees exceed this amount as much in proportion as those already picked the total will be nearer 1,600 barrels. For quantity and quality the fruit is hard to beat. Northern Spy trees only 18 years old were heavily loaded with large clean specimens, while Russets of the same age had almost more than the branches could support. Buyers had visited the orchard who said it was one of the best they had seen, and several made tempting offers, but Mr. Watson has sold direct to the Toronto retailers since he started 26 years ago and preferred to do the same this season. He realizes that there is more work, but does not believe in letting the commission men take a share of the profit. Six trips a week are made to Toronto, and in case of a special rush two can be made in a day.

These 26 years in the fruit business have taught Mr. Watson that to make the most out of his crop the fruit must be graded. "There are a few things in connection with

raising the crop which an orchardist ought to know," remarked Mr. Watson, "but he must also know when and how to market the crop to make the most out of it. I always grade the fruit, selling the lower grades for what they are worth. A bushel of culls in 10, spoils the sale of the whole lot. The retailer will pay only low grade prices if he sees a few small apples in a box."

The picking is done as soon as the apples pull freely, because if left a few days half of them would be on the ground. Fallen apples are not wanted. The varieties come in one after the other, keeping the pickers busy from the time the earliest harvest ap-



Picking Fruit in Mr. Watson's Orchard

ples are ready until the late winter apples are stored. Up to the first week in October nearly 600 barrels had been taken to Toronto.

The picking is done from ladders. Two men start at one tree at the same point and work in opposite directions until they meet. Each picker is supplied with a round bottomed basket, holding about a half bushel,

which has a hook fastened to the handle. Low handles are preferred because it is necessary to get the basket to the bottom of the barrel to prevent bruising when emptying. Each picker empties his own basket.

Apples which will be marketed before heavy frosts come are left in the packing house. Those which will be sold before the middle of January are stored in an old dwelling house. In case frosts come a stove is in readiness. The winter varieties, which keep best, are stored in a large cellar under the house free from frosts.

"The apple store room," said Mr. Watson, "should be kept a little damp or the fruit will wilt. I prefer cement floors. Now and again I throw a pail or two of

water in to keep moisture in the air. Russets should be well stored at once or they shrivel up. I never put apples in a pile on the ground as it makes extra work.

"With colored varieties it is best to leave them on the tree until a few fall, so that they will develop color. Apples will yellow after being pulled, but they will not redden. The bulk of our picking, however, is done before they commence to fall. I hate to see apples going to waste. All that are not fit for market are fed to the pigs, and special care is taken not to drive over any in the orchard. Most of the picking is done in the afternoon and late in the evening when the dew has gone. In the morning the trucking around is attended to."

EVAPORATING APPLES

THE question of obtaining some returns from the unsaleable part of the apple crop is important to every orchardist. In many orchards a considerable portion of the crop is lost each year which might be turned into ready cash or at least fed to stock. When the crop is heavy and prices are low this waste is especially great.

Large quantities are dried in some sections. Evaporators this fall are paying 25 cents a hundred for culls. Many farmers do this drying on a small scale. A few bags are carried into the kitchen in the evening and the family, and, perhaps, a few of the neighbors, do the work. One manipulates the peeling machine while others get around the table and quarter and core the apples. The smaller members of the family put the quarters on strings and hang them over the kitchen fire to dry. In some sections the stringing is dispensed with and instead the apples are placed on a screen and set outside on a scaffold in the sun to dry.

In the principal apple growing sections this drying is done on a large scale and growers who have great quantities of culls

dispose of them to advantage by contracts with some of these evaporators. When the supply is great prices run as low as 10 cents a hundred, but 25 cents is not unusual for some of the most suitable varieties. The line of work in large evaporators was outlined to *The Horticulturist* recently by Mr. E. Roblin, of Carlton street, Toronto.

"When apple drying is done on a large scale," said Mr. Roblin, "kilns in which 400 bushels or more can be done in a day are used. As a general rule only culls are used but if the good apples are evaporated the finished product is of much better quality and considerably more can be obtained from 100 pounds of apples. For this work the apples should be well ripened on the tree. Russets and Baldwins are the choicest varieties for evaporation. If properly worked they give about 16 pounds from 100 of apples. Snows are very inferior. They are too juicy and yield only nine or 10 pounds from 100. They are never used unless other varieties cannot be procured.

"In a factory running 400 bushels a day,

30 girls are required to do the work. Eight machines peel and core 50 bushels each in a day and these can be dried in one kiln. The girls trim off anything the peelers leave and from the trimming table the apples are sent in bushel boxes to the bleacher, where they are subjected to strong brimstone fumes. This treatment makes them soft for slicing and prevents discoloration during the process of drying.

"Then the fruit goes to the slicing machine and is cut into rings. These slices are spread four or five inches deep on the kiln, and the evaporation is completed in 10 to 20 hours, depending on the depth. They must be well turned two or three times. When dried they are put in a heap in the curing room, where they are left for two or three days, after which they are turned and aired by being thrown from one corner to another and allowed to 'sweat out.' After seven to 10 days they are ready for packing. For shipment, two sizes of boxes

are used—one holding 25 pounds, and a smaller and more common one weighing 15 pounds. After being packed, ordinary storage suffices. Frost does no harm and dampness makes them heavier. Too much heat makes them lighter unless they are packed when wet, in which case they sour and become like vinegar.

NOTHING WASTED.

"Nothing is allowed to go to waste. The peelings and cores are dried by the same process and packed tightly in barrels. This product is shipped to Germany and France, where it is made into jams, etc. Apples which are imperfect and too small for peeling are chopped and dried by similar process and packed, 275 pounds in a barrel. This barreled product is sent to France, and when grapes are scarce it is used in making some of the strong beverages. The champagne which reaches the Canadian consumer at \$3 a bottle is made by this by-product from the evaporator."

FRUIT DEVELOPMENT IN BRITISH COLUMBIA

M. S. MIDDLETON, VERNON, B. C.

IN the early eighties a few experiments were made to test the adaptability of the then practically unsettled Okanagan valley for the growing of fruit. These were in the form of small fruit gardens, but clearly showed to such men as Lord Aberdeen at Vernon, G. W. Sterling at Kelowna, and a few others, the great industry which lay undeveloped in the fertile valleys lying between the picturesque hills of the Okanagan. These men began setting out large commercial orchards and the breaking down of several of the larger ranches into small fruit lots encouraged easterners and old country people to settle and take up fruit growing. From that time progressive strides have been made along horticultural lines. About 60,000 young trees were

added this year to the many thousands which had been planted during recent years. These trees consisted chiefly of apples, pears, plums, cherries and peaches. Besides, some set out a few of the smaller fruits. The leading fruit, however, is the apple, which, roughly speaking, occupies about one-half of the fruit area, while the other fruits are about equally divided.

Up to three or four years ago the fruit development of the valley was practically in an experimental stage. A great number of the varieties planted as the most suitable for that section proved unsatisfactory. They developed and bore heavily, but, as varieties, were not suited to the market requirements. The more recent planters, having profited by the mistakes of the pio-

neers, are planting fewer varieties of more desirable qualities and now claim to have reached the commercial stage.

The principal tested commercial varieties might be summed up as follows: Apples—Gravenstein, Wealthy, Fameuse, King and McIntosh Red as fall and early winter varieties; Canada Baldwin, Spy, Winesap, Hubbardston, Nonesuch, Jonathan, Spitzenburg, Yellow Newtown Pippin and Cox's Orange as winter varieties. The last three varieties are highly recommended, but have not yet been well tried. Pears—Bartlett, Howell, Flemish Beauty and Buerre de Anjou.

Imperial Gage, Columbian, Bradshaw,

Yellow Egg and Pond's Seedling are among the popular varieties of plums planted, while the Italian prune is a great favorite in the prune line. In the peach area the Crawford gives greatest satisfaction. It is a greatly disputed question as to what are the best varieties to plant. The best growers, however, advocate a comparatively few number of varieties. Three or four, or at most five, are enough. Then those interested in the fruit industry of the Okanagan valley can direct all their efforts towards making these varieties prominent and in a few years win a proud name for this valley whose fruit industry is yet only in its infancy.

COLD STORAGE FOR ONTARIO FRUITS

PROF. J. R. REYNOLDS, O. A. C., GUELPH, ONT.

THE question of cold storage in relation to the fruit industry is very important. Both the warehousing and transportation are of immense consequence to the fruit grower. There are in Ontario, as well as in the other provinces in Canada, many cold storage warehouses which are not patronized by the fruit growers as they should be. These warehouses, if patronized, would enable the grower to refuse low prices for his apples and other fruits, and to hold them for better prices next week, or next month, or next year. It usually happens with the enterprising fruit grower who takes advantage of storage facilities that the cost of storage is paid many times over by the difference between autumn and spring prices.

The actual effect of cold storage on produce is to delay the process of ripening in the first place, and retard decay after maturity. For instance, if a peach is to be shipped to a distant point, it must be picked from the tree in advance of dead ripeness, cooled as quickly as possible to 40 degrees F. or preferably as low as 31 degrees F., and held at the low temperature until it

reaches the market. That peach, if left on the tree a day longer, might have been dead ripe, and in the course of nature after ripeness is reached decay sets in, and in a warm atmosphere proceeds very rapidly. But the amount of ripening that takes place in one day on the tree would require four to five days, or more, in cold storage, during which time the fruit is being carried to market. Then the molds, fungi, and bacteria that cause decay work very slowly at low temperatures. At the same time, if that hypothetical peach is picked before it has attained full size and some color, it will never attain the same quality in storage as it would have done if left longer on the tree. For storage or shipping, therefore, the picking of tender fruits is a matter requiring careful and trained judgment. A grower of cantaloups in Georgia has found that for best results he must go over his vines every eight hours.

Cold storage in transportation, however, is even more important, as it extends almost illimitably the bounds of the market. The British market is

accessible for many kinds of Ontario fruits, which a few years ago were perforce marketed at home. There is, also, a large and a rapidly growing market in Manitoba and the Northwest for the best fruit which southern Ontario can produce. This market is largely supplied by fruit from British Columbia, Washington and Oregon States. If, however, the facilities afforded by refrigeration are made use of this western market can be captured for Ontario fruit.

There are certain impediments in the way of this undertaking. In the first place Ontario fruits, while perhaps of better quality than those produced along the northern Pacific, do not ship so well and are more liable to disease. The difference in climate accounts for this, the very dry summer of the coast producing a dry fruit and insuring external dryness in picking and packing. Ontario fruit is more juicy, and our uncertain summer weather makes it difficult always to ship perfectly dry. Then, too, our more humid seasons encourage all kinds of disease from which the drier climate of the coast is practically immune.

These facts emphasize the necessity of careful picking, selecting, and packing of our fruit for export. The study of cold storage as a means of preservation of fruit has laid bare many of the deficiencies that have prevented complete success in the Ontario fruit business. Cold storage has

brought to notice the difference between good and bad fruit and good and bad packing. It has made it clearly manifest that it pays to store and to ship only good fruit, that it pays to select fruit of even size and ripeness, that for tender fruits particularly there is a critical time which is best for picking. A thorough knowledge of the results of cold storage cannot fail to make the fruit grower, if he regards his own interest, more careful, more skilful, and, if possible, more honest

Cold storage is of particular importance to the province of Ontario. We have large quantities of perishable produce of high quality, which, to find a profitable market must be carried outside our own boundaries. We have a short producing season, necessitating the preservation by some means of our products to be consumed during the winter of forced inactivity. We have extremes of heat and cold, both conditions necessitating well-insulated walls for storage: and, on account of our geographical and political relations, we are at a great distance from our most important markets. For all these reasons cold storage, both stationary and in transit, is of first importance to Ontario, and only by taking advantage of it can the producer realize all that he deserves for his products and the consumer enjoy to the full the bounty given forth by Ontario's soil.

PUT FRUIT IN A STOREHOUSE

A. McNEILL, CHIEF, FRUIT DIVISION, OTTAWA.

DURING a recent visit to the Brighton-Colborne district I noted a very large number of apple barrels remaining in the orchards packed and piled, usually directly on the ground, occasionally resting on a few boards or rails. The heavy rains of the previous day thoroughly saturated thousands of these barrels unprotected in the orchards. Many of them will remain

there until they are dried out by the sun and wind. This is not so harmful as the old practice of piling the fruit itself on the ground exposed to the inclemencies of the weather. Nevertheless, it is a bad practice and accounts for many of the slack and wet barrels that afterwards appear in the foreign markets. The quality of the barrels now used is greatly improved. It

does seem, therefore, somewhat of a folly to expend so large a sum on a package and then allow it to deteriorate so seriously in the rain and sunshine.

Even supposing, however, there was no rain the exposure to the heat of the sun for a few days in the orchard will do more to ripen the fruit than many weeks in a properly constructed storehouse. Apples put in box cars warm, are almost certain to heat

before they are placed on board ship, and then no accommodation, no matter how good, can save them. This has been the history of far too much fruit this fall. The weather has been warmer than usual, and the fruit inspectors report a much larger percentage of heated barrels than usual. In no case has there been a report of serious loss in cargoes that were reported as being of low temperature when they were shipped.

Plums in Quebec

AUGUSTE DEPUIS, VILLAGE DES AULNAIS, QUE.

THE plum crop at the Experiment Station at Village des Aulnais, County L'Islet, has been very abundant. Fifty-two varieties have given fruit this year, beginning with the "Jaune tres hative" and "Favorite hative," which were ripe August 10 to 15. These were followed by the *Mirabelle Precocce* and *Reine Claude d'Oullins*, very valuable varieties for localities where the summer is short. Then *Bradshaw*, *Washington*, *Damson*, *R. Claude*, *Montmorency* and others came in September, closing this month with *Pond's Seedling*, *Grand Duke*, and *Coc's Golden Drop*. We expect to complete the picking of these three varieties by October 18.

We pack the plums in half-gallon card boxes, put up in eight gallon crates, and they sell well at 40 cents a gallon. In October, 1902, I exported crates of these varieties to Great Britain through the firm of *R. Barden*, Quebec. The plums reached *Liverpool* in excellent condition and the returns were very satisfactory. I have shipped a great part of the crop to consumers. It causes more trouble and is more expensive, and we learn the taste of the families who consume them and of the hotel-keepers and retailers. We learn how the fruit reaches the people at a distance and the time that varieties will keep in good

condition on the stands of fruit dealers. I have analysed the reports received and have come to the conclusion that 12 varieties out of 52 will be generally popular and profitable for this far northern section.

Gall Lice on Spruce Hedges

T. D. JARVIS, B. S. A., O. A. C., GUELPH.

My spruce hedge is being killed in patches by some insect which works inside a gall. I have used *Paris green* and have cut off the infected parts but nothing seems to be effective. —(J. C. M., Picton.

The insect which is troubling your spruce is what is known as the *Spruce Gall Louse* (*Chermes abietis*). As these insects in the feeding stage are within the gall, and the gall is perfectly water-tight so that no fluid can penetrate, poisoning is out of the question, and as in the migrating larval stage they do not eat, poison is equally useless. In the larval stage soap emulsion might be of some use if applied abundantly at the proper time.

The cheapest and best plan yet tried in Ontario is to clip off the galls as soon as they are noticed, say in June and always before the first of August, while the producers are in the galls, and immediately burn them. There is no use in doing this after the producers are out of the galls. When a tree is too much infested to be dealt with in this way it should be cut down and burned at once.

THE WINTER OF 1903-4 AND ITS EFFECTS*

R. W. SHEPHERD, COMO, QUE.

THE disastrous effects of the severe winter of 1903-4 on our orchards were not fully understood or observed the following spring. The damage was more far-reaching than at first supposed. Trees which were killed outright were replaced, and the percentage of these, in some localities, was high—fully 10 per cent. in some instances. But we also noticed that many trees were injured, more or less, which we hoped would ultimately survive. We observed, also, that the fruit of 1904, particularly Fameuse and a few other varieties, was considerably undersized. This was attributable to the severe shock which the trees sustained during the previous winter. The trees, apparently, had not the vitality and vigor to develop their fruit to the normal size of other seasons.

During the 30 years I have paid attention to the cultivation of the apple I do not remember having exported such small Fameuse as those packed in 1904. In fact, No. 1 Fameuse of last year would have been considered No. 2 grade in 1903. Those trees which bore a heavy crop in 1904 (I speak for my own locality) in many instances were so exhausted by the effort and their vitality had been so impaired by the severe winter, that they have succumbed altogether. The past winter, although it could not be considered a severe one, was too hard for those trees which had struggled through last season and had borne a crop of undersized fruit. One has only to go through orchards in districts such as the Ottawa Valley, Lake St. Francis district and Chateauguay to see the number of trees that have succumbed after having feebly tried to develop foliage this season.

The varieties in these districts which have withstood the winter are those to be recommended and may be considered thoroughly hardy. In my orchard they are few, and

include Rochelle (very hardy), Gipsy Girl, N. W. Greening, McMahon and Winter St. Lawrence. The following were more or less injured, Duchess, Wealthy, Scott's Winter, St. Lawrence and Canada Baldwin. Those considerably injured were Fameuse, McIntosh Red, Canada Red, Golden Russet and Red Astrachan. Those very badly injured were Ontario and Windsor Chief. Of 20 trees of the latter, eight years planted, only one survived, and it is not in satisfactory condition. We had great hope of it. The tree was vigorous and healthy and bore regularly. The fruit is large, handsome, and undoubtedly a long keeper of fair quality, and an excellent apple for profitable export in barrels. It is the apple our orchardists have been looking for, for a number of years, as one able to compete with those grown in Ontario, such as Northern Spy and Baldwin. I admit that the test was severe, and it may be several years before we have such another.

The Ottawa Valley and contiguous districts, such as Lake St. Francis, sustained an extra cold blast and a degree of exceedingly low temperature which was maintained a longer period than we have heretofore experienced, but the fact remains that the late keeping varieties we have been waiting for, and which we expected had arrived when Windsor Chief was brought to the front, has not stood the test. At Mr. Newman's orchard, on the Lower Lachine road, this variety has come through satisfactorily, but his locality is favorably situated in having the open water of the Lachine Rapids, which has the effect of tempering the cold. McIntosh Red seems quite as hardy as Fameuse. It is important to know that our two most popular varieties are of equal hardiness and can be planted with equal hopes of success.

One peculiar feature of damage done to

* A paper read at the summer meeting of the Quebec Pomological and Fruit Growers' Society.

our trees has been the splitting and lifting of the bark of the trunk on the southwest side. This has been noticeable only the present season. The cause is that those trees, last year, seemed to recover somewhat from the effects of the previous winter and started to grow too late in the season. All trees thus effected were those that had made good growth in 1904, but had been slightly injured by the winter, and they were mostly

in cultivated ground. Trees of the same age in sod have not been much effected in the splitting of the bark of the trunk. This is another argument against too much cultivation, which in the province of Quebec induces too late growth. I have had so many surprises as to the far-reaching effects of the winter of 1903-4 that my confidence in successful orcharding in some localities has been considerably shaken.

Apples For Eastern Ontario

A. M'NEILL, CHIEF FRUIT DIVISION,
OTTAWA, ONT.

A correspondent from Carleton County, Ont., writes:

Our Ben Davis and Mann apple trees are dead, the Spy is dying, and the Pewaukee is showing signs of weakness. What winter apples would be the best to replace them?

As grown in Carleton County the Fameuse and McIntosh Red are at least early winter apples, and if the correspondent is growing for commercial purposes they will pay better than any other varieties he cares to plant.

For long keepers we could recommend Scott's Winter, Northwest Greening, and Milwaukee. It is quite possible that Wolf River will be hardy and will keep well into the winter. I would not recommend commercial orchards of these varieties.

Cherries Can Be Grafted

J. M. M'AINSH, WELBURNE, ONT.

IN the August number of The Horticulturist, page 294, I notice a question asked about grafting the cherry, and the answer is: "The cherry cannot be grafted so far as I know." I have grafted the finer varieties of cherry on the common red cherry, which, before the appearance of the black knot, was grown all over the country, and was usually propagated by suckers. I generally topgraft them. I do not find any

difference whether the tree is large or small, so long as it is vigorous and healthy. In any case, I only graft on small sized limbs, so that the larger the tree the more grafts will have to be put in. I do this work early in the season, just when growth begins, and cut the scions fresh from the tree. I graft them the same as I do apples, using cotton cloth saturated with common grafting wax and putting it around three or four times to prevent the wax from cracking.

Although cherries are not as sure as apples, yet I generally have more than 50 per cent. of the grafts to grow. Your correspondent says his trees were got from the fence corners two years ago and are thrifty and measure one and a half inches through the trunk. I consider such stock very fine to graft on, and if properly done I would expect all the way from 50 to 90 per cent. of them to grow.

Pruning and Spraying Trees

"WHEN trees are well pruned and well sprayed," said Mr. Joseph Tweddle, of Fruitland, recently to a representative of The Horticulturist, who visited his place. "they have a vitality which enables them to hold their fruit to maturity and prevents loss from winds.

Trees heavily loaded with fruit are not so likely to sway with the wind and to drop their fruit. Where pruning is well done it permits the sun to reach the fruit and results in the fruit being better colored."

FALL WORK IN THE STRAWBERRY PATCH

THOSE who have had experience in strawberry growing know how essential it is that the patch be kept free from weeds and in excellent condition during the first season. If weeds are allowed to go to seed they must be fought throughout the fruiting season or a greatly decreased crop will be harvested and more work is entailed in obtaining the diminished returns. The successful grower continues frequent cultivation until the growing season is ended.

Very few varieties of strawberries are capable of withstanding the hardships to which they are subjected during the winter and spring months in Ontario unless some protection is given. There are, however, winters when no covering is required, but it requires little time to add sufficient mulch each fall to ensure a healthy vigorous patch in the spring. Besides being an insurance, some mulch can be used which enriches the ground as well. It is not so much the heavy frosts which do damage to the plants; it is the alternate freezing and thawing of early spring when the snow has melted from the patch.

PUTTING ON THE MULCH.

The time to apply the mulch depends on the season. Most growers recommend putting it on as soon as the ground is frozen hard enough to carry the horses and wagon. In no case should it be applied before growth ceases. Different materials are used in different sections. Much depends on what can be obtained most readily. Straw horse manure is most commonly applied. It is an effective mulch and the ground is fertilized by the finer particles being washed in by the rains. Straw alone is sometimes used, while swale hay is excellent for protection but does not contain the manurial element. It is not wise to put on too heavy a covering. It should be worked in well amongst the plants in the bare places and sufficient on top to hide the plants. Light

straw could be applied in greater quantities than could some of the other mulches.

As a general rule the covering is removed in the spring as soon as danger of hard freezing is past. Bright sunny days and frosty nights are most disastrous. It is not wise to remove all the covering at once. The best plan is to rake the coarser parts of the mulch off the plants between the rows where a surface mulch is required to keep down weeds and conserve moisture during the spring and summer. Besides, a mat is afforded to the pickers while harvesting the crop and the sand is prevented from splashing on the fruit during rains.

Some growers apply a liberal mulch in the fall and leave it on late in the spring to retard the crop. With judicious mulching, covering the tops of the plants as well as the soil, the flowers and fruit can be retarded a week or 10 days. Care must be taken, however, not to leave the covering on too long or bleached weakly plants will result.

"I cultivate my strawberries frequently through the summer," said Mr. Wm. G. Horn, of Clarkson, "and always put on a mulch as soon as the ground is frozen hard enough to get on it with the wagon. Almost every enterprising grower in this section applies a mulch of some kind. Coarse straw horse manure is best. The finer manure helps to fertilize the soil while the straw protects the plants from frosts.

"In the spring when growth is nicely started I pull the coarser stuff between the rows to conserve moisture and serve as a mat for the pickers. The crop can be delayed some time by leaving the mulch on, but if left there too long the plants are injured."

"I use horse manure as it comes from the transport stables in Toronto for mulching my patch," remarked Mr. H. Pickett, another successful strawberry grower, of

Clarkson. "Some use straw and others swale hay, but I consider manure is the best because it enriches the ground and gives a

heavier crop. There are a few hardy varieties which do well in this section without mulching."

CARE OF PLANTS WHILE DORMANT

WM. HUNT, O. A. C., GUELPH.

THE tender pot hydrangeas such as Otaksa, Thomas Hogg, and similar varieties of these lovely summer decorative plants, should have their growth well ripened and hardened before the plants are consigned permanently to cool winter quarters in the cellar or basement. To secure this condition the plants should be left out of doors as late in the season as possible. It is not well, however, to expose the plants to more than five or six degrees of frost.

The plants can often be left under the shelter of a veranda or open shed until late in the season, so as to ensure a thorough ripening and a perfectly dormant condition. Less water can also be given them than in the summer, but at no time, either now or during the winter, should the soil be allowed to become very dry. Many of these and similar plants are often materially injured, if not killed outright, by drying them off too severely and for too long a time in winter. They should be kept in a dormant condition in a temperature of about 40 degrees until March or early in April. At that time the plants should be transferred to pots or tubs two or three sizes larger than the ones in which they have been.

Hydrangeas like a rich loamy compost to grow in, and plenty of water when growing and flowering in summer. They require very little, if any, pruning. Removing a few of the most prominent shoots so as to secure a shapely plant is usually all that is necessary. Prune, if necessary, in March or April, when repotting them.

A short period of dormancy, or semi-dormancy, is necessary for fuchsias and pot

roses if they have been kept growing all summer. About the same treatment during the resting period should be given them as recommended for pot hydrangeas. A fairly moist cellar is preferable for all of these plants rather than a dry furnace-heated atmosphere.

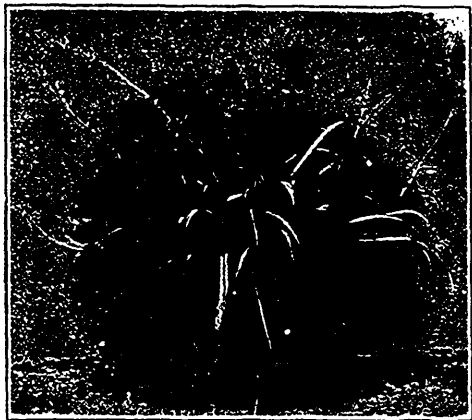
To keep oleanders successfully a light, fairly warm room, cellar, or basement is best. They do not come out in the best con-



Geranium Cut Back

dition if placed in a dark cold cellar or in a dry over-heated place. Oleanders are naturally moisture-loving plants. A temperature of from 45 to 50 and a moist atmosphere suits them in winter splendidly. It is advisable to sponge the leaves a few times during the winter with water, or soap and water.

Dahlia roots can be kept best in a temperature of about 45 degrees. These, also, do not like a dry, furnace-heated atmosphere, preferring a rather damp, cool cellar. The stems should be cut down to about six inches above the roots. The roots are very easily damaged by frost when exposed.



Anthericum Picturatum

A fairly dry cool place is necessary to keep gladioli bulbs successfully. Avoid putting them in a very damp cellar as it induces mildew and rot. A very dry cellar is not advisable for them. A dry basement, room, or cellar, where a temperature of 40 of 50 degrees prevails, suits very well. It is best to leave three or four inches of the flowering stem on the bulbs or corms for a few weeks after digging. I have kept gladioli bulbs successfully in a moist, cool cellar by stringing them to the joists in paper or cotton bags, or tied in bunches by the stems.

Old plants or stumps of geraniums, if not frozen too severely, can be taken from the bed or border, cut back and potted in sand or sandy soil and be kept through the winter with very little trouble. In digging, care should be taken not to break off the roots. Cut the top growth of the plant down so that only two or three inches of the base of the

shoots remain near the main stem, and shorten the roots a little if very long. Plant three or four of these stumps or roots in some sharp fine sand, or in half sand and half potting soil, in a six-inch pot. Water them well once and stand the pot away in a cool window or in a light cellar. One plant can be put in a four-inch pot or smaller if desired. Give them water only when the sand or soil is getting quite dry, more especially if they are put in the cellar. A temperature of 50 degrees suits them. If a large number of plants are wanted pack them closely in sand or sandy soil in boxes three inches deep, with holes in the bottom for drainage purposes. The sand or soil should be kept only barely moist, never wet or soddened. These roots or stumps can be potted at any time during winter or spring and will make fine bushy plants next season. They are frequently much better than autumn struck cuttings.

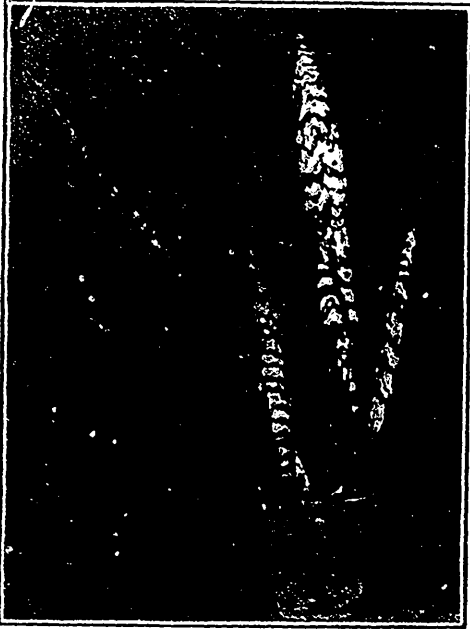
SOME FINE WINDOW PLANTS.

The *Anthericum picturatum* is suitable for window or house decoration in winter, and should be more commonly grown than it is. Its pretty variegated yellow and green leaves, together with its easy culture, makes



Impatiens Sultani

it one of our most desirable decorative plants for the window. It loves a warm shady position and a moist soil. There are two variegated varieties of this easily grown plant, but *Anthericum vittatum* is not as pretty as the *picturatum*. Young plants are produced, as seen in the picture, on the



Sansevieria Zeylanica

stolons or flowering stalks, and can be easily removed and potted.

Belonging to the same family as the common garden balsam, is *Impatiens Sultani* or Zanzibar Balsam, often erroneously called the Patience Plant. It takes its generic name, "Impatiens," from the fact that like the garden balsam it bursts its seed-pods in a very impatient manner before the pods are really ripe. Anyone who has attempted to

pick a pod of balsam seed in the garden before it seems to be mature can testify to the hasty impatient manner in which the seed pod bursts, scattering the seed in all directions. Unlike most common or local names the name "Patience Plant" is not at all appropriate.

A warm sunny position in the window gives the greatest profusion of the pretty rose-scarlet flowers. The magenta and salmon colored varieties of this plant also are very pretty and attractive. Under suitable conditions new plants are frequently obtained from self-grown seed.

Green Fly and Red Spider are the worst foes of this desirable window plant. Tobacco water for the Green Fly and a good sprinkling of clear water on the under side of the leaves for Red Spider are the most approved remedies.

Another pretty window plant seldom seen is the *Peperomia*. Its pretty silvery marked leaves look very effective in winter time. A warm shaded position in the window suits it best.

One of the best gas resisting plants we have for the house is the *Sansevieria Zeylanica*, or Bow-string Hemp plant. Although not of a graceful habit its tall spire-like silver-barred foliage is very effective in a collection of window plants. It will succeed best in a warm situation in the house away from the window, as its tough leathery leaves do not show the effects of dry atmosphere like other plants. It must be watered very sparingly, as over-watering or too frequent waterings will kill it unless it is kept in a very high temperature. It is a slow growing plant and requires very little pot room but plenty of drainage.

In the fall I always plow to the rows of small fruit bushes and grape vines to shed water away from the roots. In low ground

the frost is liable to heave the plants out in case this is not done.—(A. W. Peart, Burlington.

FALL CARE OF LAWNS

TO have a beautiful lawn through the summer special care must be taken in the fall. Close and frequent cutting during the warm months gives the best effect, but when winter approaches it should not be kept cut so close as it is well to have considerable growth for protection during the rigors of winter. If, however, it is allowed to become too long there is danger of it forming a close mat and damaging its own roots.

GOOD FERTILIZERS.

If the grass has lost its fine rich green color or is becoming thin in places, fertilizers are required. Most landscape gardeners recommend adding a dressing of some of the coarser fertilizers in the fall, while others use a quickly soluble one in the spring. A thorough dressing of rich cow manure in the fall is as effective as anything in producing the desired growth, but the unsightly appearance and rank odor prevent its common use. A fine compost is claimed to be equally effective and has not these objectionable features. Commercial

lawn fertilizers are suitable but very expensive. They are composed of salts of ammonia, soda and potash, and these elements can be secured for much less money in their unmixed state. Finely ground bone, fish, etc., being slowly soluble, may be used late in the fall or during winter when it will be washed down amongst the grass with the melting snows.

"We do not cut the lawn much after October," said Mr. E. F. Collins, of Allan Gardens, Toronto, to a member of The Canadian Horticulturist staff recently. "The grass should be quite a length before winter sets in so that the covering may protect the roots. If any fertilizers are to be used it is best to apply them early in the fall before frost comes so that they will have worked down through the grass and produce a rapid growth in the spring.

"The lawn should be kept perfectly clean. If rubbish is left lying around and leaves are allowed to collect, the grass is weakened in a few days and a bare spot frequently results."

Wintering Pansies

"**T**HERE are plenty of pansies grown," said Mr. P. Fogarty, of Fogarty & Sons, Pape Avenue, Toronto, to a member of The Horticulturist staff who visited his place recently, "but the large grower must have something better than the 'other fellow' if he hopes to find a ready market.

"Pansies like cool weather, and the best quality of bloom is always produced on thrifty plants late in the fall or early in spring. With a good strain, a nice clay loam, and plenty of work, it is not such a difficult matter to winter the plants and have an abundance of bloom before warm weather comes in the spring.

"We start the seeds outside and then set the young plants in cold frames four inches

apart each way. Some varieties come into bloom much more quickly than others. Our earliest usually show some bloom in the beginning of October and then others follow until the ground is frozen up.

"When cold weather comes the sashes are set on the cold frames to protect the plants. In case we have not enough glass to cover all the plants we spread straw over them. The straw is equally effective but gives far more work. In the spring as soon as fine weather comes there is a profusion of the finest bloom."

Let plants such as the calla lily rest until they show signs of growth and then shove them as rapidly as possible.—(A. J. Frost, Preston avenue, Toronto.

FALL AND WINTER CARE OF PLANTS*

E. F. COLLINS, PAPE AVENUE, TORONTO.

WITH the summer season over, the best method of saving the different roots and bulbs, and of keeping over some of the plants and flowers, which have given so much pleasure during the past season, becomes an important matter for the amateur gardener. The commercial florist or private gardener usually has a dry cellar or shed in which they may be kept free from frosts, but the amateur is often at a loss to know how to winter his plants safely.

Let most plants, such as dahlias, cannas and gladioli have a touch of frost before disturbing them. Then, after a few bright sunny days, the stems will begin to dry up. No set time can be made to cut them down as all depends on the weather. Usually about the middle of October they may be cut down to within six inches of the ground. Care should be taken to label the different kinds, or if the name is not known the color may be marked. The work is made much more interesting in the spring if you can tell what varieties have kept best. Besides, if you wish to exchange specimens with your friends, half of the pleasure is lost if you cannot tell the names or color.

To keep cannas or dahlias, dig them up on a dry day and shake off most of the soil, taking care not to break off any of the tubers. Place them one root deep in a box or something which can be moved about easily. If the weather is fine leave them outside in the sun during the day for a week or more. That will ripen the skin and dry up any bruises which may have been made in them, as where there are bruises is where they will start to decay. Thorough drying lessens that danger. After they are well dried, and before they start to wilt, they should be packed fairly tightly in boxes in a single layer (not one on top of the other) and some dry sand or soil should be shaken

between them and on top, to cover the tops of the tubers. Then they can be put in some place where the thermometer stands about 40 degrees all winter. The great secret is to have them remain dormant and that is accomplished by a low temperature, a perfectly dry atmosphere, and having them well ripened before storing. The lover of flowers is often in too great a rush to put the bulbs away instead of giving nature a chance to ripen them.

Dahlias are more easily kept than cannas. Many of the newer varieties of cannas winter very poorly, especially if the tubers are not properly developed. If there are varieties which you are short of and want to increase, dig them up and put them in pots or boxes which will just hold the roots and give them a good watering. Place them outside in the sun each day while the temperature remains about 40 degrees, and do not give them any more water, as they should be perfectly dry. Most of the old growth will have dried up and they can be cut off about four inches from the base. Numerous green shoots will be seen starting up from the roots. If they are kept dry and near a window in the cellar or any cool place they will remain quite plump and green, but will not grow until spring. About March they may be cut in small pieces and planted. Nature will do the rest.

Gladioli may be dug and tied in bunches, but care must be taken not to cut any of them, as it is much better to let the stems dry off. If hung up in a dry place the corms can be very easily pulled away from them during the winter and stored in a cool place.

Tuberous begonias must not receive more than a very slight frost—just enough to wilt the foliage. When dug, most of the soil which adheres to the fibrous roots should be shaken off and the tubers packed

* A paper read at the October meeting of the Toronto Horticultural Society.

fairly tightly in boxes. The tops must be allowed to shrivel. They should never be cut off. If placed in a cool dark corner and kept dry they remain dormant until brought out in the spring.

Sometimes it is desirable to keep over a few favorite geraniums for the next summer. If placed among the other window plants they look unsightly during the winter. The best plan is to put them in pots or boxes just large enough to get the roots in, and give a thorough watering. If put outside in the sun each day and allowed to become perfectly dry all the leaves drop, the outer tissue becomes dry and the color changes to brown. Before frosts come during the daytime stop putting them outside but place them near a window and away from furnace heat. If not given any water they will remain dormant until spring. When growth is wanted they should be watered about once a week at first and placed in a warm room. In a short time new shoots come. Then the

plants must be cut back severely to get the growth from the bottom. Plants treated in this way are much more suitable for setting out than those kept growing all winter.

The hydrangea is another plant which the amateur often tries to keep growing during the winter when it should be at rest. If the plants are outside let them remain there until there is 10 degrees of frost. In the meantime water them only when they are wilting. By gradually withholding the water you are assisting nature to ripen the wood and causing the leaves to drop. This encourages the development of buds for next season's growth. After the plants are perfectly dry and have lost most of the foliage, lay them in a box in a dark corner of the cellar and cover with dead leaves. This keeps them from drying out and also prevents growth. In this way nature is assisted in storing and retaining all the vigor in the plant, and in the spring when the warm weather comes and water is added growth begins and flowers come readily.

Mealy Bugs on Coleus

PROF. H. L. HUTT, O. A. C., GUELPH.

What is the best treatment for lice on foliage plants? They are not the green lice, but are oblong and flat and of a whitish grey color. I have tried tobacco smoke and soapsuds, but they were not effective.—(A. J. M. Ratho.)

By the term "Foliage Plant" I suppose you refer to the Coleus. This plant usually goes by the name of Foliage Plant on account of its beautifully variegated leaves. The Coleus is frequently infested with small insects of a whitish color, known as Mealy Bugs. If they be examined closely it will be found that the insects themselves are very small, but they secrete waxy scales which give them a mealy appearance, hence the name Mealy Bug. This waxy cover serves the purpose of protection, and makes it difficult to destroy them by smoke or caustic solutions.

The best means of getting rid of the insects is to begin with fresh cuttings and exercise great care that none of the insects get a start on them. They will usually be found hidden in the axils of the leaves, and before they develop the waxy covering they are so small that it requires close observance to detect them. When they are present on young cuttings, the best way to get rid of them is to brush them out of their hiding places with an old tooth brush or other stiff brush, which should be first dipped in strong soapsuds. It is hardly worth while trying to save old plants which have become badly infested.

Do not crowd blooms for exhibition too closely. Each flower should be seen singly when arranged in the vase.—(Wm. Hunt, O. A. C., Guelph.)

THE DESERONTO COMPETITIONS

FEW horticultural societies in Ontario have been doing better work than has been done by the Deseronto society during the past year. The aims of the society, "to cultivate and improve the taste for flowers, plants and trees, and to assist the citizens in beautifying their homes by increasing their knowledge of plant life," have been nobly carried out. The society made valuable distributions throughout the year of seeds, bulbs and plants for spring and summer planting, and again in the fall for house culture. Then a creditable flower show was held on September 13.

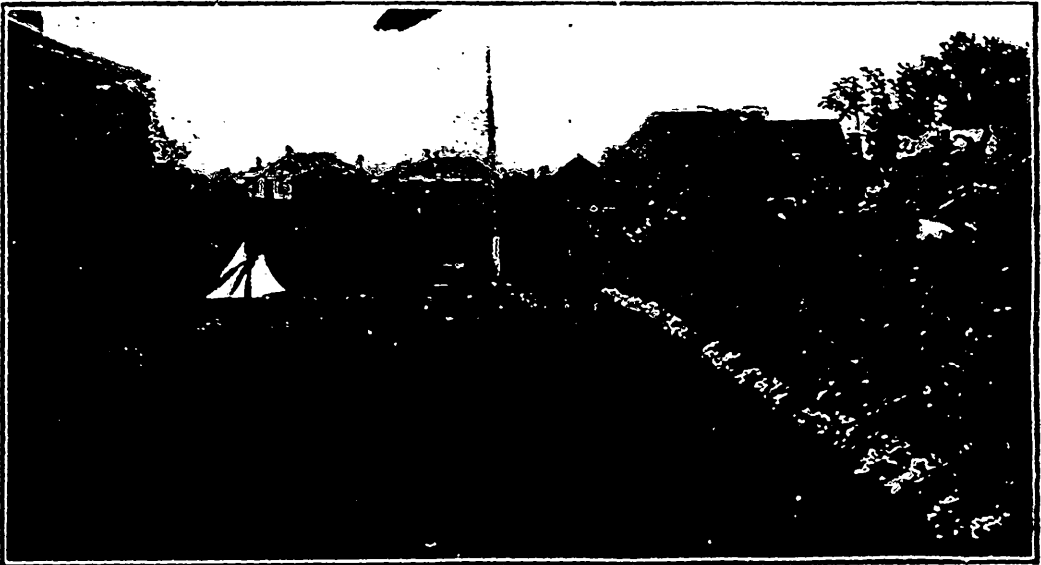
But this was not all. Four competitions in well kept grounds were held. These were: Best kept grounds, professional; well kept grounds, exceeding one town lot, amateur, with assistance; well kept grounds,

can boast of as many beautiful lots as any town of its size in Ontario.

Some of the contestants were handicapped in not having as favorable location or natural conditions as others and found it difficult to make the lot present a pleasing appearance to the passerby. Some, which would have stood near the top as beautiful gardens, could not be placed high because the effect from the street was not good.

The judging was done by Mr. E. F. Collins, of Allan Gardens, Toronto, to the satisfaction of all. He reports that the placing was rendered very difficult owing to a lack of uniformity in size.

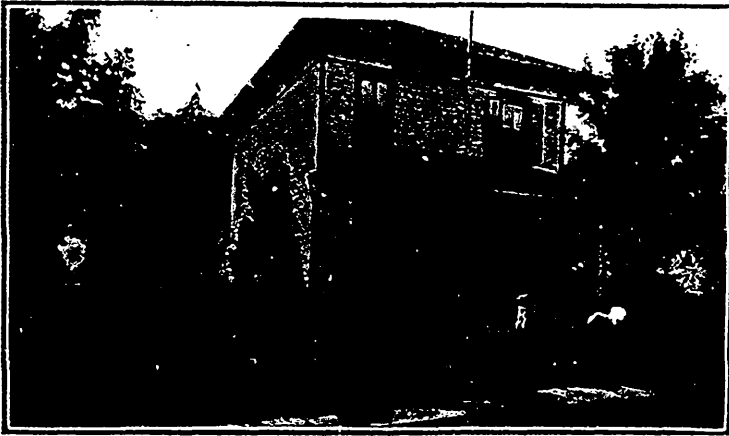
First prize went to Mr. D. R. Jones, whose lot was favorably laid out for beautifying. It had a strong advantage in the contour of the land and in having the house



First Prize Garden, Owned by D. R. Jones, Deseronto, Ont.

not to exceed one town lot, amateur, with assistance; and well kept grounds, not to exceed town lot, amateur, without assistance. In each case handsome prizes were offered. Special interest and enthusiasm was manifested in the competition between amateurs without assistance, and as a result Deseronto

to one side, so that an excellent view was presented to persons passing on the street. "Mr. Jones had a grand collection of plants, and his grass was in fine condition," said Mr. Collins. "Dahlias were most prominent among the flowers, while the tall-growing asters, gladioli, zinnias and



Second Prize Garden, Owned by D. McClew, Deseronto, Ont.

geraniums were also beautiful. The general effect was good and everything was neat and clean."

Second prize was awarded to Mr. D. McClew. "This was a beautiful lot," said Mr. Collins, "but the general effect from the street was not so striking. The bedding plants were fine but more sparse in the beds than many of the others. The most prominent flowers and plants were gladioli, dahlias, tuberous begonias, asters, sweet peas and nasturtiums."

cover fences and unsightly places, and in doing this Madiera vine, nasturtiums, sweet peas and all growing asters were used to good advantage. Besides these there was a fine collection of dahlias, tuberous begonias and other plants."

Many societies in different parts of Ontario could profit by copying some of the features which the Deseronto members have found to be so successful. The distribution of seeds, bulbs and plants is good, and flower shows create an interest in horticultural work, but competition in lawns and



Third Prize Garden, Owned by H. E. Parks, Deseronto, Ont.

Mr. H. E. Parks secured third prize. "For back yard effect," remarked Mr. Collins, "this was simply perfection. The effect, however, must be for the public. The side entrance was not as nice as some of the others. There was a good effort made to

garden flowers for the beautifying of the lots does infinitely more to impress the stranger with the beauty of the town, and if a few are enthused in this way others copy from them in order that their lots may look as beautiful as the one beside it.

FALL PLANTING OF ROSES

FALL planting of perennials and some of the shrubs is becoming more common every season. Many of the most successful amateur horticulturists report less loss from fall than from spring planting.

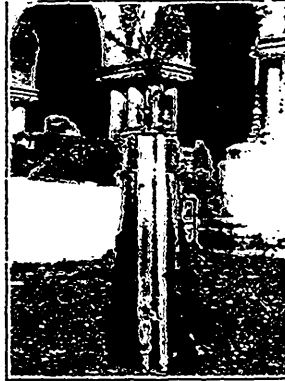
"I prefer to set out my roses between October 20 and November 10," remarked Mr. H. Spencer Case, of Hamilton, who always has a fine collection of plants. This leaves them plenty of time to become established before the ground is frozen up, and when spring opens the roots and canes are full of sap. The result is I get a good crop of bloom the first season.

"If put out in the spring there is a heavy strain on the bush for two or three weeks, and it does not make good growth. I have tried planting both seasons and had a lower percentage of dead bushes and more perfect bloom from the planting done in the fall.

"I always protect my roses with a straw mulch," continued Mr. Case. "In September or October I give a light pruning, cutting off about one-third of the cane to give a finer appearance and make the wood ripen better. Then before winter has set in, straw is put around them to a depth of about six inches. Some of the tenderer

specimens receive extra protection by having the straw laid up around them.

"I have tea roses, hybrid teas, hybrid perpetuals and such tender varieties. They are all kept outside the year through and I do not lose two bushes a year."



Ready for Winter

Now and again some enthusiastic lover of shrubs wishes to grow some tender specimens. In this case special means of protection must be resorted to. Some-

times the bushes are laid down and covered; other gardeners wrap them with long straw; while others put empty barrels over them and fill in around the shrubs with dry leaves or straw. The accompanying illustration shows a tender specimen protected by leaves held around it by a rack. This method entails considerable work, but is successful if done after the wood is ripened and before heavy frosts come.

Potting Soil

WM. HUNT, O. A. C., GUELPH.

THIS is a good time of the year to make a pile of potting compost. Sod, about four inches in thickness cut from a pasture field or by the roadside where the soil is of a loamy nature, makes the best basis for a good potting soil for plants. Avoid taking the sod where couch or spear grass is growing. Stack two layers of the sod with the grass side downward, cover this with a layer of cow manure or well rotted stable manure to a depth of five or six inches.

Continue successive layers of these materials until the pile is large enough. Make the pile in the open not under cover. Cover the pile with some brushwood to keep off chickens and animals. It will be ready for use next May or perhaps earlier.

If a man goes into tomato growing on a large scale there is more money in growing them for the canning factory than for any other market.—(W. A. Best, Picton, Ont.)

I depend on thorough cultivation, heavy pruning and plenty of fertilizer to give me returns.—(J. M. Metcalf, Grimsby, Ont.)

FORCING TOMATOES

THE forcing of tomatoes for commercial purposes has been receiving considerable attention in different sections of Ontario during the past few seasons and an increasing demand is causing the growers to erect greenhouses each year. As the best market is found during the Christmas holidays and from then until Easter a special effort is made to have the crop ripe shortly before Christmas.

In Bulletin No. 231, Cornell University, Ithaca, New York, matters in connection with forcing tomatoes are dealt with by Professors Craig and Humm. It is of the utmost importance that a suitable size and perfect shape be obtained. Sales are usually made at a high price and the consumer orders a definite number of fruits rather than a specific weight. Tomatoes of irregular shape are unattractive, and if large the cost would be too high, as they are served one to each individual. Therefore, it is necessary to have them of moderate size and as uniform as possible.

After four years testing at Cornell, several varieties have been found which are adapted to forcing. The characteristics mentioned as being desirable are: slow stocky growth; healthy, but not heavy foliage; a habit of forming the first cluster of buds near the base of the plant and a protruding stigma capable of setting fruit with a minimum amount of pollen.

BEST VARIETIES FOR FORCING.

In many respects the English types of tomatoes have proved to be far superior to those of American origin. They set fruit more readily in dark weather: they grow the fruit in clusters, ripening the full cluster within a short period, and they continue growing considerably longer. Among the most satisfactory American varieties are Lorillard, Mayflower, Combination and Pepper. For general midwinter forcing Lorillard and Combination (American), and

Frogmore and Holmes' Supreme (English) are mentioned as being the four best.

Too copious watering before dull weather brought on a yellowing and spotting of the leaves which considerably checked the growth. The White Fly caused trouble, but was controlled by fumigation with hydrocyanic acid gas, using potassium cyanide 0.8 per cent. strength and a 66 per cent. solution of sulphuric acid with a small quantity of water. Experiments with different strengths and under different conditions showed that damage was done when the fumigation took place in daylight or when the houses were very damp. Safe conditions are stated as absolute darkness, a still air, a temperature below 60 degrees, and a dry house. Fumigation once each month with one ounce of potassium cyanide, two ounces of sulphuric acid and four ounces of water to each 1,000 cubic feet of house space will keep down the fly. Great care should be exercised in using this gas as it is sure death to all animal life.

In different parts of Ontario growers force a few for the winter market. "I like to have a few tomatoes ready for market before Christmas," said Mr. Jas. Gibbard, of Doncaster, to *The Horticulturist* recently. "The seed is started outside and as soon as the plants are large enough to handle I set individual plants in old strawberry boxes. By August they are about six inches high, and early in that month I transfer them to the greenhouse.

"I prefer planting them on ground benches in about eight inches of rich soil made from sod and well rotted manure prepared the previous fall. As soon as the plants begin to lop over I string them up. Some stake them with laths, but I find the stringing much less expensive.

"All side shoots must be kept nipped off, leaving only the terminal. If this is not done there would be too much top for the

roots and a small crop of fruit would result. Careful stringing and continual trimming gives fruit in greater quantity and better quality.

"The Green Fly and mildew are very troublesome in forcing tomatoes. Fumigation with tobacco keeps the former in check, but there seems to be no cure for mildew if it becomes established. Sulphur will check its spread, but the main thing is to keep the plants dry and maintain a free circulation of air. Water should never be used unless

Keeping Potatoes

MARKET gardeners will be anxious to learn some of the methods adopted by Mr. Wm. Naismith, of Falkenburg, who has won first prize for collection of potatoes at the Toronto exhibition for 14 years in succession. Mr. Naismith went into Muskoka years ago to clear a plot of ground on which to make a living. As the land is specially adapted to the growing of roots he has gone into that line extensively. Particular attention has been given to potato growing and he has originated some new varieties. His success is due in a great measure to the care given to the selection of seed. His method of storing is inexpensive, and the potatoes always come out in fine condition in the spring.

"When digging my potatoes," remarked Mr. Naismith, "I always select those specimens which come near to my ideal for size and shape. These are kept for seed the following spring. This is the best and surest way of raising the standard.

"The potatoes are always stored in pits, or, perhaps, better called dig-outs. By putting the pit in the south side of a bank, about 25 bags in a pit, very little covering is needed. I put up a frame work to keep the dirt away from the potatoes. The pit is filled to within about one foot of the ceiling. Then six inches of hay or straw is

the sun is shining brightly. I always make it a point to do the watering in the morning. If the weather is cloudy no harm will be done to the plants if they are left for four or five days at a time.

"If the beds are well attended to and the weeds kept down the fruit will ripen by Christmas or earlier. There is always a brisk demand from the holiday season until April, but in May and June the market is flooded with the crop grown outside in the United States."

put on to take up what moisture comes from the potatoes. The six inches of straw and six inches of air space along with a foot of earth prevents any injury from frost. I have always used this storage and have first-class seed in the spring. The potatoes never sprout and remain perfectly solid."

Cauliflowers Do Not Keep

THE cauliflower, though commonly grown in Canada, is not usually stored with success. Though belonging to the same class of plants as the cabbage, it is very much less hardy and is very sensitive to adverse conditions. The crop ripens very irregularly and frequently a large percentage remains immature when frosts come.

Some growers recommend digging up the plants and putting them in cold frames until they mature. This, however, means much work and few growers care to go to the trouble. In ordinary storage mature heads do not keep longer than Christmas, and in most cases those that are not disposed of before then are lost.

"I stored cauliflower only once to make any profit," said Mr. Jas. Dandridge, of Humber Bay, to *The Horticulturist* a short time ago. "That time they were pulled before frosts came and stored in a long pit. I dug a trench about 18 inches wide and

deep enough to stand the cauliflowers on end. In this trench the cauliflowers were placed heads upward as tightly as they could be packed. Cross pieces were put over the top and a light covering of boards put on until frosts came. As soon as the cold weather set in a covering of coarse manure was added.

"If they are pulled about November 1 and special care given they may be held until about Christmas, but a slight frost damages them and rot soon sets in. It is not advisable to try storing many. They should be sold before winter sets in if possible."

Fall Work in the Garden

MOST gardeners and fruit growers have general work completed by the early part of November, but there are always a few days after that time when much can be done to make less work and better conditions for the following season. No diseased leaves or roots of plants should be left on the garden to carry the diseases over for the succeeding season. Rubbish of any kind on the garden or along fences or buildings near by serve as desirable hiding places for insects during winter. Therefore, clean up before snow comes.

The market gardener who has to start many plants in hot beds should make full preparation for early spring work now. The hot beds and cold frames can be left in such shape that very little time is lost in getting the seeds or plants into their places at the proper season. The garden should be fall plowed and left to the mellowing influences of the weather during the winter months.

"I always plow in the fall if I can find time," remarked Mr. Jas. Dandridge to *The Horticulturist*. "There are many reasons for doing this. Cabbage leaves, carrot tops, and all such vegetable matter are turned under and incorporated with the soil to act

as manure the following spring. Weeds, too, which come late in the season are destroyed. Besides, it puts the land in better condition for the spring work. When plowed again after the warm weather has come it makes a nice mellow seed bed for garden crops."

Results From Fertilizers

I HAVE been using commercial fertilizers for 20 years," said Mr. Earl Spencer, of Picton, to a member of *The Horticulturist* staff who visited his place, "and I find that four times out of five the best crop is harvested from the soil which has received the most fertilizer. I used to use compost in celery trenches, but one season ran out of it and used another fertilizer. It has been a good thing for me that I was forced to do this.

"I can get as good or better results by giving a liberal coat of manure in the fall and working it in well and then applying some commercial fertilizer in the spring. It entails far less labor. Nitrate of soda gives big returns, but it must be applied by an experienced hand and only to the soil. If any of it touches the plant the foliage is burned. This season I destroyed a patch of melons by its use. Another objection to its use is that its effects are not noticeable after about three weeks. Other fertilizers made up of different ingredients last for three years or more, but the best returns are found the first season.

"From my experience I recommend the use of some fertilizer with small fruits and vegetables, and I have found that the best is the cheapest in the end."

A garden crop should be cultivated whether it has weeds or not.—(W. A. Best, Picton, Ont.)

I thoroughly enjoy reading *The Canadian Horticulturist*.—(Norman Gill, Berlin, N. H.)

The Canadian Horticulturist

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FREE TRADE OR AN EQUAL TARIFF.

The vegetable growers have decided that their plea before the tariff commission will be free trade or an equal tariff. In deciding to ask for an increase in the duty on only those vegetables that are the most largely produced in Canada and for only such an advance as will protect the Canadian grower without preventing the importation of such vegetables the officers of the Ontario Vegetable Growers' Association have acted wisely.

Many growers favored an increase in the duty on such vegetables as asparagus and melons. While an increase in the duty would be of great assistance to some producers the number is so limited while the consumption of such vegetables is so general strong opposition to such an increase would be aroused. This opposition would weaken the whole case of the growers and might result in their failing to gain an increase in the duty on the more important vegetables such as cabbages, cucumbers, tomatoes, etc.

The cry of the growers for free trade or an equal tariff is a just one and should strike the

public and the commission as such. The people of the United States are devoting more and more attention to the matter of free trade with Canada. In the demands of the vegetable growers they can find no reason for further reprisals on their part. This move of the vegetable growers is really in the direction of ultimate free trade.

THE HORTICULTURAL EXHIBITION.

In the Ontario Horticultural Exhibition the fruit, flower and vegetable growers of the province have a great opportunity. No better means of advertising the horticultural resources of Ontario than this exhibition could be devised and with proper management it should result in an increased demand for these products. The educational features, also, are of great importance.

This year four conventions will be held in connection with the exhibition. For these conventions several of the most noted speakers on the continent have been secured. Arrangements have been made for thorough discussions of the various subjects dealt with and nothing but good can result. With the prestige gained from last year's show and the benefit of having Massey Hall for this year's effort the exhibition this month should prove a credit to the province. It will mean dollars in the pockets of those fruit, flower and vegetable growers who are able to attend.

SUCCESSFUL COOPERATION.

The success which this year has attended the work of the various cooperative fruit growers' associations in Ontario is most gratifying. The old associations at Chatham, Forest, Walkerton and other points have disposed of their apples in bulk at thoroughly satisfactory prices as have also the two new associations at Oakville and Thornbury. In most cases the apples have been purchased by British importers. In this way the growers who belong to the associations have saved the commissions of the dealers on this side who buy most of the crops.

The number of British commission firms which each year send representatives to Canada to contract for fruit is rapidly increasing. These men are glad to have the opportunity to purchase in bulk which the associations afford. Were there more associations in Canada it would soon be possible for most of our apples to be forwarded direct from the storage house of the associations to the importers and possibly to the retailers in Great Britain. This would mean a great saving to the grower and better satisfaction on the part of the purchaser. The natural growth of the cooperative movement is in the line of an increase in the number of these associations.

I consider *The Horticulturist* a vastly improved paper and feel sure that it will do much towards bringing the industry of fruit growing before the public.—(R. F. Robinson, St. Catharines, Ont.)

ANALYSIS OF CANNED GOODS

In the laboratory of the Provincial Board of Health for Ontario an examination was made of the various canned vegetables, fruits and jams put up in the province for the purpose of finding out whether poisonous metals are present, whether adulterants or preservatives are used in their preparation and whether there is any reason for the prevalent opinion that the use of canned goods is injurious to health. The results are given in the annual report recently submitted to the legislature.

Peas from four factories were examined. Traces of copper were found in only one sample. Four showed traces of zinc. No adulterants were found, but starch was used in two cases to thicken the menstruum, with what object could not be determined, as the pasty mass was not inviting in appearance and did not improve the flavor. Three specimens contained cane sugar, five dextrose and one common salt. Sugar and salt improve the flavor of the peas. One canner had evidently sprouted his peas, making them very sweet and tender and increasing the bulk so that only three-fourths as many were required to fill a can.

Four specimens of tomatoes from as many canneries showed traces of copper and three showed zinc, but not enough to be harmful. The juice was very acid, but no tin was found as expected. Evidently nothing but salt had been added to the contents.

Three cans of corn from three different can-

neries showed an absence of poisonous metals, except one, in which there were traces of zinc. The cans were quite discolored, and one was so rusted that particles of metal adhered to the corn.

All the canned raspberries were of poor appearance, especially the white varieties, which had been treated with a purple dye. Three showed traces of zinc and two of tin. All were acid and had been preserved with cane sugar.

Three specimens of strawberries looked well and were of fine flavor. No coloring had been added. Traces of zinc were found in three and tin in two.

Two cans of plums looked well and were of good flavor. Both showed traces of tin. They were more acid than the raspberries or strawberries. Although enough specimens were not examined to draw any general conclusions nothing out of the way was found in any of the canned fruits.

The jams were all made up, a filler, probably apple, having been used. Many cans, labelled "true fruit," "absolutely pure," etc., contained very little real fruit, the balance being filler, coloring, flavoring and sugar. They were all of the ten cents a jar variety.

Salicylic acid as a preservative was not found, nor gelatin which might be used for thickening. Cane sugar was used throughout, though glucose may have been added. The coloring matter was apparently of the aniline dye variety.

Bulletins and Reports

Bulletin No. 101 of the Maryland Agricultural Experiment Station, gives the life histories and remedies for common injurious insect pests of that state. The woolly aphis, the round headed borer, the San Jose scale and many others are treated in full. Many illustrations show the different stages of the insects and the work they do. Several pages are also devoted to beneficial insects and insecticides.

A report of the forty-first annual meeting of the Nova Scotia Fruit Growers' Association, a copy of which has reached this office, contains many instructive addresses and discussions.

The seventeenth annual report of the Hatch Experiment Station, of Massachusetts, contains much that is of interest to fruit growers. Experiments with apple pomace show that it is practically equal to corn silage in feeding value pound for pound. A series of experiments and special studies in pruning is being carried on. Peach trees left unpruned for nine years are less thrifty than those pruned. Heading back, summer pruning and pruning to renew frozen trees are each being tested, and definite information will be forthcoming in an early report. In pruning to renew frozen trees the result so far shows that a greater percentage of the trees moderately pruned are in better condition than those not pruned or those heavily pruned.

Like good wine The Horticulturist acquires quality with age.—(Auguste Dupuis, Villiage des Aulnaise, Que.

Should Have a Certificate

A FRUIT GROWER.

While at the St. Louis exposition I noted that Canada made a very fine display of fruits, Ontario's apples for export winning in the first class. Canada was only awarded one grand prize for its installation and one grand prize for the collective exhibit of fruits. Not the least mention was made of the growers who sent the fruits. This is not very encouraging. The commissioners refused to make entries for provinces, horticultural societies, or growers. They said that it was a Dominion not a provincial exhibition, and one even said, were he pressed to act otherwise, he would resign his position.

Shall the fruit growers of Canada unite to force the federal authorities to have their merit recognized at future international exhibitions? The subject should be discussed by fruit growers' associations. Our industry deserves as much advertisement as others and even more, considering all the difficulties caused by climate, insects and diseases. Every state in the union received hundreds of prizes. Entries had been made for each fruit grower exhibiting fruits. Compare our position with theirs. It is humiliating for us. It does not repay the trouble of the careful selection of fruit sent to St. Louis.

I think a great deal of The Canadian Horticulturist and would not like to be without it—(W. M. Turnbull, Galt.

LINES OF WORK FOR HORTICULTURAL SOCIETIES

The matter of spending the society funds to best advantage requires considerable attention by the executive committees of the different horticultural societies. The best hints can be obtained by reading the reports from the most successful societies. The secretaries of many societies have sent *The Horticulturist* their views as to what work is liable to result in most good to the members and to the citizens. The distribution of seeds, plants and bulbs is recommended by all. All advise sending some horticultural paper to the members, and all except one prefer *The Horticulturist*. Garden and lawn competitions, flower shows, addresses by authorities on suitable and seasonable topics, and other similar lines of work are taken up by different societies.

The work done by the *Deseronto* society, and outlined and illustrated on pages 432 and 433 is worthy of emulation. The *Stratford* society has become famous for its annual exhibition. *Guelph*, *Simcoe* and a number of others have made excellent progress by working through the school children and in this way getting the parents interested.

In different societies different methods must be adopted. The directors of the society should study what is most needed in their town and then decide what is the best and most satisfactory means of obtaining that need. If the lawns and front gardens are in poor shape, lawn competitions should give good results. If few flowers are grown, the distribution of seeds and flower shows might be most desirable. In most cases, however, energetic societies can manage to combine two or more features in one season.

In the past the good work of some societies has been detracted from by having fruit and vegetables shown with the flowers. In these cases trouble has been caused through the fruit and vegetable exhibitors having scoured the country to secure a collection of the best that could be found in order to win the prize. When prizes are not given the exhibitors are not encouraged to show crops grown by others, but many reports say that where money prizes are not given the same enthusiasm is not displayed. In some cases the absence of prizes has caused a dearth of exhibitors.

The secretary of a society in western Ontario which has been doing fine work for eight or nine years writes: "We hold a two-day exhibition of plants, cut flowers, fruit and vegetables each fall, at which premiums are awarded as stated in the prize list which is published in April or May. Competitions in gardens, in which the decorative effect from the street is made a leading feature, are held, and prizes are given for lawns from which fences have been removed, and for boulevards. Besides, each member receives seeds or bulbs, or both, with a request to exhibit flowers from them at next year's exhibition.

"These flowers are called for in the prize list and premiums are awarded. This year we are giving sweet pea seeds in six varieties and a parcel of mixed flowering tulips. The peas will appear in next year's prize list, and the

tulips are a new departure that we expect will be appreciated. We also have had addresses on horticultural subjects.

"No charge is made by the society for the competition in gardens or lawns. Admission to



A Grand Old Man.

readers for *The Horticulturist*. Such devotion to a society should encourage the secretaries of other societies, and explains, in part, why *The Horticulturist* is steadily increasing in influence. The illustration shows Mr. Barker. The *Kincardine* society has been in useful activity for about eight years. It was organized with only 15 members, at which time Mr. Barker was chosen secretary and treasurer. The society has 126 members, and Mr. Barker still serves as a most efficient officer in the same capacity as at the start. Mr. Barker has been the clerk of the Division Court at *Kincardine* for 40 years. He declares himself a lover of flowers from his earliest recollection.

the lectures is free and competitions are open to citizens. The exhibition has resulted in the most good, but all combined have helped to maintain a good, strong society."

Mr. R. Walter Brooks, secretary of *Brantford* society, says: "Our society, had it continued only the old annual exhibition for fruit, flowers and vegetables, would have ended in complete failure. This year we had a new departure. In the first place we gave our members *The Canadian Horticulturist*, which I think is almost a necessity. Secondly, we distributed to the school children about 6,000 packages of seeds, consisting of asters, verbenas, phlox, scabiosa and salpiglossis. Thirdly, we had a very successful exhibition. Mr. Hunt, of the O. A. C., *Guelph*, said it was the most beautiful lot of asters he ever saw.

"There were about 500 entries, for which we gave 119 prizes in plants, consisting of araucarias, palms, ficus and ferns. Each exhibitor also received a hyacinth bulb. Everything in regard to the exhibition was free and there was great enthusiasm among parents and children. It is great encouragement for us as we have had a hard pull to get members this year, but I have great promise for next year. People want to know how so much can be done for nothing. The only answer is, avoid unnecessary expense and purchase plants for prizes in the best market."

WHAT THE SOCIETIES ARE DOING

The North York Horticultural Society held an exhibition at Newmarket in conjunction with the York County agricultural show. Twenty departments were well represented. Entries in flowers totalled 197, while in plants there were 56 competitors, and in the children's department 223. The show was a decided success.

FINE SHOW AT HESPELER.

Good work has been done during the summer by the horticultural society at Hespeler. In the spring over 200 geraniums and coleuses were distributed among the school children, with the understanding that an exhibition would be given in the fall for the best plants. Interesting and practical instructions regarding the care of the specimens were given at that time by Mr. Wm. Hunt, of the O. A. C., Guelph. In reporting the exhibition Secretary Davis says that the quality of the specimens at the exhibition showed that these instructions had been well followed. About \$50 were given in prizes and the plants were judged by Messrs. Bryce and Lane, of Galt. Four long tables were filled with plants, cut flowers and fruit, while many exhibitors had to place their entries on the floor.

In the evening Dr. A. Ochs called on Mr. Geo. Pattinson, M.P.P., president of Preston society, who declared the exhibition open, and pointed out some of the benefits of the society to the members and to the community.

The president, Mr. David Rife, presided at the evening program, when over 400 visitors enjoyed short addresses and vocal and instrumental music.

TORONTO'S OCTOBER MEETING.

A report from Mr. Chas. E. Chambers, secretary of Toronto Horticultural Society, states that an interesting meeting was held on October 3. "The fall care of plants" was taken up by Mr. E. F. Collins, and Mr. Herman Simmers gave an interesting and instructive address on "Bulb culture." A resolution was passed expressing sympathy with Mrs. Tyrrell and her family in the death of her husband, Mr. Edward Tyrrell, who was for many years associated with the society both as president and director.

PETERBORO'S COMPETITIONS.

The Peterboro society during the past season endeavored to encourage the beautifying of the home surroundings. Competitions were arranged for those who paid for all the labor, for those who paid for part of the labor, and for those who did all the work themselves. The taste and skill displayed has proved to be worthy of imitation and those who competed this year are benefactors to their fellow citizens. Barren and unsightly places have been changed into beautiful gardens. In awarding the prizes the judges did not place those which were most extensive first. Natural conditions were taken into consideration and awards were made according to the skill shown in working under adverse circumstances and producing good effects. The prizes were awarded as follows: Class I, all done with paid labor: A. L. Davis, 1, Hon. J. R. Stratton, 2; Mrs. Wm.

Hamilton, 3. Class II, partly home and partly paid labor: Adam Hall, 1; Mrs. Kilgour, 2; Thos. Tucker, 3. Class III, all home work: Mrs. Thorndyke, 1; George Elliott, 2; James Stevenson, 3.

The energetic directors are planning for good work next season and have distributed 8,000 Dutch bulbs for fall planting and 7,000 tulips among the members of the society.

The Smith's Falls Horticultural Society owes its origin and successful existence largely to the energy and work of Dr. J. S. McCallum, who has filled the position of president since the formation of the society, nine years ago. The Doctor is a many-sided man, and is chairman of the town's finance committee, and has served many years on the board of education, part of the time as chairman. The society has a membership of over 100 of the most intelligent people of the community, and is doing a good work. Some years ago the society induced the corporation of Smith's Falls to lease from the Dominion government a few acres of rough, broken land along the Rideau canal. This has been reclaimed, filled and made into a lawn, with shrubs, flowers, etc., furnishing a good object lesson in horticulture and an agreeable breathing place in summer for the citizens.



DR. J. S. McCALLUM.

is a Good Work.—To my mind, one of the best things any horticultural society can do is to get in touch with the principal of the public school in the town or district, and arrange with him for a distribution of plants among the school children, thereby getting the young people interested in flowers, etc. This is one of the best ways of bringing to the front the finer and better feelings in a person; the same applies to adults. The more a person studies flowers, etc., the more refined and considerate that person becomes.—(R. Davis, Sec. Hespeler Horticultural Soc.

Exporting Apples.—We are very often likely to taste an apple and say that is a good variety. It would take thousands of dollars to put some of our varieties on the market. I can mention a dozen varieties that are better than those we are placing on the English market, but it would take tens of thousands of dollars to place these varieties there. Shipping qualities should come first, then the keeping qualities, then the appearance and finally this last point that of its taste.—(A. McNeill, Ottawa, before Nova Scotia Fruit Growers' Association.

On one of the front pages of this number the Dominion Government officials who used the power sprayer furnished by The Sramotor Company, of London, Ont., during the past season have endorsed this power sprayer. The machine was operated in Nova Scotia by Mr. G. H. Vroom in demonstration spraying. Not a day's work was lost and there were no complaints on account of want of power.

THE ONTARIO HORTICULTURAL EXHIBITION

Final preparations for the Ontario Horticultural Exhibition which will be held in Massey Hall, Toronto, November 14-18, have practically been completed. Everything indicates that this year's exhibition will be much ahead of the one held last year, in the number and quality of the exhibits, as well as in the attendance. The prize lists have been increased, and this year there will be an exhibit of vegetables in addition to the fruit, flowers and honey.

Massey Hall, where the exhibition is to be held, lends itself admirably to decorative effects. A committee has been at work for some time planning the arrangement of the exhibits, with the result that the hall should present a very attractive appearance at the time of the show. Exhibits of flowers will be made upstairs and down, while the commercial exhibits will be shown in the basement. There will be the same special features there were last year, including cooking demonstrations by members of the Women's Institutes, fruit packing demonstrations by the Dominion Department of Agriculture, special exhibits by the Ontario Fruit Experiment Stations, and by the Central Experimental Farm at Ottawa, a special exhibit by the Guelph Agricultural College, and other features of this nature.

One of the pleasing parts of the floral section will be a competition for the best decorated dinner table. Some of the exhibitors purpose making a great display of cut glass, silver, china, etc., and it is anticipated the value of these exhibits will amount to thousands of dollars. In the fruit department, one of the most interesting features will be the exhibits by the cooperative fruit associations throughout the province. An evidence of the great interest taken in the show is afforded by the fact that nine county councils have made special grants to encourage exhibitors from their counties. All the fruit shown at Simcoe will be exhibited at the Toronto Exhibition.

As was the case last year, a special feature of the exhibition will be the various conventions, four of which will be held. These include the convention of the Ontario Fruit Growers' Association, which will take place Tuesday, Wednesday, Thursday; the first convention of the Ontario Vegetable Growers' Association, which will be held Thursday and Friday, and the convention of representatives from the horticultural societies in the province, which will be held Friday. At this latter convention the formation of a provincial horticultural association will be considered.

The main features of the fruit growers' program include a directors' meeting, Tuesday afternoon, a public meeting Tuesday evening, at which the Hon. Nelson Monteith, Minister of Agriculture, the Hon. Sydney Fisher, Dominion Minister of Agriculture, and A. M. Brown, of Wyoming, Delaware, will be the principal speakers. On Wednesday morning the president's annual address will be given, after which general business will be disposed of. In the afternoon the report of the New Fruits Committee will be considered. Mr. Harold

Jones, of Maitland, will speak on "Selection of Sites for Orchards." Mr. G. C. Caston, of Craighurst, and Mr. W. T. Macoun, of Ottawa, will speak on "The Effect of Manuring on Hardiness for Northern Districts." Mr. J. G. Mitchell will speak on "Plums," and an address will be given by Mr. L. Woolverton. Wednesday evening the Transportation Com-



One of the most enthusiastic workers in Ontario in the cause of horticulture is Major H. J. Snelgrove, M. A., of Cobourg, who for ten years has been the secretary of the Cobourg Horticultural Society. Major Snelgrove is the chairman of the committee appointed at the time of the Ontario Horticultural Exhibition last year, to consider the advisability of forming a provincial horticultural association and to suggest changes in the Act governing the horticultural societies of Ontario. This committee will present its report at the convention of delegates from horticultural societies which will be held Friday, November 17, at the time of the Ontario Horticultural Exhibition. It is men like Major Snelgrove who are making a success of the work of our horticultural societies.

mittee will present its report and Mr. A. M. Brown, of Delaware, will speak. The meeting Thursday morning will be devoted to the consideration of matters that will come before the Dominion conference of fruit growers. At the afternoon session Prof. F. T. Shutt, M.A., will speak on "Fertilizers for Orchard Crops," and Mr. Robt. Thompson will give the result of the fruit shipments to Winnipeg.

The Vegetable Growers' Association will listen to addresses by Professors Lochhead, Harcourt and Zavitz, of Guelph; Mr. J. L. Hilborn, of Leamington; Mr. W. C. McCalla, of St. Catharines; Mr. John Hyatt, of Westlake; Mr. R. Brodic, of Westmount, a speaker representing the Canadian Canners' Association, and a speaker from the United States. The arrangement of the program has not been finally completed, but will be shortly.

The Horticultural Convention will be held on Friday. An effort is being made to induce the various horticultural societies to run excursions to Toronto. At the morning session the advisability of forming a provincial association will be discussed, and there will be addresses by officers of horticultural societies regarding the best methods of work. In the afternoon the principal speakers will be Mr. Wm. Hunt, of Guelph, and Mr. W. T. Macoun, of the Central Experimental Farm, Ottawa.

Useful Information.—The lover of beautiful gardens and those who appreciate fine house plants should secure one of J. A. Simmer's latest seed catalogues. The annual autumn catalogue published this fall is replete with illustrations and gives a full description of pot plants for indoor culture, and desirable spring flowering bulbs. Hardy perennials and annuals which may be planted or sown in the fall, ornamental shrubs, and garden tools and requisites fill up the back pages. It is free and worth writing for.

VEGETABLE GROWERS AND THE TARIFF

The Ontario Vegetable Growers' Association has definitely decided to have a deputation wait on the tariff commission, when it sits in Toronto, to ask for a change in the tariff on vegetables. The case for the growers will be presented by the Hon. J. W. St. John, M. L. A., and by Mr. A. Campbell, M. P., who will be supported by such well known growers as Messrs. W. A. Emory, of Aldershot, president of the Ontario Vegetable Growers' Association; W. H. Bunting, of St. Catharines; A. McMeans, of Brantford; J. L. Hilborn, of Leamington; a representative of the Toronto Vegetable Growers' Association, and by other leading growers.

During the past six weeks the secretary of the Ontario association has been in communication with the Departments of Trade and Commerce in Canada and the United States with the object of ascertaining the position of both countries in regard to the tariff. The information gained has been laid before the branch vegetable growers' associations throughout Ontario, each of which has been asked to prepare a statement showing the changes its members would like to see made in the tariff. A meeting of a special committee, appointed by the president of the Ontario association, to consider the replies from the branch associations and to adopt a line of action before the tariff commission, was held recently in Hamilton. Those present included Messrs. W. A. Emory, of Aldershot, the president; E. J. Mahoney, of Hamilton; A. McMeans, of Brantford; F. F. Reeves, of Humber Bay, and the secretary of the Ontario association. The reports from the branch associations throughout the province showed that the growers feel they would have no cause for

complaint were there free trade between the United States and Canada. As it is, however, the United States tariff is much higher on several lines of produce than is the Canadian tariff, which is felt to be a great injustice. It was decided, therefore, to make the cry of the association "Free trade or an equal tariff."

The need for an increased duty on several lines of vegetables, such as asparagus, green beans and watermelons, was realized, but owing to the fact that the number of growers producing these vegetables is limited, compared with the large number of people who consume such vegetables, the committee decided that it would be best to ask for an increase in the duty on only those vegetables which are the most largely produced in Canada and on which the United States competition is the most keenly felt. These include cabbages, cucumbers, celery, onions (dry), potatoes and tomatoes. The duty to be asked for on each of these vegetables was decided on. In no case will it be higher than the United States duty on similar lines of Canadian produce entering the States. In the case of cucumbers and tomatoes it was decided to ask for an ad valorem duty, but to stipulate that in no case will an invoice be accepted if marked, in the case of cucumbers, at less than 25 cents a dozen and in the case of tomatoes at one cent a pound.

It was decided not to ask for a duty which would prevent the importation of these vegetables into Canada, but which would be enough to prevent their being slaughtered on the Canadian markets at prices below the cost of production on this side of the line. The duty to be asked for will not be published until the tariff commission meets.

THE FRUIT SHIPMENTS TO WINNIPEG

The shipments of fruit to Winnipeg made by a few of the members of the St. Catharines Cold Storage Co. are still going forward at date of writing, October 25, at the rate of two cars per week, but they will end by the last of the month. The detailed statements of individual sales are not to hand for a number of the last cars, but the prices the fruit sold for are received twice a week by wire. The shippers have sifted down to about eight, who have stuck to their guns and have unbounded faith in the final result. Details will have to be held over until next month—but the shippers are unanimous in expressing the opinion that only cooperative associations can successfully hope to compete in the Winnipeg market.

Were the small shippers who forwarded fruit in the early cars without experience asked as to their opinion and the prices they received they would be very apt to say that the Winnipeg dealers are a set of thieves, but those who have stayed by the shipments throughout say unhesitatingly that the prices obtained are better on the whole than those paid on the Ontario markets, and so they should be, as more pains in packing are neces-

sary, as well as in selecting the fruit. The point they feel the most satisfied over is often overlooked by the ordinary shipper, and that is that the 30 carloads of fruit were kept off our own markets and thus helped to stiffen prices instead of to depress the Ontario market.

At the beginning of the season two or three of the shippers commenced to wrap and box their pears. They have kept it up and are now sending from 100 to 250 boxes in each car. These boxes are packed equal to the best Californias, and what is more satisfactory the prices received have paid the shippers well for their time and trouble. The boxes used are the American and British Columbia pear boxes holding 40 or 42 pounds of pears net, or 45 to 47 pounds gross. This box can be packed much better and more easily than the half case. The cost of wrapping and paper costs about 10 cents per box. The Ontario cars are now being looked for on sale days in Winnipeg, and the class of buyers is improving. The Department of Agriculture at Ottawa has been placing thermographs in the majority of the cars, and the records, with two exceptions, have been very satisfactory. In the case of the ex-

ceptions the fruit was placed in the car warm on a day when the temperature outside was about 90 degrees. One carload was placed in storage over night and cooled to 42 degrees. The thermograph started at 45 degrees and dropped the first day to 42 degrees and remained there for 36 hours and then advanced to 50 degrees for nearly two days, and finally dropped to 42 degrees, where it remained until the car was opened. Very good time has been made by most of the cars, about five days be-

ing the record. Five cars of different makes were tested as refrigerators and five also as ventilators. Three or four men have accompanied these cars. The last to go (on October 18) was Albert Pay, whose car arrived in Winnipeg October 23, or in less than five days. When these men all return a meeting will be called at the Cold Storage Company's office and the railway men will be invited to attend, when these men will present their reports.

HINTS FROM A BRITISH IMPORTER

During October Mr. Joel Goodwin, one of Manchester's leading fruit dealers, visited Ontario and incidentally studied fruit conditions. "In Canada," said Mr. Goodwin to The Horticulturist, "only fruit that will ship well should be grown. Colored fruit sells better than uncolored. The Englishman wants something showy and will take a variety that is highly colored although the quality is not so good. It seems to be a hard matter to teach Canadians to pack properly. Many of the packages, when they reach Great Britain, appear to have been put up by persons who had never seen packing done properly. The proper way is to have some man who understands packing do it all. There is no use trusting the average farmer to do it.

"The greatest satisfaction is given by the Canadian barreled fruit. The packing is done better, and boxed goods do not sell so well on our market. Two years ago when barrels were scarce in Canada and boxes were sent it was difficult to make sales. Many of the boxes were weak and spread enough to allow the fruit to become slack. Besides, barrels arrive

in better condition, as their shape leaves space between them for ventilation during transport. Cold storage is necessary for the boxes and that entails extra expense.

"I usually get my supply of apples by consignment, but have had some sent direct from the growers. The dealers are better informed as to market conditions and understand the business better than the average producer. Selling fruit is a business distinct from growing, and as a rule the farmer is willing to sell at a paying price if he has no risk to run.

"Better steamship service is needed between Canadian ports and Manchester. Our merchants could handle 15,000 or 20,000 barrels a week if the steamers would bring them. We must have a weekly service, and if the Manchester lines cannot give it I may put on some steamers myself. The very best boats, fitted with cool chambers, are needed for the apple trade. The steamship companies claim that there is no money in carrying freight, but if the best boats were put on more trade would result and then it would pay."

More Cars Demanded

Owing to the great scarcity of cars for handling the late crop of tender fruits and the bulk of the apples, a meeting of the transportation committee of the Ontario Fruit Growers' Association was held in the Grand Union Hotel, Toronto, on October 16. Messrs. W. H. Bunting and Robt. Thompson, of St. Catharines; E. D. Smith, of Winona; W. L. Smith, H. W. Dawson and P. W. Hodgetts, secretary of the Fruit Growers' Association, discussed the situation. Great losses have resulted to several shippers. It was estimated that there would be 300,000 barrels awaiting shipment within three weeks, and owing to the millers asking for cars to bring wheat from the west for Ontario mills the shortage in rolling stock was likely to become serious.

The committee considered that since fruit was a perishable product and apple shippers were paying a higher rate for their shipments special efforts should be made to aid the fruit men at this critical time. It was decided to ask the Railway Commission to compel the railways to give preference to the shipments of apples until the congestion has been relieved. A petition to this effect has been sent to the commission.

Packed When Green

A. McNEILL, CHIEF, FRUIT DIVISION,
OTTAWA.

Mr. J. J. Philp, Dominion Fruit Inspector, Winnipeg, notes the especially large quantity of Fameuse apples arriving in bad condition, and attributes this to the fact that these apples have been packed on the green or somewhat immature side. A large quantity of fruit has arrived at its destination in a wasty condition this year as the result of its being shipped while yet immature.

The idea that fruit must be packed green to ship and keep well is so strongly entrenched in the public mind that it will take much time and patient teaching to eradicate this erroneous impression. Scientific experiments, undertaken for the purpose by the Department of Agriculture at Washington, D. C., have shown that to keep and ship well, fruit must be just mature but not over ripe. Green fruit spoils as readily as over ripe fruit. Mr. Philp's reference was specially to Snow apples. The Fruit Division, Ottawa, gives it as the experience of its inspectors that these apples cannot be shipped profitably in barrels. They must be classed as a tender fruit, and the box is the largest package that should be used for them.

Results of the Windstorm

The worst storm that has struck Ontario orchards for a great number of years occurred during the third week of October. Fruit Inspector Carey, of Toronto, who recently visited Northumberland county, states that the growers there claim that 50 per cent. of the fruit on unpicked trees had been blown down. Mr. Carey estimated that 30 to 40 per cent. had fallen. The ground was literally covered with excellent fruits and gangs of pickers gathered them like potatoes so that they would not be further damaged while the remainder of the crop was being harvested.

All this fallen fruit will be rushed on the market or put in storage and in either case the result will be serious if the fruit men do not act with prudence. Windfalls do not give satisfaction in store, and if rushed on the market a glut will be caused. Some fruit which fell on soft ground was not seriously damaged and appears all right, but the consumer is dissatisfied when a bruise is found. "This storm and the effects which are likely to follow," remarked Mr. Carey, "are the only drawbacks to a prosperous year for fruit growers."

Mr. Carey advises that special care be taken in selecting apples that are to be shipped. A few of the least damaged can be shipped with fair success, but the badly bruised fruit should be sent to the evaporator. Naturally, the grower is anxious to send all he can at higher prices, irrespective of the damage to the fruit industry, but in this case he must act prudently.

Fraudulent Packing

A number of cases of fraudulent packing have been reported from different sections of Ontario. In a recent interview with Dominion Fruit Inspector Carey, The Horticulturist learned that cases were under consideration at St. Catharines, Aldershot, Oakville, Meaford and other places. Several growers have been prosecuted and fines imposed on the transgressors. Mr. Carey favors lenient treatment but claims that the educational stage is past and those fruit growers who persist in violating the law can expect little consideration in future. They have been given time to acquaint themselves with the requirements and heavy fines will be imposed.

A marked improvement in packing is reported, as the majority of growers are co-operating to bring the desired results. There are, however, some unscrupulous packers who have not the best interests of the fruit industry at heart. The principal defects have been over facing and wrong marking. In several cases XX fruit has been marked XXX. "We must," said Mr. Carey, "have honest packing and grading up to the standard."

Fruit Inspector Carey states that fully 200,000 barrels of apples will go into storage in Northumberland county. These will consist chiefly of Spys, Ben Davis, Baldwins and Russets.

Cool Fruit Before Packing

A. McNBILL, CHIEF OF THE FRUIT DIVISION, OTTAWA.

The Dominion fruit inspectors at Montreal draw attention to a most serious source of loss to apple shippers. When inspecting fruit under the Fruit Marks Act they also test it with a thermometer for the purpose of arriving at some knowledge of its condition. There are numerous cases of the fruit standing at 75 to 78 degrees in the barrel when the outside temperature is between 50 and 60 degrees. Such packages going into ordinary storage are almost certain to arrive in the Old Country in bad condition.

It mends matters somewhat to place them in cold storage, but even cold storage cannot restore to proper condition fruit that has been some days packed in a barrel at this temperature. The heat developed by the fermentation of the apples themselves would almost counter-balance the effect of the refrigerator plant, so that it is doubtful whether the centre of the barrel would be materially affected before the apples reached the English market. Our packers must learn that the apples should be put in the barrels cold, and that a barrel of apples, even in the cold storage chamber, cannot be cooled thoroughly in less than a week or 10 days. Hence, the necessity of cooling them before they are placed in the barrel.

Items of Interest

The British Columbia Fruit Growers' Association has decided to make a display of fruit again this year at the annual Royal Horticultural Exhibition which opens in London, Eng., on December 5. Over 600 boxes of apples and about 100 boxes of pears are being selected from the crop in the different sections of the province. The British Columbia exhibit was awarded two gold medals last year.

The largest cargo of apples ever exported from Montreal left on October 6 on the Allan liner, Bavarian. This record load consisted of 28,560 barrels and 765 boxes. The inspector from the Department of Agriculture had a busy time looking after proper marking and taking the temperatures. Each package was clearly marked "Canadian apples."

Reports from different parts of Canada tell of freaks in fruit trees and bushes this season. In Mr. W. G. Watson's orchard, at Dixie, a bunch of healthy blossoms was found within a few inches of mature fruit. In Dufferin county Mrs. Thos. Hinton, sr., of Black's Corners, picked well formed strawberries of splendid flavor in October. A second crop of raspberries matured on some bushes in Mr. Jos. Chantler's garden in Simcoe county. At Peterboro, Mr. Robt. Daly also picked ripe raspberries in mid-October.

The interests of the fruit industry are being looked after by Inspector Gifford, who laid charges against Messrs. Godfrey, Dyce and Ellis, of Meaford, for violation of Section 6 of

the Fruit Marks Act. Mr. McNeill, Chief of the Fruit Division, Ottawa, in reporting that these men were convicted, says that present demand points to bright prospects for a large and permanent trade for fruit that can be shipped through Georgian Bay ports to the Northwest and that it is not in the interests of the fruit growers to have this trade jeopardized by carelessness or fraud on the part of a few packers.

Fruit Notes

It has not been definitely decided when the Minister of Agriculture will call the Dominion Conference of Fruit Growers, but presumably it will be some time in February or early in March. The delegates will be called from the different provinces in about the following proportions: Prince Edward Island, 2; Nova Scotia, 4; New Brunswick, 2; Quebec, 4; Ontario, 9; Manitoba, 1; Saskatchewan, 1; Alberta, 1; British Columbia, 4. In addition, it is probable that there will be one fruit expert representing the provincial government and provinces interested. The secretaries of the different provincial fruit growers' associations have been notified, so that should there be any subjects on which they would like to instruct delegates they will have an opportunity of doing so at their annual meetings.

Mr. Maxwell Smith, Dominion Fruit Inspector for the Province of British Columbia, writes that a very large proportion of the apples arriving from southern points up to date this season have been condemned for codling moth. Scarcely a year passes but Ontario shippers are induced to send apples to British Columbia, and it very seldom happens that these apples successfully pass the pest inspectors, which, of course, entails a serious loss upon the shippers. It is necessary, to enter British Columbia, that the fruit be absolutely free from codling moth, a condition that can scarcely be met in ordinary years by Ontario fruit.

Record time was made in the shipment of fruit made recently by the St. Catharines Forwarding Co., which Mr. P. J. Carey accompanied to Winnipeg. The trip from St. Catharines to Winnipeg was made in four days and 20 hours. The shipment consisted of pears, peaches, grapes, tomatoes and a few apples. Mr. Carey reports that everything was in good condition on arrival and encouraging sales were made. It was the first shipment of peaches for the season. They were somewhat immature but sold readily at \$1.25 a case. With care and fair transportation facilities, it is claimed the most tender fruits can be put on the Winnipeg market and sold at a profit in large quantities. Defective packing and improper selection are said to be the chief causes of the slow progress in bringing the merits of Ontario fruits to the front.

The blueberry crop in the neighborhood of Kenora (Rat Portage) amounted this year to about 155 tons, the price varying from 7 to 10 cents per pound.—(A. McNeill, Fruit Division, Ottawa.

Mrs. W. Keith, of Newmarket, who recently purchased bulbs to the value of \$1.12 from J. A. Simmers, of Toronto, through seeing Mr. Simmers' advertisement in *The Horticulturist*, has been sent a handsome premium by *The Horticulturist*. We give premiums to all our readers who purchase from advertisers.

The Tomato Situation

The Grantham vegetable growers held a special meeting on October 14 to take action on the tomato situation for the season of 1906, as some of the factories try to secure contracts when paying the growers off at the end of the season. A large number of growers were present.

The results of this season's work were considered and all were unanimous in agreeing to stick together. A committee was appointed to keep in touch with the situation and be prepared to take any needed action.

A Secret of High Prices

E. H. WARTMAN, DOMINION FRUIT INSPECTOR, MONTREAL.

Canadian fruit growers should know a few facts relating to the transportation of California plums via Montreal to Glasgow. I had the pleasure of inspecting five standard three-box crates California Tragedy plums out of a car of 1,130 crates. Each plum was well wrapped in soft paper, well graded as to size and quality, three plums deep. After inspecting these five crates to the bottom I decided they were in perfect condition.

News of this kind to shippers serves as a warning to those who have the very responsible position of looking after the temperatures of these chambers aboard ocean liners. A shipment went forward last season and landed in such perfect condition that the fruit demanded 10d. or 20 cents per pound over the counter. This fruit usually sells for one cent per pound or 60 cents per bushel in California. When we consider 20 cents per pound, or \$12 per bushel on the other side, it is evident some one must be reaping a great harvest. But the little secret should be better known among our growers. The fruit is picked at the proper time and most beautifully wrapped and packed. It is placed in cool air and kept there to its journey's end. All this may seem a lot of trouble and expense, but it is a most perfect system, and he who practices it will be well remunerated.

I like boxes very much, and think them a better package for early apples than barrels. I think too that the best winter apples should sell to better advantage in boxes, but the old country trade seems prejudiced in favor of barrels.—(R. A. Thomas, Barrie, Ont.

I enjoy *The Horticulturist* very much and do not wish to discontinue it—(Adam Brown, Annan, Ont.

COMMISSION SALES IN GREAT BRITAIN

A CANADIAN IN ENGLAND.

While I do not believe there is as much fraud connected with the sale of Canadian apples in British markets as has, sometimes, been charged, still I believe there is considerable fraud. Openings for such are evident, even though many firms are quite too honorable to take advantage of them.

I advise Canadian growers to have a Canadian, preferably one of themselves, to represent them in England. Such a man might confine his attentions to Liverpool and endeavor to certify the correctness of Liverpool returns, or he might have a roving commission, with authority to see books of any brokers whose returns are questioned by the shippers. Brokers would, no doubt, be quite willing to agree in advance that their books should be open for inspection by any accredited representative of the shippers. The idea is capable of elaboration in many ways. As far as engaging a man over here to

influence the bulk of the sales is concerned, I cannot see any necessity for outlays on the part of Canadian growers for such a purpose. If the fruit is carefully put up on the cooperative principle, so that large lots of any given variety and grade will turn out uniformly, barrel after barrel, the demand will not only be easily found, but is already waiting.

To put it briefly, the goods will sell themselves if they are right, and what the Ontario grower wants is the assurance that he will get all the fruit produces, less actual and necessary expenses for freight, dues, and commission. It must not be difficult for the growers to get transportation on extremely easy terms for one or two representatives, whose expenses for say one month, November 15 to December 15, would be a very small matter in comparison with the sum that would be required to keep a man employed over here by the year.

SPRAYING COMPETITION CHALLENGE

W. H. BRAND, GRIMSBY, ONT.

In your issue for October I find some representations which, in the interests of both the purchasing public and ourselves, require correction. They are found under the headings "Spraying machines at Toronto," "Little Giant Sprayer," and in the advertisement of their manufacturers. They are: "Besides being the cheapest machine on the market, it is also the only one that automatically sprays two rows of grapes as well as small fruits at the same time. These machines are now in perfect running order having long since passed the experimental stage. Fruit growers may feel assured that they are obtaining the best when they purchase a Little Giant Sprayer. Mr. E. D. Smith is using one of their sprayers and does not possess one of the Spramotor machines. This sprayer is the most complete machine on the market. Unreliable agents tell you they sell a machine just as good, but don't be deceived; buy a Little Giant which has stood the test on many large fruit farms during the past summer and has never been known to disappoint. The Little Giant is a Canadian made machine that many try to imitate but have not succeeded." etc.

Now, as Wallace Power Sprayers and myself appear to be directly included in these sweeping assertions, I deem it well within my right to draw attention to the positive facts and prevent the uninformed from being "deceived" by such statements and place them on the correct basis to judge which make of machine produces a correct spray, enough of it, holds it long enough to do thorough work at each stop, is the most economical in the use of mixtures, produces the most paying results, requires the least expenditure for help while in operation and would really be "the cheapest" for them to invest in.

A proper spray is one composed of very fine, mist-like atoms not coarse (like that commonly called a "Scotch mist"), and is one that will

not drench the foliage to the dripping point when applied from nozzles passing by at a reasonable walk. If it be too coarse it will gather in drops and carry with it the very ingredients desired to deposit. The same thing results from directing even the finest spray too long in any one spot. In doing this it carries with it components such as Paris green, which is not perfectly soluble in water; blue vitriol, white arsenic, etc., as these remain in a very fine but heavy powder. A proper spray, properly applied, is no heavier than an ordinarily light dew on the foliage. To obtain this proper spray we require machines capable of generating very high pressures—as high as 200 pounds sometimes—and furnishing enough volume of spray to accomplish thorough and speedy work in whatever we are spraying. Not only so, but, as we sometimes find it absolutely necessary to halt at a tree in order to finish it thoroughly, or, on account of using extension rods have to make a stop at each tree, we must have a reserve force and extra room for the storage under that force of sufficient mixture to do the work required. In the most economical of power sprayers, this force is compressed air—a quantity which is free to all and only requires placing in proper shape to do many things other than apply the brakes on railway cars. This is the agent employed in wallaco machines, and in most of them it is got by power from the wheels or axles of the vehicle that carries the outfit as the horses (or horse) draws it along. Our pumps are made finely enough to compress air to 40 or 45 pounds pressure without the use of liquid. After we get the required amount of air to do the work contemplated, we turn the suction on liquid and run up a pressure of 200 pounds if it is required. (Most people run between 70 and 160 pounds.) The length of time we can stand and spray depends on the size of the machine and the number of nozzles being used. The

way to judge which of these machines will best perform the work is to be governed by the verdicts of users of them, or those who see both makes in actual operation.

To decide which is the cheapest is to learn which is most capable of making the covering capacity of the mixtures the greatest, accomplishing the greatest amount of work in the shortest time (thus reducing expense for time of help and team) and with the smallest amount of help, and then take into account their original cost and make comparisons. When this has been done correctly the point on which produces the most paying results will have been met and decided.

First, let me inform every reader of this article that Wallace Power Sprayers are not in the same class as the Little Giant. They are strictly air compressors, and are the only machines of that class now being sold or extensively used in Canada or having a resident representative here. They are leaders, and are so far ahead of such combinations as the Little Giant that the latter will have a long lap to cover in catching up. I intend to use, as much as I can, Canadian made trucks and tanks in mounting the 4-wheelers, and to make here in Canada many of the attachments for their various uses. We furnish these in sufficient variety to enable our customers to spray most thoroughly two grape row sides "at the same time" (this has been done by some of them with my own make of grape spars on the "Standard" machines during the past season, and I am credited with having the best design extant. I intend to further improve it for next year's work), or two rows of anything else that grows in the bushy row form, or four rows and upward of strawberries, potatoes, tobacco, etc., or twelve feet and upward in width when spraying to kill mustard, etc., and tree spars, which make it possible for one man to handle both the levers and spar and thoroughly spray largest apple trees without halting from start to finish of each row in doing the work. All he requires is a boy to drive the team for him. We design our own fixtures and improve them as we find necessary or of use to our customers. We will also get up for them any special arrangement of nozzles their work demands, and we guarantee every machine.

The Little Giant has not, and never had anything worth our while to attempt to copy or "imitate." My opinion is that this boot is on the left foot. At some of the fairs at which both of us were present I found this man making very close examinations of our "Junior" and "Duplex" machines. As these machines and their various improvements are protected by patents I trust his rashness will not lead him into attempting to adopt some of our patterns. The demand for Wallace Power Sprayers is such that the company have had to buy more yard and store room and enlarge their factory to cover one acre more.

Regarding Mr. E. D. Smith, let me say that he not only possesses a Little Giant, but also a Spramotor and a Wallace "Standard." He

uses the first named for nursery stock only, the Spramotor for vineyard work, and the "Standard" for all his heavy orchard work, of which he has a sufficient acreage to keep it steadily going during the spraying season. On receipt of request I will forward any of your readers a 20-inch circular on which will be found Mr. Smith's commendations of our machines and those of a number of others who own and use them here in Canada and some in the United States. On it, also, will be found a number of hard facts regarding our machines and other useful information along the same line. A postcard will bring it.

Regarding Toronto Fair. I happened to be a visitor there and saw other power sprayers than the Little Giant, and when I passed both exhibits the other exhibitors seemed to have "won more friends" by three times the number I saw around the latter. To a group of my acquaintances who interviewed the Little Giant man, he stated that a Mr. Orr said that he would give his present possessions in the line of sprayers for a Little Giant. My query is why he did not make the deal. Let us see. Mr. Orr and Mr. R. H. Dewar own both a Spramotor and a Wallace "Standard." (In my circular will be found an extract from their letter also.) Are we to infer that this man considered these machines too risky to venture his cash in? Here is Mr. Orr's reply to my questions regarding this: "It is utterly false. I made no such offer to any one; I am not quite so foolish. It is the veriest nonsense. It occurs to me that I met this man on the car one day and he gave me a glowing representation of the capabilities of his machine, the correctness of which I have yet to see verified. I may have said that I would give a good deal for a machine that would do all that he claimed for his, but I made no offer whatever. I have yet to be convinced regarding his machine." My own personal opinion leads me to view him as leaning too readily toward this style of talk. It is also strengthened by the fact that I personally overheard him making use of a statement in a manner calculated to make a most damaging impression regarding our machines, and my advice to him and the writer of the statements herein complained of is to comb down somewhat and be content with plain modest truth in regard to his representations of both his own and other makes of machines even if he does not wish to accord toward the latter the spirit of common fairness nor cares how he jeopardizes his own public reputation for veracity and the common self-respect possessed by all honorable dealers in so doing. In so far as I am personally concerned, his blusters carry no weight nor cause me the least concern, because I am too well aware as to how much he knows about the whole spraying business, and how much he has yet to learn regarding it. I also estimate that the majority will very quickly learn the same things.

My object in dealing at all with this matter is as at first stated—I do not care to see the

uninformed "deceived." I will give this man an opportunity to demonstrate the correctness of his representations on or before November 15 at some place in the Winona vicinity to be agreed upon, he to name the date and invite (through the press) all who are interested in these machines or sprayers of any make for any rural purpose. He may cover the whole of Canada if he chooses. He may also have a committee of judges if he wishes, either two or five. He to name one or two and I will do likewise and these can select the other man.

Readers of *The Horticulturist* will then have other than the writings of the Little Giant man as authority on which is "the most complete sprayer on the market;" learn if "it has enough power;" possess from an actual demonstration the "proof of the superiority" of the machine which gives the evidence that it possesses it; learn whether it has or has not "long since passed the experimental stage;" see for themselves the "test" and judge whether or not they would be "obtaining the best when they purchase a Little Giant Sprayer," or whether all these are better embodied in Wallace machines. At the same time I would show them a cart-machine that will surprise them when they see its power and scope. I will also lend to any inquirer after information regarding spraying and spraying apparatus, my services, and will be impartial in giving any desired answers. I invite closest investi-

gation of our system. Instead of giving only three names out of the "many" regarding the "sprayer which has stood the test on many large fruit farms" (? these are the only ones I can find), I will give a whole list of them regarding Wallace machines and get as many more, if wanted. We do not write our own testimonials, nor accept or publish any unless dictated by the individual whose authority is subscribed. How about the Little Giant? If my challenge is accepted please advise at earliest possible date, as I wish to plan to be on hand. -Advertisement.

Has a Spramotor Machine

In the October issue of *The Horticulturist* appeared a statement regarding the Little Giant sprayer, in which it was stated that Mr. E. D. Smith, of Winona, does not possess a Spramotor machine. We have since been informed by Messrs. Perkins & Paine, of Port Dover, that what they desired to have published in *The Horticulturist* was that Mr. E. D. Smith does not possess a power spramotor machine.

We are informed that Mr. Smith has both a hand and a horse-power Spramotor machines, purchased last season, and that these machines have been giving every satisfaction. We published the item in good faith and take pleasure in making this correction.

Cheap Offer of Surplus Bulbs

In order to quickly dispose of any bulbs left after filling our orders, we offer them to our patrons in the form of a Surprise Collection, worth at catalogue prices two or three times the price charged in this way. We shall make them up into generous assortments, well selected, and all of good, sound bulbs, but the **choice must be left strictly with us.** Customers will, however, be allowed to indicate a preference, and if the bulbs requested are still in stock, it will be complied with. These collections, which may be had for either House or Garden Culture, will not be filled before Nov. 5th, but orders will be hooked at any time before that. No selection will be made for less than \$1.00, but orders for any larger amount will be filled in the same liberal manner. We pay the postage. Much more liberal collections can be sent when ordered by express.

70 SHRUBS -- 95 PERENNIALS

In our Fall Catalogue, we offer the above number of varieties, all hardy for planting at this season of the year. You will not find this list equalled by any firm in the Dominion. Don't put off planting any longer.

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See Notice in Advertising Columns.

The Price of Fruit

L. WOOLVERTON, SENY OF ONTARIO
FRUIT STATIONS, GRIMSBY, ONT.

Supply and demand must always regulate the prices of fruits, providing the sale is regulated by business methods. We owe much to the commission man in the larger cities, for when we have an over production how else can we force quick sales? The fault has been in shipping on commission or auction, to small outside towns, in competition with the bulk of our own fruit going to the cities. In such places f. o. b. sales should always be made, otherwise the prices for our whole crop are lowered. Here is the secret of our recent failures, and nothing could be more foolish and unbusiness-like.

Classified Advertisements

Advertisements under this heading will be inserted at the rate of ten cents per line, each insertion; minimum charge, fifty cents in advance.

WANTED - SUBSCRIPTION CANVASSERS
for The Canadian Horticulturist both in cities and in the fruit districts of Canada. Liberal commissions offered. Good men soon put on salary. Write The Canadian Horticulturist, Rooms 507, 508, Manning Chambers, Toronto, Ont.

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The salt must be pure—like Windsor Cheese Salt.

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The salt must not be carried off in the whey—but stay in the curd, like Windsor Cheese Salt.

The salt must help to preserve the cheese, and keep it smooth and rich—like Windsor Cheese Salt.

If you are not getting as good cheese as you should, would it not be a good idea to try

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to grow good fruit, and every grower wants

To Have the Best

We carry a full line of the very best nursery stock,

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Write for our beautiful catalogue, and select the varieties suited to your locality.

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THE MAYNARD PLUM is sent out by Mr. Burbank with the assurance that it surpasses in quality and beauty of fruit any plum heretofore introduced. We bespeak for the **MAYNARD**, through the hearty co-operation of fruit growers everywhere, such a sale as Mr. Burbank's best efforts so richly deserve and merit.

We have bought the sole right to sell the **MAYNARD PLUM** in Canada, under a contract that gives Mr. Burbank a royalty on each tree sold, and will concede that he has well earned, by his long years of toil in the origination of new fruits and flowers, all that will come to him in honor and money from the sale of this new plum.

DESCRIPTION - Size, very large, often measuring $7\frac{1}{2}$ inches in circumference. Form, nearly round, slightly flattened at the ends. Color, richest crimson purple. Quality, unsurpassed in flavor and as a shipper. Fruit perfectly solid when dead ripe. Tree, hardy and vigorous, bearing immense crops while very young.

Write for descriptive circular and prices. Agents wanted for the **MAYNARD PLUM** and other **SPECIALTIES**. Write for terms and catalogue, and send 25c for our **HANDY ALUMINUM POCKET MICROSCOPE**, just the thing for Farmers, Fruit Growers, Florists and Botanists, Teachers, Etc.

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See Notice in Advertising Columns.

MONEY EASILY MADE BY OUR READERS

\$10.00 will be given away free by The Canadian Horticulturist to readers who purchase goods from its advertisers. All you have to do is to tell the advertisers you read their advertisements in The Horticulturist

HOW TO OBTAIN THE MONEY

\$5 will be given to the person who buys goods to the greatest value from advertisers in this issue before November 30, 1905.

\$5 will be distributed, one dollar to each, among the next five persons making application, who have purchased goods from our advertisers.

We have secured a limited number of an up-to-date work "The Orchard and Fruit Garden," recently published by E. P. Powell, one of the best known authorities on this continent. It contains 320 pages, and is well illustrated. We will give one of these books to any of our readers who would prefer it to one of the one dollar prizes. This book retails at \$1.50.

Readers must tell the advertisers they saw their advertisements in The Horticulturist.

A valuable premium will be given to all who do not win cash prizes. A premium will thus be given to everybody who buys something from advertisers in The Horticulturist.

When applying for a prize, readers must inform this office of the name or names of the advertisers they purchased from and the value of their purchases. Application for this bonus must be made before December 15, 1905. Address

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The Canadian Horticulturist, - Toronto, Ont.

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We will be glad to quote on any specification submitted to us.

Best attention to orders and prompt delivery assured.

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