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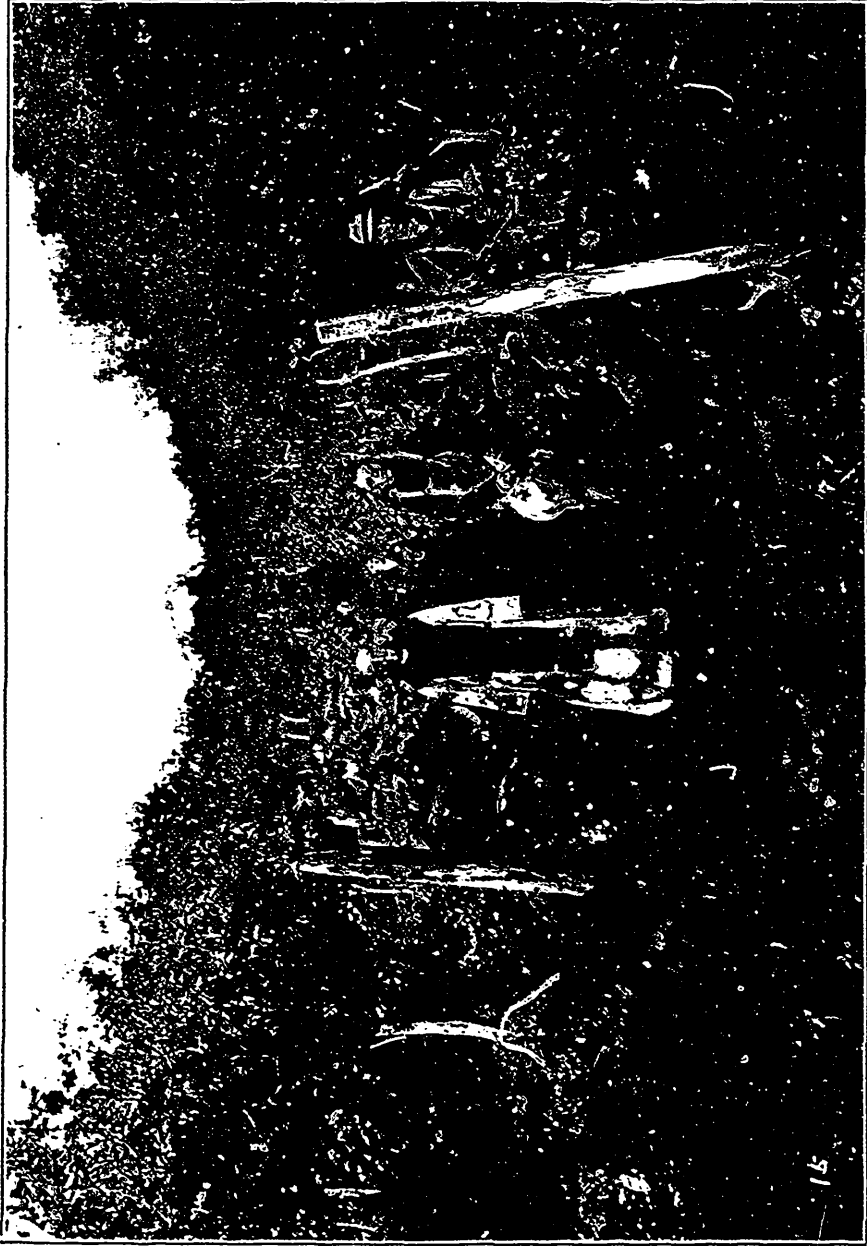
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### In the Vineyard of the Oka Agricultural School, La Trappe, Que.

A school which has turned out many well trained horticultural graduates is that known as the Oka Agricultural School, at La Trappe, Que. Last year about 75 pupils followed the different courses. This year the number of students was still larger. The complete course occupies two years. The vineyard is about 10 acres. The chief varieties grown are Be-sonsfield, Concord, Moore's Early, Bacchus, Delaware, Roger's No. 6, Veronique, Duchess and White Virginia. The vineyard comprises also wild and half wild wines. These native vines, on account of their hardiness, are very easily cultivated. They are especially to give wine a better color. The orchard occupies an area of approximately 20 acres, and includes a variety of fruit trees and other apples. The school is a regular experiment station for the Province of Quebec, as the principal varieties of fruit trees and other plants are also cultivated on large scale. Among the plums held in high esteem at La Trappe is the "Heritage". The English variety pear is quite successful. Pears, plums and cherries are well factored at La Trappe and are a favorite on the market. Some of these fruits were sent to the Japan exhibit in, where they brought a high price.

# The Canadian Horticulturist

JULY, 1905

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## HOW TO PACK AND WHERE TO MARKET EARLY APPLES\*

J. F. SCRIVER, FRUIT INSPECTOR, HEMMINGFORD, QUE.

I HAVE been in a good position the last three years to study this question. I have seen the apples on their way to market, the way they were packed, the condition they were in, and have also received reports of the condition in which they were landed in the Old Country and in Winnipeg. I have also seen most of the returns and am possibly better able to decide the best way to pack and the best markets than most growers or buyers.

By early apples I mean Duchess, Wealthy, Alexander and St. Lawrence, and would also say a few words on the Fameuse. These are the only early apples that can be handled with any profit. More than half the Duchess raised in Quebec go to waste every year. You will say that this is because there are too many raised. I agree with you there, but I also say that, if you know how to handle them, three years out of four, there is a profitable market for them. Last year was an unfortunate year for the exporters of apples, especially the early varieties. The exceedingly large crop of apples in England and the continent kept prices very low. Even with these drawbacks good Duchess, properly put up, brought fair prices in Glasgow.

Glasgow is the best market in Great Britain for our early apples. The trouble with most of the Duchess shipped last sea-

son was that they were immature and too small and green. In exporting you must allow them to become full grown, and fairly colored, being careful, however, to pick them before they are too ripe. If your apples are a good size and fairly well colored, I would certainly advise you to put them up in boxes. If not real No. 1, put them up in barrels, as it never pays to put up poor fruit in boxes. Ship in refrigerator cars, and cold storage on ships.

If you pack in barrels use the eight hoop barrel; pack barrels thoroughly while filling and do not use too much pressure. Everything I said in regard to packing and shipping Duchess apples to the Old Country applies to shipping to Winnipeg. Winnipeg is a better market for small green stock than the Old Country. The first Duchess shipped to Winnipeg brought \$2.50 to \$2.75 net, but the market became overloaded and the Duchess brought very low prices. I heard of one box which netted 16 cents. The large shipments to the west were caused by low prices in the Old Country, which are not likely to occur again for some years. Last year Winnipeg buyers did not receive half the Duchess they wanted.

The barrel is the best package to use for the shipment of apples to the west, although some shippers have secured good returns

\* An address delivered at the last annual meeting of the Quebec Pomological and Fruit Growing Society.

by shipping in boxes. The apples should be sent in refrigerator cars or the cars iced before loading, because, although the railroads agree to do this, and you have to pay for it, sometimes the bunkers are not well filled. Your apples become heated, and the car which might have brought you a good profit entails a heavy loss.

The demand from Montreal and smaller towns for these apples is limited. I sold 200 baskets, 12 to the barrel, in Montreal last summer at 40 cents, netting about 30 cents, which paid well. The next week, however, prices were down to 25 cents, which did not pay.

When Duchess trees are overloaded, as they often are, it is a good plan to pick and ship some of the best in baskets about the first of August. Those left on the trees will grow much faster and be ready to ship in two or three weeks.

#### A GOOD VARIETY.

The Alexander, I consider, one of the best, if not the best money maker we have in Quebec. If I was setting out an orchard I would set a good proportion of Alexanders. Ontario apple growers and probably some of the Quebec growers may dispute me a little, but the Ontario men must understand that the Quebec Alexander is altogether a better apple in many ways than its Ontario brother, especially in its carrying qualities. It is also more even in size and of better color.

The Alexander tree is perfectly hardy, a good bearer, and the fruit is 75 per

cent. to 90 per cent. No. 1. It is never affected by scab, and very little by worms. When picked in time and picked properly these apples always land in the Old Country in good condition. They brought the highest price of any apples sold in the Old Country last fall. One carload of 40-pound boxes, four to the barrel, brought \$1.25 net, f. o. b. Montreal. Another carload, in barrels, made a net of \$3.85. All the Alexanders shipped in proper time brought paying prices, even in last year's poor market.

I would strongly advise shipping all Alexanders in boxes. It is almost impossible, on account of their large size, to pack them in barrels, ship them any distance, and prevent them from becoming slack. Pack them in layers in boxes and tighten with a little excelsior. I would recommend Glasgow as the best market, although they also do well in Winnipeg and the west when landed in good condition.

One of the best points of this apple is the large proportion of No. 1 apples. A farmer in Hemmingford last fall sold his Alexanders for 90 cents a barrel on the trees. From eight young trees he had 30 barrels of No. 1, two barrels of No. 2, and only one barrel of culls. A neighbor of his had 46 barrels of No. 1 and three barrels of No. 2. I never heard of this being equalled in any season by any other variety of apples. These apples should always be shipped in cold storage and in refrigerator cars.

(Continued on page 277)

It is my opinion that if cooperative associations will keep their grades up to the standard, buyers will soon hunt for their brands. Buyers are anxious to obtain good brands and will naturally go to the houses that have the best name for good packing and high-class goods. The box is certainly the fruit package of the future.—(H. W. Dawson, commission merchant, Toronto.

"There is considerable difference of opinion with reference to the robin in the Eastern States," said Mr. A. N. Brown, of Delaware, to a Horticulturist representative. "An anti-robin bill was defeated in New Jersey by the women and children of the state, who secured large numbers of signatures to petitions against the bill. I expect, however, to see it pass yet."

## THE ROBIN AND THE FRUIT GROWER

C. W. NASH, TORONTO, ONT.

THE ever increasing number of insect pests, both native and imported, which prey upon our crops, and the loss sustained by farmers, gardeners and fruit growers by reason of their ravages, has compelled crop producers to turn their attention seriously to the study of the natural laws which govern the production and destruction of this form of animal life. Careful investigation, by men whose training has properly qualified them for the work, shows that nature always maintains an equilibrium between all form of life, both animal and vegetable, so that no one form shall exist in sufficient strength to exterminate another. That birds, which are wholly insectivorous, or which never feed on the fruit or other parts of cultivated plants, are beneficial, may be accepted without question; but great difficulty has sometimes arisen in determining the exact status or value of birds which feed on insects and vegetable products in varying proportions. Much depends on the personal interest of the people whose testimony is given and also on local conditions which can not be given general application. Thus it is we find some fruit growers loudly condemning certain birds as very injurious to them in their locality, while other fruit growers in a different district, and farmers and gardeners generally, are perfectly certain that these same birds are of the greatest value to them as destroyers of noxious insects.

### VALUE OF THE ROBIN.

The best known and most familiar bird in this debatable class is the robin, and opinion is very strongly divided as to its utility. Some fruit growers condemn this bird with great emphasis; others weigh its merits and demerits more carefully and assert that it much more than pays for the fruit it eats by the destruction of insects.

Robins under certain circumstances do take a large number of cherries, strawberries, raspberries and some grapes, thereby

causing individual fruit growers some loss, but the question remains whether or not the robins by their work throughout the season, and the benefits they confer on other classes of the agricultural community, do not more than compensate the community for the loss sustained by the few, and further, whether or not the fruit growers cannot protect themselves against loss by robins without destroying them.

As to the first question the case against the robin has been very strongly, and I think fairly, put by a large fruit grower in the United States, who is an uncompromising enemy of the bird. This gentleman shot a number of robins while they were feeding on his fruit and examined the stomach contents of those killed, the result showing the percentage of fruit and insects contained in each. When the birds were actually engaged in feeding on small fruit 84 per cent of fruit and about 16 per cent. of insects were found, a much larger proportion of fruit to insects than has ever come under my personal observation and larger than I have elsewhere seen recorded.

If all the robins in the country consumed as large a proportion of fruit as these birds and fruit growers suffered a proportionate loss, then there would be just cause for complaint against the robins. We know, however, that even during the height of the strawberry and cherry season that the birds rarely take as large a percentage of fruit as this, and we also know that the large growers rarely suffer any appreciable loss.

### PLENTY OF EVIDENCE.

The question as to what is the true status of the American robin with regard to agriculture and horticulture has been under investigation in the United States and Canada for over 40 years, so that there is no lack of evidence on which to arrive at a conclusion. The result of these investigations shows unmistakably that, except during the months of June and July, when the strawberries

and cherries are ripening, the robin is of the greatest possible value to the country. From early March until the middle of June robins' food consists of insects and such berries as may hang on the trees through the winter. Three specimens shot by me on April 3 last year had each eaten 150 to 200 small dark caterpillars. One shot April 11 contained one large spider, a large number of small beetles, principally weevils, and some mountain ash berries. In May and the early part of June I have always found the robins' food to consist chiefly of cut worms, wire worms, white grubs and earth worms; at this time the birds are feeding their young and they then destroy a vast number of these injurious farm pests. This is one of the robin's greatest merits, because of all our insects the underground cut worm is about the most destructive, for in feeding it just comes above the surface and cuts off the entire plant, or if the plants are very young and the stems small it cuts off a half dozen or more, only eating a small section out of the stem of each, leaving the plants dead on the ground.

Effectual remedies against their attacks are very difficult, and in some cases impossible, to apply, so that for the most part we are compelled to rely on the ground feeding birds, of which the robin is an example, to keep them in check.

In June, 1889, I experimented with a young robin shortly after it was able to feed itself, for the purpose of ascertaining just what amount of insect food it would require daily when at that stage of growth. On June 9 the bird weighed exactly three ounces. From time to time during that day I gave it all the cut worms it would eat, having previously weighed them. The grubs averaged 30 to the ounce, and the bird ate five and a half ounces of them in that one day. Had the bird been at liberty it would probably have eaten some insects of other species and fewer cut worms, but this

shows the amount of insect food required by a young robin when growing. The average number of young in a brood is four, and there are usually two broods in a season. A very simple calculation will give a good idea of the number of insects destroyed while the young are being raised.\* It is the young of the first brood after they have flown and are left to their own resources which are apt to visit the strawberry patch and cherry trees, and it is no doubt very provoking to the fruit grower on a small scale, to find them helping themselves to his scanty supply. Towards the end of summer and through the autumn young and old congregate in flocks and feed on insects and various berries borne by wild shrubs. Late in the fall they will sometimes visit the vineyard, but not as a rule until after the marketable grapes have been gathered.

#### EXTENSIVE INVESTIGATIONS.

The biological survey of the Department of Agriculture at Washington has conducted an exhaustive enquiry into the food habits of the robin. The result of this has been summarized by Prof. F. E. Beal, of that department, who says: "An examination of the stomachs of 330 robins, collected in various parts of the country, shows that cultivated fruit forms but a very moderate percentage (less than eight per cent.) of their diet, and that practically all of this is eaten in June and July. Vegetable food forms nearly 58 per cent. of the stomach contents, over 47 per cent. being wild fruits. Cultivated fruit amounting to about 25 per cent. was found in the stomachs in June and July, but only a trifle in August. Wild fruit, on the contrary, is eaten in every month, and constitutes a staple food during half the year. No less than 41 species of wild fruit were identified in the stomachs.

The depredations of the robin seem to be confined to the smaller and earlier fruits.

\* Birds of Ontario in Relation to Agriculture. C. W. Nash. Department of Agriculture, Toronto, Ont.

and few, if any, complaints have been made against it on the score of eating apples, peaches, pears, grapes or even the late cherries. By the time these are ripe the woods and hedges are teeming with wild fruits which the bird evidently finds more to its taste. Cherries and strawberries, unfortunately, ripen so early that they are almost the only fruit accessible at a time when the bird's appetite has been sharpened by a long continued diet of insects, earth worms and dried berries, and it is no wonder that at first the rich juicy morsels are greedily eaten."

#### THE CASE PRESENTED.

The case, therefore, stands in this way: It is admitted that during a part of June and July (say for about 30 days) the robin consumes a certain amount of small fruit. To this extent the fruit grower is a loser. The farmers and market gardeners, however, lose nothing by these birds, but on the contrary have to depend on them principally to keep in check the underground insects which are so injurious to their crops. Except during the period stated the fruit grower also benefits greatly by the robin's work. Limit the question then to the fruit grower alone and how does it stand? Suppose each robin ate two ounces of cultivated fruit each day for 30 days, which would be a remarkably liberal allowance. This would give three pounds 12 ounces for each bird, worth in money about, for strawberries 15 to 20 cents, and for cherries of the best class 30 to 40 cents. As against that every cut worm previously eaten by the bird would have done damage to probably as large an amount if it had been allowed to fulfil its destiny, and then there are the myriads of

other insects which the bird has eaten to be taken into consideration.

Speaking generally, therefore, it must be considered that the robin ranks as one of the most potent factors in preventing the ravages of insect pests.

It may sometimes happen, however, that an individual fruit grower may find that the quantity of fruit taken by the birds is more than he can well bear, although he realizes that generally the robins are beneficial to himself and to the country. When this happens it usually arises from the fact that a great number of birds are concentrated on too small an area, in which case they draw too heavily on the small resources open to them.

#### A SIMPLE REMEDY.

Is it possible then to save the birds and at the same time reduce the loss of fruit so that it shall not be a matter for serious consideration? This problem has been solved by the easy method of providing the birds with fruits which are useless to us, but which they prefer to those we consider the choicest. Probably the two best trees for this purpose are the common red cherry and the Russian mulberry. These are both vigorous growers and profuse bearers, ripening their fruit early, and the birds prefer their berries to any of the cultivated sorts. The mulberry is particularly attractive to them, flavorless though it seems to be.

By being a little liberal in planting these trees about the country we can save the small fruits and at the same time have about us robins enough to keep in check the most dangerous enemies of our staple crops of farm and garden.

An advantage of clover growing in an orchard in autumn is that much of the plant food in the soil which has been liberated and made more easily available by the constant cultivation during the early part of the sum-

mer, is prevented from leaching by being used by the growing plants, the clover thus becoming a "catch crop" as well as a cover crop.—(W. T. Macoun, Central Experimental Farm, Ottawa.



## REPORTS AND BULLETINS

A NUMBER of very interesting bulletins and official reports reached *The Horticulturist* during June. The annual report of the Inspector of Fumigating Appliances for Ontario, Mr. P. W. Hodgetts, shows that the enforcement of the Fumigation Act has driven several smaller nursery firms out of business. Inspector Hodgetts reports that in every case the nurserymen are seeing that the stock sold bears the certificate of fumigation. Fruit growers are well pleased with the work done, and the members of the Niagara District Association recommended that if the inspector found scale on nursery stock the previous year the facts should be made public through *The Canadian Horticulturist*. The report contains a list of Ontario nurseries and may be had by application to the Department of Agriculture, Toronto.

Bulletin No. 115, of the Experiment Station, Burlington, Vermont, discusses "Disease Resistant Potatoes." After many experiments to show stem resistance to disease and tuber resistance to rot and the chances for increasing this resistance it draws the following conclusions: (1) Some varieties are less subject to vine injury than others, (2) some show greater resistance to rot than others, (3) some show close relation between resistance of vine to disease and resistance of tuber to rot, (4) selection has not given visible increase of resistance.

Bulletin No. 113 of the same station deals with spraying mixtures and concludes by giving a spray calendar. Preparation of sprays, objects of spraying and such questions are fully explained. The bulletin is worth writing for.

"Potato Spraying Experiments in 1904," No. 264, New York Experimental Station,

Geneva, N. Y., gives a comprehensive review of extensive experiments carried on with Bordeaux mixture for late blight and potato rot. At the station five sprayings gave an increase of 233 bushels per acre, and three sprayings an increase of 191 bushels per acre. In 14 experiments on farms including 180 acres, the average gain was 62¼ bushels and the average cost for each spraying 93 cents per acre. In 41 volunteer experiments which farmers carried on, including 363¾ acres, the average gain was 58½ bushels per acre and the average cost 90 2-3 cents per acre. Judging from these figures no potato grower can afford to neglect spraying. The bulletin is a valuable one.

The Experiment Station, Orono, Maine, in bulletin 108, deals with "Orchard Moths," giving notes on common orchard caterpillars and some insect eating birds. Bulletin No. 109, from the same station, discusses the "Apple Maggot and Other Insects." Preventive and remedial measures are given. Allowing hogs and sheep to eat the windfalls from August until the crop is harvested is mentioned as being one of the cheapest and most effective remedies.

The Agricultural Experiment Station of Urbana, Illinois, discusses "The Curculio and the Apple" in Bulletin 98. The life history and habits are fully given, as well as characteristics which distinguish it from the plum curculio. Neglect of pruning, cultivation, spraying and fertilizing engenders conditions which favor its multiplication. Spraying with arsenical poisons has a beneficial effect in an isolated orchard. Destruction of fallen fruit and surface cultivation are mentioned as very efficient remedial measures.

I have never used boxes for shipping apples, and shall not as long as I can get barrels at 50 cents or less.—(Irvine Hicks, South Bay, Ont.)

The *Horticulturist* is the best fruit magazine I have ever read.—(A. A. Bligh, Waterville, N. S.)

The *Canadian Horticulturist* is getting better all the time.—(Geo. Shuert, Brantford, Ont.)

## COOPERATIVE PACKING BY GROWERS

D. JOHNSON, PRESIDENT FOREST FRUIT GROWERS' ASSOCIATION, FOREST, ONT.

**I**N the early part of last season the Forest Fruit Growers and Forwarding Association intended to have each member pack his own fruit under inspection. If any package was found not properly marked it was to be rejected or marked according to its proper value. The inexperience of some, however, and the diverse grading caused the association to adopt the central packing house.

For this purpose a rink was rented and to this each variety of apples was brought as the fruit matured. It was gently packed in barrels, with the head slipped on by hand, and hauled either in racks with springs or with some straw in the bottom of the rack. Each man's apples were kept in a separate row and the man's name and the variety of the apples were written on the top with pencil. The number of barrels of unpacked apples was credited each grower on the books.

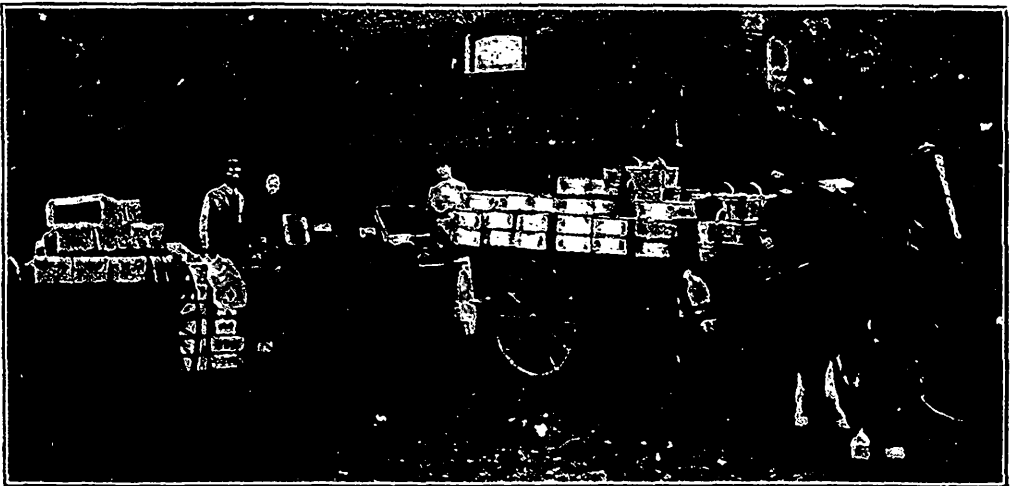
In packing, each man's apples of a certain variety were emptied on the packing

table, where they were carefully graded by girls. The XXX were put in a basket to their right, the XX in a basket to their left, and the culls in bags attached to the tables.

Each man working in the packing house had his special work to perform for which he was responsible to the manager. It was the duty of one man to properly face, nail and cleat each barrel of fruit required. The facing had to be a fair representation of what was in the barrel. Each hoop had four nails, each head six and each cleat six.

### THE HEAD PACKER'S DUTY.

It was the duty of the head packer to empty baskets, shake down the fruit in the barrels and see that the grading was properly done and that each grower was credited with the full amount of packed fruit of each variety and grade. The shaking down was done by setting the barrel on a plank. Another man was responsible for the facing of the pressed end and for the pressing in of the same. A third man had charge of the stenciling and nailing in of the



**Shipping Fruit on a Niagara District Fruit Farm.**

Packers getting fruit ready for shipment at J. F. Brennan & Son's fruit farm, Grimsby, Ont., are shown. On the left is Mr. Brennan, who superintends the packing. He has adopted the California style of packing, and has been repaid by the proud distinction of landing the best packed Ontario fruit on the Winnipeg market of many large shipments. He has also won high awards at the national and international exhibitions and has received orders from many parts of the United States and Canada for his celebrated Ashland Fruit."

head. He also had to check off each barrel and record the name of the owner, the variety and the grade as it was loaded on the dray for the car. The manager assisted in every department and was in a position to know exactly the quality of fruit packed in each grade.

The culls were sent to an evaporator, and the money received from this source was used to pay general expenses such as the cost of packing, which amounted to about seven cents per barrel. This may not seem fair to the man with many low grade apples, but when we consider that it costs more to pack poor apples than good ones it cannot be considered an injustice.

The central packing house is perhaps

### Top Grafting the Pewaukee

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

I have about 40 trees of Pewaukee apples which bear heavily each year, but before maturity a high wind removes fully two-thirds of the fruit. I have been told that as the trees get older they hold their fruit better, but if it drops as badly as it does now I wish to graft them to Ontario. Spy or King. Which of these would you advise me to use? What is your opinion of the Baxter apple?—(J. B., St. George.)

The characteristic you describe in the Pewaukee of dropping from the tree is one of the worst features of this variety, and as the fruit itself is not of the best quality I certainly would recommend in a section, such as yours, where better varieties can be grown, that such trees be grafted over. All of the varieties you mention are excellent, but of the three I would prefer the King, although this too is liable to drop during heavy winds. This variety is about the same in rate of growth as the Pewaukee, and should work well upon it, and, no doubt, the productiveness of the Pewaukee would help to make up this defect in the King. The Ontario is hardly equal to the Pewaukee in rate of growth, while the Northern Spy is much stronger, but any of these should do well on Pewaukee stock. The Baxter is a large, showy red apple, which

more expensive than the old system of allowing each member to pack his own fruit under inspection, but as dealers have long desired such a system we expect the greater uniformity will cause them to pay enough more to meet the extra expense twice over.

The Forest association has been complimented many times on the good quality of its fruit and on the packing done last season. Our members realize the benefit of spraying, and to ensure a high class fruit this season are spraying at least four times—twice before and twice after blossoming. We expect our output this fall will be ahead of that of last year, and feel sure that the better quality will be appreciated to its proper value by the trade.

originated near Kingston, and is well adapted to that section of the country. It is, however, quite subject to scab, and I would not recommend it for your section of the country, where apples of better quality may be grown.

### Cultivation and Cover Crop

W. H. DEMPSEY, TRENTON, ONT.

CULTIVATION should be commenced as early in the spring as possible, with disc cultivation or gang plow not more than four or five inches, and continued each week or 10 days with a light harrow through July till the middle of August. Then a cover crop may be sown of red clover, barley, oats or peas, which will aid the trees in ripening, and by holding the leaves and snow prevent alternate thawing and freezing and lessen the depth to which the frost penetrates, thus carrying trees through the winter uninjured which might otherwise be killed. If the season is dry and trees heavily loaded it would be better to delay sowing the cover crop, as it would take too much moisture from the trees and cause the fruit to cease growing and prevent its development to fair size.

## The Spraying Experiments

P. W. HODGETTS, B. S. A., DEPARTMENT OF AGRICULTURE, TORONTO, ONT.

THE second series of sprayings in connection with the experiments for the prevention of grape rots has just ended at Mr. Shearer's farm near Niagara, as outlined in the last issue of *The Horticulturist*, are being carried on by the Department of Agriculture at the request of the fruit growers of the Niagara district, whose vineyards have suffered severely the past two seasons through the attacks of the black and brown rots.



**A Forest Spraying Outfit**

The spraying outfit of Mr. William Frazer, of Forest, Ont., one of the most successful fruit growers in this district, is shown here. Mr. Frazer may be seen in his spraying uniform on the elevated platform. The Forest growers find the elevated platform a great help in doing efficient spraying.

During April a number of vineyards were visited and a few rows of grapes in each were sprayed with the copper sulphate solution. Starting June 13th, just before the blossoms opened, we again made the round from Winona to Niagara and Stamford, a distance of over 50 miles, with the cart spramotor. Over 4,000 vines at eight different points were sprayed. The standard Bordeaux mixture was used throughout for the grapes.

Soda Bordeaux was applied at Mr. Robertson's farm in St. Catharines to a number of cherry and plum trees to control the rot which is developing seriously owing

to the prevalent moist, sultry weather. This mixture is made up of 40 gallons water, 4 pounds copper sulphate, with enough caustic soda or lye (ranging from 18 to 24 ounces according to its strength) to make the whole slightly neutral. The soda replaces the lime, and these will not discolor the fruit. It is claimed that this mixture will not hold to the trees and foliage like the lime Bordeaux, but on the other hand it is more easily prepared, will not clog the nozzles, and may be used almost till the fruit is ripe.

Care must be exercised, however, in testing its strength when prepared. The use of litmus paper in this connection will be readily explained by any druggist and the test is simple. The blue paper should retain its color when dipped in the prepared solution, while the red paper should, under the same conditions, turn blue. Owing to some trouble experienced by the Winona growers fruit men will do well to apply this test to any of the soda preparations.

## Hairy Vetch for Green Manure

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

Kindly advise me if hairy vetch would be good to plow under and then plant strawberries the following spring. What does the seed usually sell at and when is the best time to sow it?—(J. B., St. George, Ont.)

A crop of hairy vetch grown this year and turned under next fall should leave the ground in good condition for strawberries the following year, although if the ground is in fairly good condition it might be possible to raise some early crop on the ground this year, such as early potatoes or early peas, and follow with the vetch as a late catch crop. Vetch grows well late in the season and makes a good mat of vegetable matter to plow under when sown as late as the middle of August. The seed this year is quoted at \$4.50 to \$5 per bushel.

## Remedy for Black Knot

H. S. PEART, B.S.A., O.A.C., GUELPH, ONT.

Will turpentine and sulphur mixed painted on growing black knot on plum trees prevent further growth and kill the spores? Can a better mixture be suggested?—(W. C. Archibald & Sons, Wolfville, N. S.)

Black knot is a fungous disease, the nature of which has been thoroughly understood for many years. The spores of the disease are carried by the wind in early summer. Spraying the trees with Bordeaux mixture in spring and early summer will prevent fresh infection. Once the disease is established there is no certain remedy except cutting out and burning the knots. Turpentine does not dissolve the sulphur, hence the mixture is no better than turpentine alone.

The use of such substances as turpentine and crude petroleum are not to be commended, as they nearly always injure the tree. United effort on the part of the plum and cherry growers in cutting out and burning knots as they appear and spraying with Bordeaux mixture early in the summer will soon rid a section of the disease.

## Thinning and Propping

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

What is the best method of thinning fruit? Is there any serviceable implement made for thinning purposes? What is the manner in which trees are best propped?—(L. B. Pangman, Salmon Arm, B. C.)

There are two general methods of thinning fruit, first by regulating the number of fruit spurs and consequently the amount of fruit by pruning, and second, by removing the extra amount of fruit as soon as it is sufficiently formed to judge of its character. Various devices have been suggested for this purpose, but none of them are as good as going over the fruit and picking it by hand in the usual way. By this means judgment may be used in the removal of the fruit and care can be taken to avoid the breaking off of the fruit spurs.

Fruit trees should not be allowed to bear so heavily that they require propping. If allowed to grow more than the branches can sustain it is more or less of a drain on the vitality of the tree, apart from the danger of the limbs being broken by the heavy weight of the crop. Propping, however, is much more common than judicious thinning, and where it is resorted to we know of no better plan than placing crutched poles underneath the branches to support the weight. I know of no special kind of supports being used other than this placing of poles underneath the branches, although I have seen light ropes or wire used in large trees to tie up a drooping branch to strong limbs in the centre of the tree, but this method is not so satisfactory as supports from beneath, and where wire or rope is used the branches often break off at the point of support.

## Cultivating the Spy Orchard

W. T. MACOUN, HORTICULTURIST, C. E. F., OTTAWA.

In raising Spys is it best to cultivate the orchard and sow cover crops, or to let the orchard be in sod and use barnyard manure? The soil is a sandy loam.—(A. J. L.)

Cultivating an orchard of Northern Spys or leaving it in sod will depend very much on the character of the soil and the amount of moisture. Trees growing in good soil where they never suffer from drought, even if the soil is left uncultivated, will usually produce fine fruit, providing the fertility is kept up by the application of barnyard manure to the sod. If the soil is poor and there is any danger of drought it is much the best practice to cultivate the orchard and sow a cover crop in the month of July both for protection in winter and for improving the fertility of the land.

I believe the bandaging of trees with bur-lap, if properly attended to throughout the season, will almost exterminate the moth.—(G. C. Caston, Craighurst, Ont.)

## HORTICULTURE IN MINNESOTA

T. G. RAYNOR, ROSE HILL, ONT.

THE conditions under which apples are grown are quite different in Minnesota to what they are in Ontario. Through many ups and downs some of the old settlers have persevered until they have originated varieties that can be grown in this northwestern country. The old fruit growers learned from their many failures with eastern and southern grown fruit trees, that very few varieties were hardy enough to stand the Minnesota conditions.

Men like Charles Gideon, who originated the Wealthy and Gideon apples; Mr. Harris and Mr. Yahnke, who has a seedling which stands equal to our Spy and King in quality

across the line into our Canadian Northwest. The most satisfactory locations for an apple orchard here, as with us, are found to be northern or eastern slopes. However, in most parts of the state there is no choice of slope, and fruit growers are compelled to make these conditions by setting out wind break plantations around their farm buildings and planting their trees on the north side. These catch most of the snow and protect the trees more or less from sun scald and warm winds from the south.

Until recently the wind-breaks have been for the most part of willows, cotton woods and box alders. These break the winds very well in summer, but not so well in winter. In many cases they have been placed so close to the buildings that as Mr. Yahnke puts it, "they have the snow banks in their kitchens."

The coming wind break is the evergreen, one which breaks the winds in the winter time. Many tried these but failed to get them to grow, because they did not know that the sap of an evergreen contains resin, and five minutes' exposure of the roots to sun or wind means dead evergreens. Then many farmers didn't know that in setting them a mud bath was



**A Busy Day in the Berry Field.**

Pickers at work in the strawberry plantation of Davidson & Co., Meyersburg, Ont., are here shown. Mr. Davidson has two acres of strawberries this season and says that Corsican, Cook and Brandywine are the most profitable varieties for that section. There is no difficulty getting pickers at one cent per box, as farmers come miles to pick and many are turned away.

and which bears the name of its originator, are great benefactors to their race. There are now varieties which bridge over the season pretty well, in Duchess for summer, Wealthy for fall and early winter, and Northwestern Greening, Melinda and Yahnke for winter varieties.

There are a number of nurseries in the state which are extending their trade even

necessary, and as soon as they were planted the roots should be covered.

As Ontario is already over cleared in the older parts more of our farmers should pay attention to the value of evergreen wind breaks about their farm buildings.

No money can be made by holding grapes. When the season for grapes is past, the demand is over.—(Robert Thompson, St. Catharines.

### A Rack for Hauling Apples

JOSEPH TWEEDLE, FRUITLAND, ONT.

I HAVE a very convenient rack for hauling apples. It has a set of low steel wheels with wide tires. These can be made to order and to fit any wagon. On this is a set of double bolster springs, which support a lorry platform. The platform can be built of two bed pieces, any width and length a person may desire. The wheels cost \$15 to \$20, while three ton springs cost about \$15. The bed of the rack can be made for about \$10. My rack carries 24 barrels of fruit, and if it were 14 inches longer could carry 28 barrels on end.

The way my wagon sits on the springs we can carry the barrels on end. This would not be possible were it not for the springs, as the fruit would be too severely shaken. Were it not for the springs, also, it would not be possible, for the same reason, to drive off the paths. It pays to have these springs, as they make it possible to trot the teams without injury to the fruit.

### Objects to the Size

D. YOUNG, ADOLPHUSTOWN, ONT.

THE new apple box adopted by the Dominion Department of Agriculture will be sold as a bushel and should be 10 x 11 x 19 $\frac{5}{8}$  inches. Between the bushel box and the size of the one adopted there is a loss to the producer of about 350 boxes in the quantity I ship from my own orchard in one season—over 5,000 barrels. This is too much loss. It is not much on one box, but in the aggregate it is heavy. Another objection to the use of such a box is that it is too heavy to handle with cheap help.

The next annual meeting of the British Columbia Fruit Growers' Association will be held at Vancouver. The quarterly meeting in April was at Victoria, in July will be at Nelson, and in October at a place to be selected by the executive committee.

### Rapid Spraying

ALEX. GLOVER, WINONA, ONT.

THERE is a statement in the May issue of *The Canadian Horticulturist* in the article giving Mr. Murray Pettit's and Mr. E. M. Smith's experience with their new spraying outfits, in which I am interested. In it mention is made by Mr. Murray Pettit, of Winona, of ten dollars having been offered an agent for another machine if he would cancel an order for one of his outfits. I believe this statement originated with me. At the time I made it I had been misled in regard to some points of the machine I had ordered, and thought that the Spramotor cart afforded an opportunity to overcome the difficulty. I believe I even went so far as to offer to pay for the Wallace machine I had ordered and to store it unused, until the agent had an opportunity to re-sell it. After giving both machines due consideration, however, I became satisfied I had better keep the Wallace Power Sprayer which I had ordered. Since I have given it a trial I am perfectly satisfied with the way it works. After using it only long enough to get slightly acquainted with the handling of it we sprayed over 1000 pear, plum and peach trees, of an average age of nine years, on one side in half a day, and did it with only one line of hose, having a four-nozzle head. The point in regard to which I have been misled was in the matter of draft, as I had been told that my team could not handle my machine. I have found that my team can handle it easily, although one of them is a four-year-old colt weighing only 1,080 pounds. I make this explanation because the item in question might injure the Wallace Company and Mr. W. H. Brand, their agent here, as well as other fruit growers who might be misled as I was. I wish it to be distinctly understood that I am perfectly satisfied with my Wallace machine, and would not exchange it for any other.

## SOME VALUABLE BULLETINS

**E**XPERIMENTS in dust spraying have been tried at a number of places in the United States, including the Delaware College Agricultural Experiment Station, from which a bulletin giving the results has just reached *The Horticulturist*. Two pounds of dry mixture will answer on trees which would require three to four gallons of liquid. Each tree received at each spraying one-half as much copper sulphate and one and one-half times as much poison as are contained in four gallons of Bordeaux mixture with poison. The conclusions arrived at from the experiments are as follows:

The codling moth and apple scab on Nero, July and Red Astrachan apples, were satisfactorily controlled by dust spraying, using Paris green for poison, in 1904. If the dust spray will produce the same results on other varieties of apples it can certainly be recommended. In liquid spraying operations for large orchards a mixing house and storage tanks are necessary, as is also a supply wagon if the spraying outfit is worked to its fullest capacity. This involves a heavy expense most of which would not be necessary in dust spraying. Should the dusting method continue to give the favorable results it has given in its first trial it must soon replace in part the liquid method, except where such sucking insect as San Jose scale must be fought during the growing season.

At present it is probably best to rely on some brand of hydrated lime now on the market and pulverized copper sulphate and Paris green for the dusting material, unless a pulverizing mill is available. In this case, and especially if dry slaked lime is used, the materials should be mixed and run through the mill. The formula now suggested is one pound of pulverized copper sulphate, one pound Paris green or green arsenoid, one pound ground sulphur and 50 pounds limoid, or other hydrated lime. It will per-

haps be well to mix the copper sulphate and lime together a day or two before needed for spraying so as to facilitate chemical action between the two. Further testing may prove that a formula with a larger proportion of lime will prove effective, but at present the stronger one will be used.

As to cost, according to the bulletin, the dry spray can be applied on a commercial scale at half the expense of liquid spray.

### WINTER KILLING OF PEACH TREES.

Another bulletin recently issued by the Ohio station gives a report of investigations in the Lake Erie fruit belt on the winter killing of peach trees in 1903 and 1904. The conclusions arrived at are as follows:

General cause of unusual susceptibility to cold of the orchards of the Lake Erie fruit belt: prevailing low vitality of the trees.

Specific causes of low vitality of the trees: San Jose scale, leaf curl, lack of nourishing plant food, imperfect drainage.

Exceptional causes of susceptibility to cold in rare cases of apparently healthy, vigorous trees: low, moist, rich black soil which favored an extreme growth of soft, poorly ripened or matured wood; or high culture upon soil rich in plant food which brought about similar results.

The unusually deep, hard freezing of the earth's crust was due, directly, to the continued steady cold, but was intensified, in many instances, by a lack of humus or vegetable matter in the soil, which constitutes nature's insulation of the surface of the earth from cold and heat.

Providing that the orchards had been kept free from fungous diseases and the San Jose scale, by timely and thorough spraying, no injury of trees was found where stable or barnyard manure had been used upon the ground within the last year or two previous to the winter of 1903-4; rarely was an injured tree found standing in sod; no injury was done where the surface of the soil, beneath the trees, had been covered with



even a very light mulch; little injury was done where the trees stood in fairly well drained soil containing a moderate amount of fertility and humus; no injury was found where the trees were under the grass mulch method of culture; no injury was observed in any case where the stems of the trees had been slightly banked or mounded with a few shovelfuls or forkfuls of soil, peat or manure.

Very few trees which, within the past few years, had been affected with leaf curl or in-

festes with San Jose scale or borers, remained alive or uninjured; and very few trees existing upon infertile or exhausted soil, depleted of humus, escaped uninjured.

Other bulletins received by The Horticulturist are: one on the maintenance of fertility by the use of lime, from the Ohio experiment station at Wooster; and The Preparation and Use of Sprays, and Disease-Resistant Potatoes, from the Vermont station at Burlington. They contain useful information and are worth writing for.

## SELF-STERILITY IN FRUITS\*

THEO ROSS, B. A., P. E. I.

FOR some reason which we do not understand many varieties of fruit are self-sterile. The pollen of that variety will not fertilize the pistils of the same variety, as for instance the Northern Spy. The pollen of a flower of a Northern Spy tree may fall on the pistil of a flower of a Northern Spy but fertilization does not take place. We say the Northern Spy is a self-sterile variety, and then we are in the dark groping blindly. This subject of self-sterility has not yet been worked out and it will not be for a long time to come, for self-sterility is influenced by climate and location to quite a degree.

There are some varieties of nearly all kinds of fruits self-sterile, and by a self-sterile variety is meant a variety that is unable to set fruit when alone; in order to be productive it must be set near some other variety. Planting near them more trees of the same variety does not make them fruitful, but if trees of another variety are planted near them they are often made fruitful. Then there are all the gradations from self-sterility to self-fertility. Some varieties will set fruit with their own pollen, but the result will not be nearly as good as if fertilized by pollen from another variety,

while again with other varieties it will be just as good.

In some work done at Cornell, Stark pistils were fertilized with Wagner pollen and others with Stark pollen with these results, so with Longfield Greening. In these instances the size was much increased by cross-pollination, but it might have been still further increased if some other variety had been used as a fertilizer. In the case of the Talman Sweet there has been very little improvement, but there again if some other pollinizer had been used we might have had different results. The number of crosses that might be made are very large and in most of our orchards, where there are a great number of varieties, the number made every year is undoubtedly larger but we cannot check up the results.

Experimenting with various pollinizers is not only pleasant work but it requires really no outlay, and much good might result. All that is necessary is a few paper bags and some twine and a pair of scissors. Cut the stamens from some blossoms as soon as they open and fasten paper bags over them to prevent pollination. Then, when the pistil is ready, dust some pollen taken from some stamens that have been protected

\* Extract from an address delivered at the annual convention of the Prince Edward Island Fruit Growers' Association.

in the same way and cover again with paper bags. In this way results can be noted but not in any other way. Even if there should be only one variety in an orchard the pollen might come a long way in the wind or bees might carry it. It is only when every precaution is taken that one can be sure. Even if this work has not been carried on very extensively cross-pollination of varieties is no longer a theory. It is an established orchard practice.

Among the common varieties of apples more or less self-sterile are Gravenstein, King, Northern Spy, Red Astrachan, Russet, Winesap.

Mostly self-fertile: Baldwins, Ben Davis, Fallawater, Greening, Duchess.

Most of our common plums are self-fertile, such as Burbank, Bradshaw, Green

Gage, Lombards, Damsons, etc. Strawberries very often lack stamens altogether, as the Anna Kennedy, Arrow, Avery, etc. while others like the Crescent have so few and so poor stamens that they are practically self-sterile.

These observations ought to be of some practical worth in the setting out of an orchard. Some varieties of fruit will not bear at all unless they are planted near other varieties, while nearly every variety is benefited by cross-pollination. Do not then set out a large block of any one variety, but mix them, setting varieties that bloom simultaneously side by side, and try to find out which varieties cross best. If we have large blocks of one variety it might be advisable to put on each tree some grafts of other varieties to act as pollinizers.

### Canning Fruit\*

MRS. M. M'KERLIE, BURLINGTON, ONT.

**I**N canning fruit the first thing is to select good fruit, which is always more satisfactory if not too ripe. Next select good air tight jars. I have always found it the best plan, and one which causes the least work in canning time, to wash, scald and air jars, then replace the same tops as soon as the fruit is out. They are then ready for fruit after a single rinsing with hot water. It is always a safe and a wise plan to use new rubbers each year.

The following recipe for syrup is one which I have used and can recommend. To every three pounds of sugar allow one quart of water and boil half an hour. Then draw kettle to back of the stove, where mixture will not boil. Let it remain until you have jars filled with fruit. If berries or small fruits be careful not to crown so as to crush, but large fruit jars can be filled closely.

After jars are filled with fruit stand on a wet cloth and fill with hot syrup, then seal

tightly, being very careful to exclude all air from the fruit before sealing. Set the jars in a tub in which a sack has been placed and pour in boiling water enough to fill the tub almost to the top of the jars, taking care to pour the water around the edges of tub, not on the jars. Then cover the tub with a cover of boards tightly and place heavy rugs over all. Let stand over night. A dry cool place away from the light should be selected to store the fruit away.

**A Suggestion.**—Let a number of orchardists agree to keep correct accounts of the number of full grown trees of each variety in their orchard and the age of the trees, the number of barrels of fruit of each variety sold, the grade, where marketed and the net price obtained, with date or season of sale, and report annually for say five years. If to these reports the system of cultivation, spraying, etc., is appended, the information to the intending planter and the general orchardist will be of the utmost importance and value.—(R. W. Starr before Nova Scotia Fruit Growers' Association.

\* Extract from a paper read at a Women's Institute meeting.

### Summer Pruning

“ I HAVE sprayed my currants for the currant worm,” said Mr. A. W. Peart, of Burlington, to a representative of *The Canadian Horticulturist*, who visited his place recently, “and am practicing thorough cultivation, which should be kept up until the fruit is almost ripe. This cultivation must cease when the fruit shakes off readily. Blackberries also must be well cultivated throughout the season.

“About the middle of July I shall do the summer pruning. Young canes are cut off so as to leave them three or four feet high, depending on the habit of growth and the sturdiness of the cane. This pruning makes the cane tree-like and strong to resist winds and storms. None of the laterals will be cut back until next March.

#### SUMMER PRUNING OF GRAPES.

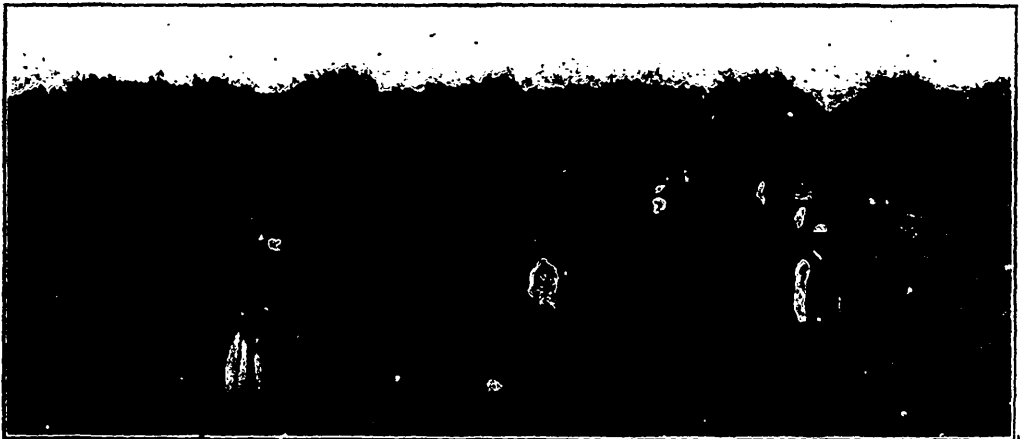
“When pruning grapes in summer the clusters of the fruit must not be exposed too much to the sun, as that delays ripening. About the middle of July or perhaps later the ends of long shoots should be removed to throw the strength from the wood to the

fruit, but there is an ideal medium which should be struck.

“As soon as the young grapes have set I intend to start spraying with Bordeaux mixture to try to prevent the rot which gives grape growers so much trouble. It is practically impossible to control rots, moulds and scab if the weather is damp and warm. However, I am going to give three or more applications of the Bordeaux.”

### The Strawberry Patch

“THE Williams strawberry,” said Mr. Wm. Fisher, of Freeman, to *The Horticulturist* recently, “has been giving me the best returns each year. I usually have seven or eight acres in this crop and have set out Williams, Sample and Senator Dunlap this season. Strawberries should be set out as early in May as weather will permit. They should be thoroughly cultivated every week through the early part of the season. The hoe, too, should be used frequently to keep all weeds out of the rows. The blossoms should be clipped off the first season so that good strong plants may develop.



**Mr. Sherrington's Berry Field.**

This illustration represents the raspberry patch of Mr. A. E. Sherrington, who conducts the fruit experimental station at Walkerton. The principal variety grown is the Cuthbert. Mr. Sherrington considers it the best for his section for home or market. The berry bushes are used as fillers in his experimental apple orchard. The old apple orchard appears in the background.

"In my young orchard I always plant small fruit if the soil is suitable. This practice can be carried on until the fruit trees come into bearing. In raspberries I find the Marlboro and the Cuthbert give excellent satisfaction. The former comes in slightly earlier. They are both large berries of good quality suitable for shipping. The bushes, too, have sufficient wood to bear large quantities of fruit."

### Methods With Raspberries

"THERE are two radically different methods of growing raspberries," said Mr. R. B. Whyte, of Ottawa, to *The Horticulturist*. "The one commonly used in western Ontario is to 'pinch in' the plant when it is about two feet high and make a bushy plant of it. In this way staking is not necessary. In the colder parts, like Ottawa and vicinity, where the plants have to be laid down during the winter for protection, I find it much better to allow them to grow without pinching them until they are about five feet high.

"Lateral branches should be cut off to within about six inches of the main cane so as to throw additional strength into the main cane and to prevent the lateral branches breaking off with the weight of the fruit. The bushes can be staked off. For a tall open bush like this it is possible to obtain larger and finer fruit, which possesses much finer flavor. I used to lose my crops when I tried the other method, but have never lost a crop since I have adopted this system."

It pays to correctly fertilize strawberries for the following reasons: It vastly increases the yield, it gives larger berries of better color and flavor and a firmer fruit. Firmness in the fruit enables it to be shipped long distances and arrive fresh.

Take pains. If you do that you will make a success of strawberry culture.

### A Fine Fruit Exhibit

LINUS WOOLVERTON, GRIMSBY, ONT., SUPT.  
FRUIT EXPERIMENT STATIONS.

OUR Ontario fruit experiment stations will put up an exhibit at the Ontario Horticultural Exhibition in Toronto next November which will be of the greatest interest to fruit growers because of its educational character. For nine years these stations have been testing all known varieties of fruits. We have found many much lauded varieties to be worthless. These will be shown in a class by themselves, while the varieties which have proved profitable or otherwise worthy of cultivation will be shown and duly placarded. Work is already beginning in preparation by the putting up of tender fruits in glass bottles, of which several hundred have been distributed among the experimenters for the purpose.

### The Effect of Example

GEO. VAIR, TORONTO.

DO not be discouraged by one failure to grow flowers, but try, try again. Your neighbor will seek to emulate you and thus spread this pleasing and refining influence.

On the street on which I live I did not have much opportunity to grow flowers, but I began to plant some creepers and added a few geraniums and other things in the small space at my disposal. The result was that my neighbors began to do likewise and have put me in the shade.

These neighbors began to take pleasure in gardening, and a more delightful scene could hardly be witnessed than that of a whole family, young and old, sitting outside in the summer evenings, often bragging about their different displays.

A perfect all round strawberry is about as hard to find as a perfect all round milk cow.

## CORNER ROCKERIES IN CITIES

**I**N attempting to add true beauty to the landscape or even to the small lot the tendency in recent years has been to maintain as nearly as possible a strict naturalness. There are, however, very many cases in which art and nature must be combined to give the desirable effect.

Large boulders and ledges are in themselves natural objects which add a charm to their surroundings. Loose rocks and cobbles on the other hand are unsightly rubbish. But even these objectionable smaller stones may be made use of by having them form the nucleus for clumps of shrubs. It is the larger shaggy ledges, however, that give the best effect.

Large boulders arranged along a steep embankment with no regular outline add a naturalness and beauty which can be obtained in no other way.

By combining plants and rocks even small level lawns may be rendered much more beautiful. Too frequently a corner lot is spoiled by "busy" people taking short cuts and making a hideous path across what otherwise would be a beautiful lawn. Many

means of preventing the making of these unsightly paths have been tried. Fences are being discarded. Shrubs and trees are effective, but as a rule rockeries add more beauty and are just as efficient in preventing inroads of hurried pedestrians.

Large, water-worn limestone rocks produce the best effect. They are so rough and irregular that they are almost certain to present a natural appearance. By combining what artistic tendency is possessed by even an amateur landscape gardener with the inherent naturalness of the rocks themselves it is an easy matter to produce a very pleasing effect.

In building the rockery none but the best soil should be used, and it is important that it be well packed into every corner between the rocks. The choice of shrubs, plants and vines will depend on the climate and on the site, as well as on the size of the rockery.

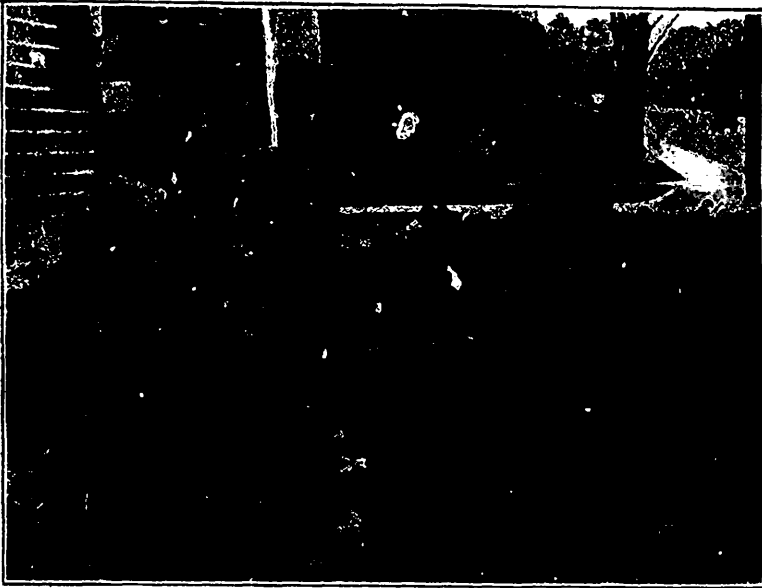
In Hamilton last year the City Improvement Society offered prizes for corner rockeries and many beautiful effects were produced. As an encouragement to amateurs in any line it might be stated that the first

prize was won by Mr. C. D. Nash, who had had no previous experience in rockeries.

"My rockery," writes Mr. Nash to *The Horticulturist*, "consists of water-worn stones of all shapes and sizes. In erecting them no particular care was taken to make them in any way straight. This, of course, gives a better effect. The rockery is 16 feet long, 26 inches high, and 28 inches



**The First Prize Rockery in a Hamilton Rockery Competition.**



**The Rockery That Won Third Prize.**

wide. After putting a layer of broken stones in the bottom for drainage I filled the spaces even with the top with earth composed of old sod and manure which had been standing for over a year. This was packed down well and allowed to stand for a couple of months. Before planting the flowers I loosened the earth to a depth of about six inches. I planted geraniums, coleuses and dracenas. For trailers I used creeping ivy, nasturtiums and periwinkle, while small pockets were filled with alyssum and trailing lobelia. I also added some single petunias later in the season. In planting the varieties were intermixed as much as possible."

Dr. D. G. Storms, who won the third prize, informs *The Horticulturist* that his orders to the builder were: "Put the stones together so that no one will suspect any design." "I realize," says Dr. Storms, "that nature abhors straight lines. My rockery was built on no other plan than that of nature, except that it was extended from the corner of the house to the angle formed by the two sidewalks. In building

it the soil for the formation was loosened and thoroughly enriched with well-rotted manure. The stones were placed without order except to leave pockets here and there. The soil used was a mixture of old clay sod, well rotted chip dirt and cow manure, with some leaf mould.

"I have endeavored to place in the rockery only those plants which are at home. I used hepatica, ferns and

periwinkle. For bloom I depended on verbenas. My idea was not to make a flower bed, but simply an attractive and useful rockery."

Regarding the rockery of the Hamilton Cataract Power Co., which won fourth prize, Mr. Wm. A. Sweet says: "The rockery was made of mossy waterworn limestone rocks gathered from the side of the mountain. It is about 14 feet wide, 18 feet long, and three feet high, and runs from the corner of the building to the sidewalk. The space between the rocks was filled with equal parts of well mixed rotted manure, black loam and sand loam.

"Around the sides were planted some small rock ferns and wild flowers from the mountain, and nasturtiums. The top was well filled with various trailing and creeping plants, such as centrosema, cypress vine, portulaca and canary creeper. I also had some geraniums, fuchsias, cannas, asparagus and ivy geraniums. Some of these do not belong to rockery plants, but I put them in because it was too late in the season to get the more desirable kinds."

### Ants on Peonies

DR. JAS. FLETCHER, OTTAWA, ONT.

My peonies last year were almost covered with ants and the plants in many cases were destroyed. I used everything I heard of but found no remedy. A friend told me that it was aphids and not ants which cause the trouble and that the ants ate the aphids. My roses too were attacked by some insect. The leaves curled up. I washed the roses once a day by spraying with cold water, and applied "slug shot," but it did no good. Is there a remedy?—(Mrs. Ezra Briggs, Walkerton, Ont.)

Ants frequently cluster on the buds of peonies, but I have never observed any harm from their visits. They seem merely to eat the gummy secretion on the buds. I have never noticed aphids on peonies. For aphid on roses I think the easiest effectual remedy is to spray them with whale-oil soap, using one pound of soap in six gallons of warm water. Kerosene emulsion is made by dissolving one half pound of hard soap in one gallon of rain water by boiling. Then add two gallons of kerosene while still hot and churn briskly for five minutes. This should be diluted with nine times its measure of water when treating rose bushes attacked by plant lice.

### With the 'Mums in July

GEO. HOLLIS, BRACONDALE, ONT.

THE early varieties of chrysanthemums planted in May must receive careful attention this month. The bench should be kept free from weeds and the surface of the soil loose to a depth of at least half an inch. If the soil is allowed to bake some parts of the bench will be too dry while others are too wet. Every endeavor should be made to get a vigorous and firm growth, for without that the flowers will not be good.

About the middle of July the addition of some manure water would be beneficial, but to some people the odor is objectionable. Arnott's horticultural manure has not this objectionable smell and gives first-class results.

The late varieties should be planted without delay. Both early and late kinds must be sprayed thoroughly and often, getting the water well under the foliage. If this is done the troublesome thrip will be prevented from working destruction. More plants are ruined by thrips than by any other insect. Thorough spraying with tobacco water once a week will keep the plants free from insect pests. If dwarf pot plants are wanted the cuttings should be rooted this month. Five or six plants can be put in a five-inch pot and with care they will make very nice plants. The strongest shoots of early varieties should be nipped back once more during July.

### Chrysanthemums

“WHEN preparing the benches for chrysanthemums,” says Mr. H. Neal, of Ingersoll, “I put two or three inches of well-rotted cow manure in the bottom and then about three inches of good soil on top of this. When the plants grow up and begin to show buds I pulverize a lot of cow manure and spread it all over the surface about an inch deep.

“This is better than using the liquid manure, because every time the plants are watered some food is made available to them. I aim to keep the plants growing steadily and never allow them to lop over. I prefer strings to stakes. My best paying varieties are Queen (white) and Col. Smith (pink) for mid-season, and Mrs. Germey Jones (cream) and Merry Christmas (white) for late season.”

Some plants, as begonias, fuchsias, lilies, Chinese primroses and coleus, may be grown in an eastern window, in fact do better there than in too strong sunshine. Then there is the graceful palm and feathery fern for the room lighted by the northern window.—(Mrs. W. J. McLenahan, Appleby, Ont.)

## GROWING PANSIES

“WE grow a general stock of flowers,” said Mr. P. Fogarty, Jr., of Fogarty & Sons, florists, Toronto, to a representative of *The Horticulturist* who visited their new greenhouse recently, “but we have made a specialty of pansies. We are going into carnation growing and have selected the Lawson (red), Glacier (white) and Morning Glory (pink) as the best varieties. At one time we used to give much attention to bedding plants, but since we have built a new greenhouse intend going into cut flowers and pot plants more extensively. Cyclamens and primulas make a nice display.

“Our pansies are grown from seed. The seed is planted in summer and produces strong, well grown plants before winter.

They are covered in the autumn and in the spring they come on in good time. Last year we got new seed from an American seedsman to mix with our own so that we might obtain new varieties. Without such mixing the plants would soon deteriorate.

### USES MANURE.

“The fertilizer that we use the most is stable manure,” continued Mr. Fogarty, “but we have used commercial fertilizers also. The latter are good if they do not contain too much grease, which promotes fungous diseases. We have had very little trouble with insect pests. They can be kept down by regular fumigation. A ready sale is found for our plants in the local market, and more could be disposed of if we had them.”

## Dahlias Improved

E. F. COLLINS, TORONTO.

FOR many years the dahlia has been a favorite flower among the florists in England, and to-day it is found in almost every garden. The honor of improving this plant and producing new varieties with larger flowers belongs to the French and German gardeners. The glowing reports of grand displays brought back by the people of Great Britain who visited the continent caused the English gardeners to interest themselves in producing new varieties. That they succeeded is best evidenced by the fact that to-day they have hundreds of varieties of all shades and colors.

The introduction of the dahlia into England is ascribed to the Marchioness of Bute, who is reported to have brought the first specimen from Spain in 1798. At that time the dahlia was single. In a few years, however, some French enthusiasts had produced full double flowers in red, purple and pale yellow. By careful hybridization the striped and variegated varieties were produced from these until now we have what

is known as the “Fancy Dahlia.” The onward march toward perfection has been so marked that little more can be desired in the way of symmetry, doubleness or color.

**The Lawson Carnation.**—“There are four varieties of the Lawson carnation,” said Mr. J. H. Dunlop to *The Horticulturist* recently, “the original Mrs. T. W. Lawson, the universally popular dark pink, and three sports, white, red, and variegated, each of which is similar to the original except their respective colors. The white is pure in color and large in size, the red a bright scarlet of a brighter shade than any commercial variety, and the variegated is delicately pencilled with cerise pink on a pure white ground, a very chaste flower.”

Some plants like a southern exposure, the geranium for instance; others prefer the morning sun, some partial shade; others, as ferns, entire shade.—(Mrs. W. J. McLenahan, Appleby, Ont.)

Large crops of strawberries are only grown on soils very rich naturally, or made so artificially.



## THE CITY GARDEN\*

A. H. EWING, WOODSTOCK, ONT.

NOT much can be done in the way of laying out city gardens, but there are ways of planting in order to get the greatest amount of beauty and interest out of them and there are trees and shrubs and plants that will give a greater amount of interest than many that are used. Every man is liable to have a hobby in the line of gardening, as in everything else, I suppose, and there seem to be fashions in gardening too, but I believe there is the greatest amount of satisfaction both for an amateur or professional gardener to be obtained out of the hardy herbaceous plants, bulbs and tubers.

out of the hundreds to be found in the catalogues: Delphinium (larkspur), phlox, iris (Fleur-de-lis or flags), helianthus (sun flower), aquilegia (columbine), campanula, digitalis (foxglove), hollyhocks, ornamental poppies, tritoma (red hot poker).

I do not mean to say that this class of plants should altogether take the place of many others in common use, such as geraniums, cannas, stocks, phlox drummondii, etc. We can hardly get along without them, but I think that the hardy herbaceous plants should be made the main feature.

I am very glad to see that the geometrical



**A Beauty Spot in an Amateurs Garden in Perth**

The different species and varieties are in bloom from early spring to early winter; amongst them there is an endless variety of form and color; they are of very easy cultivation, will grow in almost any soil and require comparatively little attention. Perhaps it would not be amiss to name a dozen



**Another Walk in the Same Garden**

and formal styles of bedding and gardening are losing favor and that the tendency is more and more to the natural, which is certainly more beautiful and also more restful to the tired brain of the present day business man or workman. If you go in for roses they should have a garden for themselves.

\* Extract from an address delivered before the Woodstock Horticultural Society. The Horticulturist will be pleased to receive copies of papers read at meetings of societies.

but the situation and the soil will determine to a great extent whether you will have much success or not. They should be sheltered from strong winds, but not under trees; they like plenty of air and sunshine, though shade from the hot mid-day summer sun will not be a disadvantage. As to soil, I have always found that a stiff loam suits them best, and if the soil in your garden is very light some heavy clay loam mixed with it would be very beneficial. Before ordering roses for your garden find out from your neighbors the kinds that thrive best in your locality, also what kinds do best on their own roots and grafted on other stocks.

Where the owner of a garden is unable to do much work on it himself, flowering shrubs are very attractive and much pleasure can be obtained from them. There is

a great variety, and their blooming season begins early and lasts till well on in the summer. I should like to mention a few. Of lilacs there are a great variety of colors and shades, some make low bushes others large shrubs, some are early and others late; of the syringa (properly *Philadelphus* or mock orange) there are several varieties, short and tall; *berberis* or barberry; *pyrus Japonica* (Japan Quince), white and scarlet; *deutzia*; *weigelia*, several beautiful varieties, no garden should be without one of these; *exochorda* (pearl bush); *althaea* (Rose of Sharon), sometimes winter killed; the well known *Hydrangea paniculata Grandiflora*; *spireas* in great variety and beauty; *viburnum* (snow-ball), and *rosa rugosa* very pretty both in flower and fruit. Some of these ought to be in every garden.

### The Verandah Box

E. MEYER, OTTAWA, ONT.

ONE of the most attractive features of summer decoration is the verandah box. We are beginning to find them on all our streets. If there is no other plant decoration on the lot the verandah box is still complete, and if there are many other decorations around it a finish is added to all.

Some people cannot afford to spend much on these boxes. They need not. They can easily get a plain box made the required length with plenty of depth and width—don't make them too small. Place them on the verandah and plant with nasturtium and petunias, single, of course. Add two or three German ivys and you have a cheap box. If you wish you can add a few geraniums and by midsummer the display is fine.

The plants need plenty of water when they are growing vigorously. On the shaded side of the house begonias and foliage plants, such as coleus, are suitable.

Advertise in *The Canadian Horticulturist*.

### Tree Peonies at Ottawa

AMONG the many amateur gardeners which Ottawa can boast of none are more enthusiastic than the Hon. Frank R. Latchford. His display of tree peonies is a very striking feature of the Waverly street garden. Many of these were imported direct by himself from France and Japan. These beautiful flowers are usually considered tender in climates less severe than that of Ottawa so that this magnificent display requires some explanation.

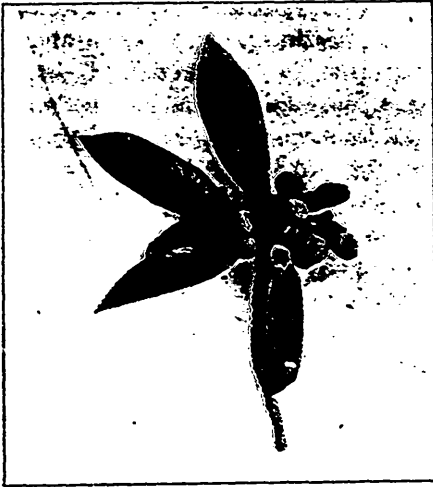
Mr. Latchford attributes his success to his manner of protecting them. He uses no packing material of any sort, but each plant is covered by a wind and water proof box made of ordinary boards. He is firmly of the opinion that packing material, even of the best, induces mildew and decay, and dryness and protection from the wind are the essential features. His success with peonies, as well as tender roses, is an indication of the correctness of his theory.

The *Horticulturist* is now the peer of the American monthlies and ought to do much for horticulture in Canada.—(P. G. Keyes, Ottawa.)

**Eriobotrya Japonica—Japan Medlar**

R. CAMERON, NIAGARA FALLS, ONT.

**E**RIOBOTRYA Japonica, the Loquat, Japan "plum" or Japan Medlar, is one of the most valuable fruits of the southern states. Blossoming in winter, the fruit ripens in early spring and brings fancy

**Japan Medlar**

prices in any large city. It is frequently shipped to New York in strawberry boxes. This fruit has long been cultivated in the south, where it seldom attains a height of more than 15 feet, though in its wild state it forms a lofty tree.

The fruit is the size of a plum, bright yellow in color, and delicious taste. It is a most beautiful broad leaved evergreen, and is one of the finest ornamental plants to cultivate as a tub plant on the lawn, where it flowers and fruits during the summer. It is easily raised from seeds, and will winter well in any ordinary cellar.

It will grow readily from cuttings the same as the oleander, and makes a good mate for the latter. It does better if it gets a rest in the winter, and should be given very little water until the spring when it begins to grow. It may be kept in winter in a cool greenhouse, or in the cellar.

**Floral Exhibitions**

E. MEPSTED, OTTAWA.

**O**NE of the greatest incentives to amateur gardening is our horticultural society with its shows. It is natural for us to like to contest with others for supremacy, and in flowers and plants and vegetables it is particularly fascinating. But, when we enter these contests, we must learn to take defeat cheerfully. It is natural for us to think our own is the best, but few can look on their opponents' exhibits without prejudice. The judge as a rule will pick out the best. He has points of his own to go by, and although sometimes the decisions are close, and it seems as if he might have reversed his decision with equal justice, perhaps we did not notice our poor foliage, an old flower, or some short stems. When we see how close we were to the first or what an improved exhibit we have from last year we go home prepared to do better next year.

**Starting Cucumbers**

**"C**UCUMBERS started in hot beds dampened off badly," said Mr. H. R. Rowsome, of Burlington, to *The Horticulturist*, last month, "but there was practically no loss where they were started in the greenhouse. I start cucumbers in pots," continued Mr. Rowsome, "but plunge the pots so that less frequent watering is demanded. The plants should not be set out before June 1, because all frosts must be avoided. Cold winds are very harmful.

"My plants are set in rows, in furrows, four feet apart, and are three feet apart in the row. When started in pots and set out in the furrow they get no set back. If given frequent cultivation until the vines cover the ground a good crop of fruit is ensured."

In preparing soil for the hot bed see that the manure is well rotted or it will dry out. Rich leaf mould is the best soil.

## PLANS FOR THE VEGETABLE GROWERS' CONVENTION

THE recently organized Ontario Vegetable Growers' Association is planning an energetic campaign for the summer and fall. In the near future the association is likely to be one of the strongest associations of the kind in the province.

A meeting of the executive committee was held in Toronto June 15, the officers present being Messrs. W. A. Emory, of Aldershot, president; Joseph Rush, of Humber Bay, vice-president; Geo. Syme, Jr., of Carlton West; W. Carter, of Dovercourt; John McKay, of Doncaster; R. Lankin, of Toronto; F. F. Reeves, of Humber Bay; A. MacMeans, of Brantford; John Atkin, of Sarnia; J. E. Terrill, of Picton, and the secretary, H. B. Cowan, of Toronto. It was explained by the secretary that the deputation which waited on the government in March and asked for a grant had met with a favorable reception, as the government had given the association a grant of \$600. In addition to this the association was given a special grant of \$200 to assist it in making an exhibit at the Ontario Horticultural Exhibition in Toronto next November.

After a little discussion it was decided to hold the first convention of the association on November 15 and 16 next at the time of the Ontario Horticultural Exhibition and to secure first-class men as speakers, not only from points in Ontario but from the United States as well. A rough outline of the program was prepared and the secretary was instructed to communicate with the parties mentioned to see if they would be willing to speak on the subjects assigned to them.

In the morning of the first day there will be a meeting of the officers of the association. In the afternoon the main subject for discussion will be "Growing Vegetables for Canning Purposes." Mr. W. C. McCalla, of St. Catharines, will be asked to speak on "The Cost of Production"; Mr. J. W. Hyatt, of West Lake, on "Cooperation in the Growing and Canning of Vege-

tables," and a representative of the Canadian Cannery Company on "The Canning of Vegetables from the Manufacturer's Standpoint."

At the Thursday morning session the main subject for discussion will be "Insect Pests in the Garden," when the speakers will include an authority from the United States; Mr. R. S. Brodie, of Montreal, and Prof. W. Lochhead, of Guelph Agricultural College. In the afternoon the subject will be "Growing Vegetables for Market Purposes." Prof. Zavitz, of Guelph, will be invited to speak on "Experiments in Growing Vegetables"; Mr. Brodie, of Montreal, on "Growing Vegetables under Glass," and Mr. J. L. Hilborn, of Leamington, on "Growing Vegetables for the Early Market." It was decided to leave plenty of time for a discussion of the various subjects.

After a brief discussion the secretary was authorized to communicate with Mr. G. A. Putnam, Superintendent of Farmers' Institutes, to see if he will arrange for the holding of a series of meetings some time during the latter part of September or the early part of October in the vegetable growing districts of Ontario, these meetings to be addressed by well known authorities on vegetable growing who will be in a position to assist in the formation of vegetable growers associations in the same manner that local fruit growers associations were formed last spring.

It was felt that the association should be thoroughly organized before the convention next November, and it was decided to send the following members of the executive to the cities mentioned, during August, with the object of forming local vegetable growers' associations:

Mr. Joseph Rush, to Cobourg, Belleville, Kingston, Brockville, Cornwall, Ottawa and Peterboro.

Mr. W. Carter, to Barrie, Orillia, Owen Sound, Guelph, Berlin and Stratford.

Mr. A. McMeans to Woodstock, Simcoe, Ingersoll, Galt and London.

Mr. F. F. Reeves to Niagara Falls, St. Catharines and Hamilton.

Mr. John Atkin to Chatham, St. Thomas, Windsor and Leamington.

The president of the Guelph Agricultural College will be requested to arrange for an exhibit of pressed weeds at the Ontario Horticultural Exhibition, the weeds to be properly named and accompanied by informa-

tion regarding methods for their extermination.

Three hundred dollars was voted to the Ontario Horticultural Exhibition as the association's share of the expenses. Messrs. Rush, Syme and Reeves were appointed a committee to prepare a prize list. A second committee, composed of Messrs. Emory, Rush, Syme and Reeves was appointed to represent the association on the executive of the Ontario Horticultural Exhibition.

## BURGUNDY MIXTURE—SODA BORDEAUX

W. T. MACOUN, C. E. F., OTTAWA.

THE use of washing soda instead of lime in the preparation of a mixture for potato rot has been advocated in Great Britain and Ireland for about five years, and the Burgundy mixture, as it is called, has been used very largely there for this purpose in preference to ordinary Bordeaux mixture. When freshly prepared its adhesive properties are greater than ordinary Bordeaux; it is not so liable to clog the sprayer; washing soda is more uniform in character than lime; it undergoes no change in composition when kept; in Canada, also, it is sometimes difficult for farmers to get fresh lime. It has been used very little in this country as yet.

A formula for the Burgundy mixture was published in my report for 1902. It has been tested at the Central Experimental farm, but the results so far both with fruit and potatoes have not been definite enough to determine its comparative value with Bordeaux mixture. We know of only one fruit grower in Ontario who has been using the Burgundy mixture for spraying apple trees for the prevention of apple rot, namely, Dr. Harkness, of Irena, and he has had excellent results, his McIntosh red apples being spotless. It has an advantage in that it does not discolor the fruit as much as the ordinary Bordeaux. Apparently its chief

defect is in the fact that it loses its adhesive properties very rapidly after it has been made a few hours, and hence should be applied when it is fresh, when it will adhere better than Bordeaux.

The following results, taken from Leaflet 14 of the Department of Agriculture for Ireland, show that in the year 1900 the results from the use of Burgundy were better than those from Bordeaux. In 1901 and 1902 the yields were also greater.

RESULTS OF TRIALS, SHOWING YIELDS PER STATUTE ACRE, 1900, IN IRELAND.

|   | NAME OF POTATO. |                       |                    |
|---|-----------------|-----------------------|--------------------|
|   | Dufferin.       | Sutton's<br>149 Ball. | county of<br>Bucc. |
|   | Tons. Cwt.      | Tons. Cwt.            | Tons. Cwt.         |
| Sprayed with Sulphate<br>of Copper and Lime..                 | 10 14           | 10 10                 | 10 3               |
| Sprayed with Sulphate<br>of Copper and Wash-<br>ing Soda..... | 12 0            | 11 11                 | 11 13              |
| Not sprayed.....  | 7 3             | 8 5                   | 7 19               |

The following formula for the preparation of Burgundy mixture appears in the spraying calendar which was issued by Dr. Fletcher and the writer last spring:

BURGUNDY MIXTURE (SODA BORDEAUX) FOR  
POTATO BLIGHT AND ROT.

Copper sulphate (bluestone), 6 pounds.

Washing soda (carbonate of soda), 7½  
pounds.

Water (1 barrel) 40 gallons.

Dissolve copper sulphate as for Bordeaux mixture. Dissolve  $7\frac{1}{2}$  pounds washing soda in four gallons water. Pour the copper sulphate solution into a barrel, half fill the barrel with water, then stir in the solution of washing soda slowly, stirring continuously, and finally fill the barrel with water. It is now ready for use. The sod<sup>l</sup> Bordeaux adheres better to the foliage when freshly made than the ordinary Bordeaux mixture, but it deteriorates rapidly in this respect and must be used as soon as made. If left standing for 24 hours it will

have lost nearly all of its adhesiveness.

The soda Bordeaux is not recommended in preference to the ordinary Bordeaux mixture, but where lime cannot be obtained it may be used with good results. Furthermore, on account of its freedom from gritty matter, there is less likelihood of the nozzles becoming clogged when it is used. As washing soda is considerably more expensive than lime this mixture costs more than the ordinary Bordeaux mixture. For fruit trees use four pounds copper sulphate and five pounds washing soda.

### Vegetable Pests

“THE most effective preventive of mildew on lettuce is to grow it rapidly,” said Mr. J. W. Rush of Humber Bay, to a representative of *The Horticulturist*. “Sulphur is liable to kill the plants.

“I have had considerable trouble with the maggot on my cabbage and onions. The best method is to pinch them between the finger and thumb. I have grown cabbage on the same ground for 28 years, and had club root only the last two years. I have moved the crop to other ground to try and get rid of it.

“Two to four acres of melons were grown at one time, but now I have only a few hills, as melons can be brought here from outside points more cheaply than they can be grown.”

### Vegetables Under Cotton

“I do not believe the growing of vegetables under cotton frames will ever be a success commercially,” said Mr. W. T. Macoun, horticulturist at the Central Experimental Farm, Ottawa, to a representative of *The Horticulturist* recently, who visited the farm, “but it may prove a success for amateurs who would like to keep a garden in the city and are unable to do so through the destruction worked by cats, dogs and chickens.

“The frame we have at the farm cost \$15. It is 62 x 15 feet and the wood will last for years. The cotton lasts two years and costs about \$5 a year. This year we are growing cauliflower, radishes and beans. The idea of using the frames in growing these vegetables is to keep out the root maggot from the cauliflower and the radishes and to get the beans earlier in the season and have them more tender.

“Cauliflower, radishes, beans and lettuce have done the best. Early cauliflowers are usually a total failure outside the frame, but I have not found them so in the frame, except were the root maggot having got into the hot bed, comes out on the roots. Radishes also have been frequently a total failure when grown outside, but have succeeded in the frame. The warm sandy soil around Ottawa is suited to the maggot.”

**A Big Crop of Celery.**—“I expect to grow about 50,000 celery plants this season,” said Mr. H. R. Rowsome to *The Horticulturist* a couple of weeks ago. “Paris Golden and Evans’ Triumph are two good standard varieties, but Bruce’s Hamilton Red also give large returns. Swamp muck and black sand are best adapted to the growing of celery, while it will not grow on land with a clay subsoil.”

### Tomato Growing

"I HAVE set out about nine acres of tomatoes," said Mr. Arthur Peer, of Freeman, to a representative of The Horticulturist who visited his place last month, "and none of the vines have been destroyed by frost. On our soil, which is a clay loam, we get medium vines and good fruit, and I find that rows five feet apart and four feet apart in the row give the best returns."

"For an early crop," continued Mr. Peer, "the Earliana is exclusively grown, while Stone, Matchless and Favorite are good for a later crop. The Stone is perhaps best if the season is long. I grow chiefly for the canning factory, but ship some of the early varieties to Toronto and Montreal."

"Many of the growers in this district belong to the Hamilton Tomato Growers' Association. I had my crop contracted for before the agitation for a higher price was begun, but believe that growers should have 30 cents per bushel for their crop."

"In an unfavorable season, when the crop is not good, 25 cents per bushel does not pay the expenses connected with growing them. If the canners combine would give 30 cents the private factories would do the same."

### A Frame for Tomatoes

A HANDY method of tying up tomato vines is practised by Mr. R. B. Whyte, the well known amateur fruit grower in Ottawa. "For my tomato vines," said Mr. Whyte to The Horticulturist, "I make a frame three feet wide by four and a half feet high and tie the vines to the frame. Stakes two and a half inches wide and two inches thick are used for uprights, and laths for cross pieces. The stakes are pointed and driven into the ground."

"One of the best features of these frames is that they can be removed in the fall and stored and used again whenever desired. The benefit of this system is that it lets the sun reach the vines, thus ripening the fruit earlier and also preventing destruction by rot."

"The crown gall is a bad pest which is new in our nurseries," said Mr. A. N. Brown, of Delaware, when talking to a Horticulturist representative. "We cannot discover its cause or how it can be successfully fought. It is very destructive. Fumigation and other remedies which have been tried are no use."



**The Beautiful Effect of a Clump of Spiraea Van Houttii.**

A clump of Spiraea Van Houttii, one of the most charming shrubs of the Spiraea family, is here shown as reproduced from a photograph furnished The Horticulturist by Mr. Roderick Cameron, of Niagara Falls South. It is rather dwarf in habit, and the flowers are of short duration, but when in full bloom its massive white flowers present a very pleasing appearance. Its foliage, too, is beautiful. It is hardy only in the warmer parts of Ontario.

## Borers Injuring Trees

PROF. H. L. HUTT, ONT. AGRIC. COLLEGE,

I have been planting trees and find occasionally that insects and dry rot get under the bark, and sometimes have almost girdled the tree, so that when I cut away the decayed part round to the good bark it left a great patch of wood bare. I have covered this with soft bees-wax, as the only thing I could think of.—(R. Holmes, Toronto, Ont.)

I am inclined to believe that the trouble with your newly transplanted trees is caused by borers. There are several kinds of these, the two most common being the flat headed and the round headed borers. The eggs from which these hatch are usually laid in the southwest side of the tree near the ground, and as soon as they hatch the young larvae eat through the bark and feed just beneath the bark for one or two seasons, sometimes entirely girdling the tree. When fully mature they bore deeply into the wood and pass the pupa or resting state, from which they emerge in the perfect form as beetles.

Where one has only a few trees to protect, a good plan is to encase the lower portion of the trunk of the tree with fine wire netting, which prevents the beetles depositing their eggs. Another plan used in orchards where there are many trees to be protected, is to wash the trunks of the trees with soft soap, to which a sufficient quantity of crude carbolic acid has been added to give it a strong smell and make it repulsive to beetles. This should be applied the latter part of May or in early June, at intervals of two weeks, at which time the beetles are depositing their eggs. This, of course, is a preventive measure.

If the borers have already gained entrance to the tree, the only plan is to cut them out wherever dead bark indicates their presence, and it is well to cover the injured part with a coating of heavy lead paint. It is not wise to use tar or any black substance of that nature about the trunk of the tree, as it absorbs so much heat as sometimes to seriously injure the tree.

## One Method of Growing Celery

“PARIS Golden,” said Mr. Geo. Benner, of Burlington, to The Horticulturist in a recent interview, “is the celery commonly grown in this section. I start early celery in the greenhouse about February 15 and transplant it into flats. About May 15 or May 20 the plants are set out and the crop is ready for use about July 12.

“I get a better crop from rows than from solid beds. I use level culture and get just as good a crop with less labor than is necessary when planting is done in trenches. Then I blanch with boards instead of with dirt. There is no trench to dig, and no piling of dirt around the plant and pulling it away again. With a 10-inch board on each side, wire hoops to hold them together and some dirt along the bottoms to keep out the light the blanching is done in about 10 days.

“Compost is the best fertilizer for celery. I put it on in the fall and then do not need to plow in the spring. The ground must be cultivated frequently and not allowed to get solid.”

## Bees in the Orchard

“In fruit plantations,” according to Mr. H. R. Rowsome, of Burlington, “bees do not have very much to do with fertilization. Cold, long continued rains wash the pollen out, thus preventing fertilization.

“If cold wet weather comes after the fruit has set a great percentage of the fruit often falls. This is especially noticeable with cherries. The stems rot off about the middle, letting the fruit drop. With currants, stems and all fall. In some seasons as high as 50 per cent. of the crop is lost from this cause.”

If mushrooms were sufficiently brought before the public in a city like Toronto they should find a ready sale.—(Percy Casborn, Deseronto, Ont.)



# The Canadian Horticulturist

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## A GOOD START MADE.

The recently formed Ontario Vegetable Growers' Association promises to be of great value to the vegetable growers of the province. The wonder is that such an association was not formed long ago and that there are not more similar organizations in the other provinces of Canada and in the states of the Union. The steps the association has taken to increase its membership and strength by forming local associations throughout the province give us reason to believe that it will ultimately become one of the most representative bodies of the kind in Ontario.

The idea that once prevailed that any person could grow vegetables is fast disappearing. As in fruit growing the increasing number of insect and other pests is fast driving the lazy and ignorant vegetable grower out of business. It is becoming recognized that if vegetables are to be grown successfully the most improved methods of culture must be practised. In making these methods known the Ontario Vegetable Growers' Association should play a prominent and valuable part.

## A LARGE SHOW PROMISED.

There are a number of reasons to believe that the second Provincial, Fruit, Flower, Vegetable and Honey Show, or the Ontario Horticultural Exhibition, as it is now proposed to call it, will be a much greater success this year than last. The fact that Massey Hall has been secured for the purposes of the exhibition, for the second full week in November, will make it possible to display the exhibits to much better advantage and should add materially to the attendance. The inclusion of a vegetable exhibit and the holding of an additional convention will also tend to increase the interest in the show.

Last year the management was handicapped by unsuitable buildings, lack of experience in the holding of a joint exhibition and by ignorance on the part of the public in regard to the real nature of the show. The success achieved under these circumstances was encouraging and is bearing fruit this year, as firms and people who refused their assistance last fall are already showing an interest in this year's exhibition. These exhibitions promise to become an annual event of great importance.

*The Horticulturist* frequently receives letters from its readers, when renewing their subscriptions, stating that they have taken this magazine regularly ever since it was first established twenty-seven years ago. This speaks well for *The Horticulturist* and indicates the important part it has played in the horticultural affairs of the country for over a quarter of a century. We would greatly like to introduce some of these old subscribers to our thousands of new readers, and if they will be kind enough to send us their photographs it will be a pleasure to publish them. Let us hear from you, our old standbys.

Fruit growers are waiting patiently to hear Hon. Sydney Fisher's verdict in regard to the Dominion fruit conference he has been asked to call. Beyond informing the delegation that waited on him that he was favorably disposed to the idea nothing has been heard from him since. It is about time arrangements for the convention were being made, and fruit growers would like to know what the plans of the Dominion Department of Agriculture are.

Will not our readers help us increase our circulation until it reaches the 8,000 mark? If each of our readers were to induce only one of their friends to subscribe, even if only for the balance of the year, they would be doing their part nobly and the mark aimed at would be much more than passed. Our readers can be of great assistance in this way if they will try and can also help by buying from our advertisers. A little help from each means a great deal of help from all.

The main prize of five dollars, offered in each issue of *The Horticulturist* to the readers who purchase goods to the greatest value from advertisers in that issue, was won recently by Mr.

E. M. Smith, of Winona, who purchased goods to the amount of \$726.95 from the Spramotor Company, of London, Ont. The Spramotor Company has informed The Horticulturist that Mr. Smith, when ordering these goods, notified them that he saw their advertisement in The Horticulturist. How is this for proof of the value of The Horticulturist as an advertising medium?

Even the war and other troubles of Russia did not prevent Euren Joseph Roebuck, 47 Pokroosky street, City of Rostaff on the Don, Russia, from renewing his subscription in January to The Horticulturist. Truly the circle of influence of this magazine is a wide one.

## How to Pack Early Apples

(Continued from page 248.)

The St. Lawrence, last year, was particularly fine in Quebec, but a great many of them were handled at a loss, simply because shippers did not know the best place to market them. Never ship St. Lawrence to the Old Country markets, as for some reason British buyers do not want them and they always realize a poor price. One reason for this is they are often allowed to become overripe before packing and land in poor condition. Another reason is that the people over there seem to want an apple to please the eye rather than to tickle the palate; else why should they prefer the Alexander to the St. Lawrence, or the Ben Davis to the Spy.

The best and in fact the only market for the St. Lawrence is Winnipeg and the west. Western buyers will handle all we can send them. One of the buyers in our district shipped a car of St. Lawrence to Liverpool, at the same time shipping one to Winnipeg. The stock was equally good in each, and was put up by the same gang of packers. While the one shipped to Winnipeg realized \$2.25 net, the one sent to Liverpool only netted 55 cents.

For the Winnipeg market the barrel is the best package, although if the No. 1 were put up in boxes the returns should justify the extra trouble. Pick your St. Lawrence as soon as well colored; do not allow them to become too ripe; grade them carefully, and keep out the culls.

The best paying apple in the province of Quebec is the Fameuse. Although it is not really an early variety, I think you will agree with me that the Fameuse is the best apple we can raise in this province when properly handled. There is no apple raised on the continent in which there is so much money lost every year by poor handling. Being tender and easily bruised it shows rough treatment more than any other variety. This is another apple which I contend should always be packed in boxes when No. 1. You cannot pack them in barrels to ship any distance and have them tight when they arrive at their destination without practically ruining about one-third of the apples in the barrel. Few shippers would recognize their apples one week after packing if

they were to see them. No apple looks as badly as a bruised barrel of Fameuse two weeks after packing.

The loss will be lessened considerably if the apples are properly packed, but how many of our farmers can we get to pack their Fameuse and have them tight without bruising them? I inspected two cars of Fameuse last fall just as they were going on board the steamer for Glasgow. One car had been packed by Mr. G. D. Edwards, of Covery Hill, the other by another shipper near Montreal. That packed by Mr. Edwards, notwithstanding the fact that they had been drawn ten miles over one of the roughest roads in our county, were practically all tight, without being overpressed. The other lot were 75 per cent slack, and 50 per cent badly so. I think the party shipping this lot failed to rack his barrels thoroughly.

Glasgow is the best foreign market for our Fameuse, but Winnipeg is the best market to ship to. They want our Fameuse there, and last year were unable to obtain all they wanted. About 20 cars were shipped there from Hemmingford, and the shippers made money on them. They always bring about one dollar a barrel more than Ontario Snows and I believe that from this out dealers will be able to handle all surplus stock.

Our local markets also take quantities of Fameuse at good prices. A great many growers make the mistake of selling their Fameuse before November 1. Look at the result last year. On November 1, Fameuse sold in Montreal for \$1 to \$1.25—later they were worth \$3 to \$4. It would have cost about 20 cents per barrel to have put the apples in cold storage. Look at the profit there would have been had this been done. Only put in No. 1 stock, as wind falls or scabby apples would be practically worthless at this season.

Three or four years ago we thought we had too many early apples. Our local markets were glutted with them every fall, they sold for ruinously low prices, and farmers became discouraged. Some of them even cut down their orchards. This is all changed. Since our western market has become such a good one for our early apples and exporters have found that they can be exported with profit there is no glut in our market.

If our growers would only attend to their orchards properly, cultivating, manuring, spraying and pruning them, the early apples I have mentioned, with the addition of one or two others, such as McIntosh Red and Milwaukee, would prove fully as profitable as those in Ontario. With all our experimenting we have failed to find a satisfactory winter apple for Quebec, and until we do let us stick to our early varieties.

One of the most important problems before the average small fruit grower is that of the introduction of the power sprayer for use either in a cooperative way or by parties who are prepared to undertake the work by contract. The large grower can afford one for his own use—(Joseph Tweedle, Fruitland, Ont.)

## TRADE NOTES FOR PROFESSIONAL FLORISTS

The past month was a busy one for the professional florists in Canada's leading cities, as trade was brisk, the demand being steady and the prices realized profitable. Now that The Canadian Florist has given up the ghost The Canadian Horticulturist, being the only paper in Canada through which the professional florists may expect to be able to keep in touch with each other, has collected a few chatty letters for the trade.

### Montreal Notes

The bedding trade is practically ended for this season. It has been the best season for some years for quantity sold and prices obtained. Most of the florists report being cleaned out. Geraniums were the leading plants, especially scarlet, A. Ricard being the favorite. S. A. Nutt was a good second, whilst La Favorite (white), Beaulie de Pontevin (salmon) and J. Viaud (pink) all sold. Good plants in four-inch pots brought \$1.50 per dozen without even a murmur. Petunias had the next best call, and deservedly so, either for hanging baskets, window boxes, or for bedding. Other staple varieties of bedding plants sold equally well. Although bedding plants are very remunerative we are all glad to see the last of them so as to give us a chance to clean out the houses. We are now busy planting roses, 'mums, etc. Trade has been brisk lately, weddings and funeral orders taking the lead. Roses and carnations are in steady supply, but the hot weather is injuring them slightly. Hardy flowers are coming in in quantity now. Valley is over, but while it lasted there was a great demand for it. Peonies are coming in in great quantities and of extra fine quality and sell on sight. A few of the new Japanese varieties exhibited before the Gardeners' and Florists' Club were superb.—(Geo. Robinson.

### A Newsy Letter from London

The season when store trade is any considerable feature in the general business is past, wedding and funeral orders being the only ones that are being executed. In the greenhouses we are just between two rushes. The bedding plant trade is about finished, a few belated window boxes, vases and baskets are all that are called for. The coming rushes are rose and carnation, and chrysanthemum planting and getting general stocks ready for the fall trade.

The bedding season has been an extra brisk one, and all good plants—especially geraniums—have sold out. There are still quite a few on the market, but these are the second or third rate stock, being brought in by the small grower who grows or tries to grow everything in extremely limited space.

In London, in geraniums, S. A. Nutt is the reigning favorite, but in Guelph a local man told me recently that scarlets were the only sellers. We can dispose of quite a few good scarlets here, also a few pink and white, but 90 per cent. of the demand is for crimson. Coleus, Verchaffeltii, Golden Bedder and Chicago Bedder are all popular. Lots of people want the

big leaved, coarse growing kinds, but it won't do to encourage this demand, as these varieties seldom or never stand the sun outside. A few cannas, say half a dozen different kinds, a couple of crimsons, a yellow, Madam Crozy, a spotted variety, and a good dark foliaged variety, are all the market demand. Caladium Esculentum, in limited quantities for damp situations, a few heliotrope, for lovers of the old fashioned flowers, a batch of alternanthera, cordyline and mesembryanthemum for an occasional formal bed, a big lot of vinca variegata for a trailing plant, and piles of the old German ivy for the same purpose will about cover the principal lines of the bedding trade here. To all this there is but one string, the same that is attached to every line in floriculture: the plants must all be of the very best quality. Buyers will willingly stick any old scrags they may have had in the house all winter into their beds and boxes and enthuse on the beautiful plants, but they invariably fail to become enthusiastic on anything but the very best when they visit a greenhouse, and if this is not present, woman-like, they have 40,000 excuses for not taking what you have got. If you have extra quality stuff they will take it even at double prices.

Insects and fungous diseases are troublesome as ever. An encyclopedia would be necessary to tell all the troubles they develop. Growers are rapidly getting the plants into the benches. The commercial varieties are looking well. The list of those grown for this purpose seems to be smaller than ever, notwithstanding the immense number of varieties introduced each year. Gammage & Sons will have eight houses devoted to chrysanthemums this year, seven to commercials and one to exhibition blooms. The big house devoted to the latter is in charge of Roy Winslow, the medalist of the Guelph Agricultural College, who has got his chemical laboratory in working order and promises us something extra. He certainly has got them moving—but more of this later.

What we want to hear a lot about through The Canadian Horticulturist is, the coming Canadian Horticultural Association convention at Montreal. I hope, Mr. Editor, you will persuade all your readers possible to take in the old city during the meeting of that body. It is not by any means necessary to be a florist or a gardener to enjoy a couple of days with the craft in old Montreal in August. Any horticulturist will find there is plenty to interest him in his own line down there and lots to see besides Mount Royal. In conclusion I would say that it gives me much pleasure to send these few notes to The Canadian Horticulturist, and sincerely hope it will be successful in its efforts to secure the interest and patronage of the professional floriculturists of Canada.—(Fred. Bennett.

### Toronto Trade Notes

"Trade has been brisk," reports Mr. H. G. Dillemath, of J. H. Dunlop's retail establishment on King street. "So far it has been better than last year. American Beauty roses are still of fine quality and almost up to mid-winter

stock. The Victoria is coming in with three-foot stem and large heavily petalled flowers. Madam Chataney has become a favorite pink rose. It holds its quality and color well and is likely to displace Bridesmaid to a considerable extent, especially in the warmer weather. The latter already shows smaller flowers and has suffered considerably from mildew.

"Peonies are now the staple flower. More attention is being paid to these each season. Poor varieties are being weeded out and better ones added. This year finds a greater acreage of them grown than ever. The first lot of outdoor sweet peas have arrived. Lillium is expected in a few days. There is still an abundance of Longiflorum and Aratum. As a result of the Governor-General's visit and the usual host of June weddings trade has been extra brisk during the past month."

#### TRADE BETTER THAN USUAL.

"Trade has been excellent and prices better than usual," reports Mr. T. Manton. "Geraniums have brought higher prices than in other years, and the stock is cleaned out. Most bedding stock sold well. Ordinary box stock is always cheap in Toronto. Recent arrivals of roses are good for this season of the year. Kaiserin August Victoria is an exceptionally popular white variety. Peonies are of good quality. Many buds form, but late frosts so injure them that they never open. The tender European varieties are most easily affected by frosts. The demand for these flowers is greater than ever. Carnations are cheap and also in great demand."

#### Ottawa Florists Sold Out

Spring business is over and it has been brisk. There has been a much greater demand for all lines than previously. The demand for veranda and window boxes has doubled, and the demand for hanging baskets was increased. Geraniums were wanted by every one, and in a majority of cases scarlet, and though there was a larger stock than ever yet there was not enough to go round. This may be accounted for to a certain extent, by the demand for boxes, for the success of these depends largely on geraniums, an indispensable article in making them attractive. When there is a large demand for these and vases it is very profitable to have lots of Cannas, Coleuses, Irisenes, Senecio and German Ivy, well grown in 4-inch pots, as they then cover lots of space, and also have some early tuberous rooted begonias in flower, a fine thing to mix in among the geraniums and foliage. Also don't forget now to look out for a large stock of dracaenas to grow on for next year's use, as large fine plants add greatly.

All are now busy planting roses; the stock is in good shape. C. Scrim has two houses planted with young carnations, Lawson and White Lawson, and they are good plants out of 4-inch pots. The outside plants had too much rain early in the season that gave them a yellow look, but are now starting off in great shape. Trade has been very good and flowers fairly plentiful. Peonies have sold well. The

backward season obliged the horticultural society to postpone its rose show from last week until this week. Our public parks and the beautiful driveway are in grand shape; flower beds all planted and grass and shrubs looking fine, and the Government Improvement Commission still going ahead. That \$60,000 a year is making Ottawa a really beautiful city.

#### Canadian Horticultural Convention

The eighth annual convention of the Canadian Horticultural Association will be held this year in Montreal (Natural History Hall), August 8-11. It promises to be the most instructive and enjoyable meeting the association has yet held, not only because of the excellent program that has been prepared, but because of the many beautiful gardens, parks and greenhouses that will be visited. Montreal excels any other city in Canada in this line on account of the large number of wealthy gentlemen's residences located there, many of which are kept up in first-class style. Members of the association will be guests of the city of Montreal August 10, and of the Montreal Gardeners' and Florists Club on August 11, so that there will be no lack of opportunity to see all the "lions."

The association takes in "any person interested in the advancement of horticulture on the recommendation of three members in good standing" (the latter part of this rule is more often neglected than observed) on payment of \$2 as membership fee.

In view of the "extra good time" members will have in a place like Montreal it is expected that many horticulturists of various special proclivities, and those who help to run the horticultural societies through the country, will attend. The railways are giving a special rate on the certificate plan, that is: Buy a full rate first-class one-way ticket to Montreal from your station of departure and obtain at the same time a certificate on the standard form that you have done so. On arrival at the convention hall hand this certificate to the secretary of the association for him to fill in and sign. The Eastern Passenger Association will have an agent at the convention hall to revise all certificates for which a charge of 25 cents each is made. On returning, if there are 50 members or more who hold certificates (and it is probable there will be), on presentation of certificate to the ticket agent at the Montreal station a ticket to starting point will be given to the member on payment of one-third of one way first class fare. If there are less than 50 certificates two-thirds of one way first-class fare will be charged.

As to hotel or room accommodation at Montreal there is any amount of it at prices to suit any purse, and the reception committee of the Montreal Gardeners' and Florists' Club will endeavor to place everybody in comfortable quarters. The Welland Hotel will be the headquarters of the association. Programs and any other information may be obtained from the secretary, Mr. A. H. Ewing, Woodstock, Ont.

## OUR SPECIAL CROP REPORTS

The special reports received by The Horticulturist from its correspondents in the leading fruit sections of Ontario indicate that the total fruit crop of the province this year will not be as large as promised earlier in the season. The peach crop will not be more than a medium one. Small fruits will be about a full crop. It is too early to predict what the total apple crop of the province will be, but the reports received by The Horticulturist indicate that the total yield of the province will be above an average crop.

The rest plum trees had last year, after the heavy yield in 1903, promises to result in another heavy crop this year. Several reports received by The Horticulturist are to the effect that some varieties will bear lightly, but these reports are the exception rather than the rule. Conflicting reports have come to hand regarding the outlook for pears, but the prospect is that the total crop will be a medium one.

### A FAIR APPLE CROP.

In the Lake Erie district apples will not be better than an average crop. Bloom was abundant, but wet weather prevented the fruit from setting. In Essex county some winter varieties promise a full crop. In the Niagara district the same conditions exist, but the prospects are better in the Winona district than in Welland county. Reports from Winona and Stoney Creek state that apples are a full crop. The Lake Huron section reports are unfavorable and indicate that there is likely to be a light crop of several varieties, although winter apples are promising in some localities. Georgian Bay growers, however, anticipate that early, fall and winter varieties will be a medium to full crop. Pewaukee, Ben Davis, Spy and Russet are reported to show excellent promise.

In central Ontario reports vary. In the county of Wellington one report says the crop will be only 25 per cent. of last year's. Other parts give Spy and Alexander a full crop. On the whole, reports from this district show a falling off from last year's yield. In the Burlington section the production will be light to medium. Along Lake Ontario the prospects are the most encouraging east of Toronto. York county promises a light to medium crop, while in Northumberland indications point to a full crop of the winter varieties. The Ottawa Valley promises a medium to full crop. In the northern section not many apples are grown, but Algoma, Victoria and Peterboro each promise a medium to full crop. Reports from Nova Scotia and Prince Edward Island state that a full crop is promised.

### PEAR SECTIONS GIVE FAVORABLE REPORTS.

Pears in the Lake Erie district are very promising. Late varieties are reported as being a medium to full crop. In the Niagara peninsula both early and late varieties are likely to be a good yield in most localities. Many reports state there will be a full crop. In the important Winona section, however, the crop will not be large. Along Lake Huron the crop will be light. In Georgian Bay district the

pear crop is heavy wherever the trees survived the hardships of the past two winters. One or two reports say the blossoms were numerous, but late frosts destroyed them. In Central Ontario the crop will be light. Some reports give Kelffer pears medium to full crop. Burlington section promises a light crop.

### HEAVY PLUM CROP.

The section along Lake Erie promises a medium to full crop, many sections reporting the trees heavily laden. In the Niagara district reports state a heavy crop is expected, but some varieties in the Winona district will be light. The Lake Huron and Georgian Bay districts report a full crop, though one report says plums will be as scarce as last year. Reports from central Ontario are sanguine of a heavy yield. Burlington and Lake Ontario crops vary from medium to full.

### PROSPECTS FOR CHERRIES.

The cherry crop will be light in the Lake Erie district. In the Niagara peninsula the yield is likely to be good, but rot has set in. Lake Huron reports say the cherry crop is light, while Georgian Bay reports a medium to full crop. Conflicting reports come from central Ontario, but a light to medium yield is expected. Burlington growers expect a full crop. Along Lake Ontario growers anticipate a medium to full crop.

### PEACHES AND GRAPES AN AVERAGE CROP.

Peaches and grapes are reported as being a light to medium crop in the counties along Lake Erie. The Niagara growers are counting on a medium to full crop of both. The total acreage of peaches is less than it has been for some years.

### ABUNDANCE OF SMALL FRUITS.

The small fruits promise a good crop in the Lake Erie district. In the Niagara peninsula the reports favor a medium to full crop. In some sections the raspberries were winter killed. Wherever grown the small fruit promise to be a fair to heavy crop.

### Attractive Packages

In a report issued by the Department of Trade and Commerce, Ottawa, under date of June 19, Mr. J. B. Jackson, Leeds, England, has the following to say about apples from Tasmania and Australia:

"Australian and Tasmania apples are arriving in large quantities. These apples are shipped in a nice sized box holding about 40 pounds of fruit, and are bringing wholesale to-day from \$3 to \$4.15 per box. The packing and grading is excellent. Each apple is rolled in tissue paper and all interstices in the box filled therewith.

"I have seen no apples imported into England that can in any way approach these apples, either as to packing or appearance. They come out of the box without the least sign of bruise or discoloration, and in as perfect condition as when picked from the tree. The best varieties sent are very fine in flavor, but do not excel the

best Canadians as we find them in the orchards in Canada.

"The boxes are well stencilled 'Australasian' or 'Tasmanian,' together with the initials of the grower, and the place where grown. Within the box a neat showy card the full size of the box is found, printed in colors, stating where grown, the variety, and a guarantee that they have been packed and graded according to government regulations, together with the address of the grower and shipper. In every respect they are well packed, neat and attractive packages.

"These apples sell readily retail from 8 to 12 cents per pound. For the finest 'Canadian desert apples' packed in boxes in this attractive form there should be a ready sale at prices almost double what the same apples bring in barrels."

### Items of Interest

A Fruit Growers' Co-operative Association was formed at Cowal recently. The officers elected were: Pres., R. J. Hine, Dutton; vice-pres., John Lyons, Wallacetown; sec., Robert Campbell, Cowal.

The new prize lists for the Toronto Exhibition are-out. The secretary, Dr. Orr, promises that this year's show will eclipse all former attempts. The first entries have already been received. This year the cash prizes are larger than ever before.

The Ontario Agricultural College calendar for 1905-1906 is a neat booklet and gives a careful, comprehensive outline of the different courses. Numerous illustrations of college scenes and students at work in the different departments add to its make-up and efficiency. The horticultural department is well equipped. The calendar contains an outline of the courses, terms of admission, etc.

In the report issued by the Department of Trade and Commerce, Ottawa, under date of June 19, Mr. P. B. Baill, of Birmingham, England, speaks favorably of the chances for Canadian apple growers making money by exporting cider apples—or better, the manufactured product.

### Berry Boxes Must Be Full Size

In 1901 "an act respecting the packing and sale of certain staple commodities" designated weights and measures to be used in handling these commodities. Section 5 dealt particularly with fruit packages. Boxes were to contain specified quantities, and every box manufactured or offered for sale was to be plainly marked on the side with the word "short" if it did not hold that quantity when level full. The small boxes should hold at least two-fifths or four-fifths of a quart, while baskets may be two and two-fifths quarts, six and two-thirds quarts, 11 quarts and 15 quarts or more, as nearly as practicable.

The penalty for violation of this act is a fine of not less than 25 cents for each basket or box sold or offered for sale in contravention of this section.

This law has not been fully enforced. Recently, as a result of representations made to the Dominion Department of Agriculture by fruit growers and by the box and basket manufacturers who have been making full sized packages, a notice has been issued that special care is going to be taken to see that the law is complied with in the future.

### An Illustrated Lecture

The Hamilton Horticultural Society is fortunate in having a president who is as interested and enthusiastic in the growing of flowers as is Mr. J. O. McCulloch. At a recent meeting of the society Mr. McCulloch gave an interesting lecture. "The plants that I have grown" was the theme of the address, which was illustrated by stereopticon views of the plants and flowers discussed, all of which are grown in the lecturer's own gardens. The audience were carried through a descriptive succession of bloom of the seasons, spring, summer and autumn.

Some fine views were shown, among which was one of the red-hot poker, or torch plant, of the genus kniphofia, which plant makes a splendid show even upon canvas. Mr. McCulloch referred to this plant as being a native of Africa, and not quite hardy here, but one that will amply repay the trouble of protecting or

**W**E wish to thank our many customers for a spring business much beyond our anticipations.

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storing over winter. It is one of the most striking plants under cultivation, sending up from a dense mass of sword shaped leaves several tall scapes, each surmounted by a pyramidal poker, from 8 to 10 inches long, and bearing about 100 drooping flowers of a fierce, fiery red color, hence its name. Details of the cultivation of each flower shown and discussed were given, and the audience listened to a very instructive and interesting discourse.

### A Talk on Insect Pests

The Toronto Horticultural Society at its June meeting had the pleasure of entertaining Dr. Fletcher, entomologist, from the Experimental Farm, Ottawa, who delivered a lecture on "Insect pests and how to exterminate them," which was illustrated by stereopticon views. The society made the doctor's visit not only pleasant for himself but to all, as fine vocal talent was engaged which made the evening pass very pleasantly. The society invite their friends to join with them on their annual excursion to Guelph July 5th, leaving Toronto at 9.30 a. m.; tickets \$1.00 and return.—(H. R. Frankland, President.

### A Change in Officers

At a meeting of the directors of the Deseronto Horticultural Society held recently, Mr. D. McClew was appointed secretary and treasurer to succeed the late Mr. R. W. Lloyd. Mr. F. B. Gayford was unanimously elected presi-

dent in place of Mr. D. McClew. A flower show is being planned for the early fall.

Prizes are to be offered later for the best kept grounds of members of the society, and judging from the improved appearances of several of the surroundings of the homes of members many are preparing for the competition. This year there will be likely some changes made in the classification of this competition.

### Instructive Meetings

The Ottawa Horticultural Society held another of its interesting and well known meetings June 20, when Dr. Fletcher, of the Experimental Farm, gave an address on "What plants do." The floral exhibitions at this meeting were of the usual high standing. On July 25 this society will listen to an address by the Hon. Frank R. Litchford on "Tree peonies," and Mr. S. Short will speak on "The making of a suburban garden."

### The Lady of the House

should have a Clothes Line Reel for the yard. Clothes lines always up; never let clothes fall into the mud; never catch the unwary man passing under; easy to put clothes on; easy to take them off—**complete—cheap**. Write for circular and quotation.

(See our Ladder Advertisement on last page of cover of this issue.)

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**Has Been a Force for Good**

V. KNECHTEL, SECRETARY

The Seaforth Horticultural Society is in a more flourishing condition than ever. It has 119 members this year, and prospects of a larger membership for next year. In May we had a public meeting. The attendance was not as large as expected, but attention and interest was good. Mr. T. H. Race, of Mitchell, gave an address on "Bulb culture and its attractions," which was very interesting and instructive.

The society has been a force to increase interest and taste in our home surroundings, and

**Canadian  
National Exhibition  
TORONTO, ONT.**

August 26th to September 11th, 1905

Entries close on Monday, August 14th, for Horticulture, Floriculture, Vegetables, Field Roots, Grain, Sections, Etc.

For prize lists and entry forms apply

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the appearance of our homes has been much improved. A very much better quality and variety of plants and flowers are now seen. In our fruit culture there has been much improvement. The information supplied in the welcome Horticulturist has enlarged our ideas and stirred up our desire to have the best that is offered.

A great improvement is being made in the already extensive greenhouses of Mr. J. H. Dunlop, Toronto. The old houses are being torn down and four new ones substituted. The most modern greenhouse architecture is being used and every convenience added. On page 285 Mr. Dunlop has an advertisement offering the sash-bars, etc., for sale.

**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.

**FOR SALE — FRUIT FARM OF 200 ACRES,** Township of Niagara, will be sold en bloc or divided to suit purchaser. Hundreds of farms, stores, factories, etc., on my list. W. J. Doran, Manning Chambers, Toronto.

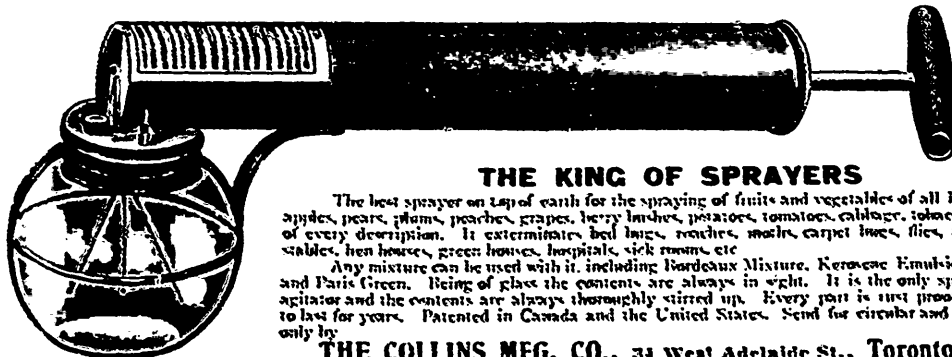
**GREENHOUSE AND STOCK FOR SALE —** TEN thousand feet of glass: one of the best equipped greenhouses in Toronto, located in the best residential sections of Parkdale, large plant trade; residence, stable and everything in good condition. Apply to F. C. care of The Canadian Horticulturist.

**LANDSCAPE GARDENING**

Parks, Cemeteries, Public and Private  
Pleasure Grounds made by . . . . .

**Chas. Ernest Woolverton, Landscape Gardener  
GRIMSBY**

Drawings made to a scale, so that any gardener may carry them out. Correspondence solicited.



**THE KING OF SPRAYERS**

The best sprayer on top of earth for the spraying of fruits and vegetables of all kinds, such as apples, pears, plums, peaches, grapes, berry bushes, potatoes, tomatoes, cabbages, tobacco and flowers of every description. It exterminates bed bugs, roaches, mites, carpet beetles, flies, and disinfects stables, hen houses, green houses, hospitals, sick rooms, etc.

Any mixture can be used with it, including Bordeaux Mixture, Keroseene Emulsions, Hellibore and Paris Green. Being of glass the contents are always in sight. It is the only sprayer with an agitator and the contents are always thoroughly stirred up. Every part is first proof, so it is bound to last for years. Patented in Canada and the United States. Send for circular and prices. Made only by

**THE COLLINS MFG. CO., 34 West Adelaide St., Toronto, Ont.**

A Handsome Premium will be Given Free to all Readers who buy goods from Advertisers.



## Caught in a Glut

is what happens to the fruit grower who depends on one market to take his crop.

Fortunately there is no need to be thus caught. Canada is wide. There are many centres from Halifax to Calgary anxious to get good fruit from a reliable grower.

THE CANADIAN GROCER is the medium through which the grower can reach these buyers.

An advertisement in our Fruit Department costs little and goes far.

Drop a card for rates.

**The Canadian Grocer**  
TORONTO, ONT.

## Extension Ladders.

Of modern appliances for orchard work there are few quite so important as a good extension ladder. In the old days fruit growers took a pole of tamarack or cedar, ripped it in two half round sections and put rungs in. Where the height required was small, 10 or 12 feet, this served very well, but where, as it often happened, it was necessary to get to the top of a tree 25 or 30 feet high to get the apples or pears—well, we usually did not get there. Sometimes had we a ladder long enough, or if we had it took a neighborhood "bee" to raise it, and when it was finally put in or let fall into place with a bump it knocked off half the fruit it was meant to gather.

With a good light safe extension ladder one man can place it just where he wants it, even a 32-foot ladder, then extend it and place it gently just where the best fruit is, even in the middle top of the tree where the long single ladder cannot be placed at all. Two or three sizes of good extension ladders in a small and moderate sized orchard, and more in a larger one, will pay for themselves in a few days in apple picking time. In this as in other farm and orchard appliances it pays to get the best.

## NEW ADVERTISERS IN THIS ISSUE.

Canadian National Exhibition, Toronto.  
Firstbrook Box Co., Toronto Ont.  
Biggs Box Co., Burlington, Ont.  
Geo. Vipond, Montreal, Que.

# LAWN ROLLERS



Well made, light and serviceable. Can be weighted when desired.

**CANADA FOUNDRY COMPANY, LIMITED**

**HEAD OFFICE: TORONTO**

District Offices: Montreal, Halifax, Ottawa, Winnipeg, Calgary, Vancouver, Rossland  
Money Given Free to People who buy Goods from Advertisers in this Issue.  
See Notice in Advertising Columns.

**A Highly Commended Plum**

The new Maynard plum, which is said to be the greatest plum creation of that wizard of horticulture, Luther Burbank, is being sold in Canada by Stone & Wellington, nurserymen, who have bought the sole right to sell this plum in Canada. On every tree they sell they are under contract to give Mr. Burbank a royalty. Mr. Burbank has sent out the Maynard plum with the assurance that it surpasses in quality and beauty of fruit any plum heretofore introduced. In fact, some leading growers believe that in the Maynard plum he has reached the point of perfection. In size it is very large, often measuring seven and a half inches in circumference. The form is nearly round, slightly flattened at the ends; in color it is a rich crimson purple, deepening to royal damask as full ripeness is reached. A more beautiful fruit were hard to imagine. The flesh is firm even when dead ripe, but melting and juicy with a deliciousness indescribable. The fruit, therefore, for table use and as a shipper has no competitor.

**Apple and Fruit Boxes**

After considerable agitation covering many years the apple growers of Canada have opened their eyes to the necessity of marketing their fruit in boxes, along the same lines as is done by the growers in California, who have been so successful. The boxes containing California fruit are all well made and well printed, giving the contents a splendid display appearance.

The Firstbrook box Co., Limited, of Toronto,

Keep the weeds down by using the

**“Handy Hand Scuffler”**

the best tool in the market for farmers or gardeners. See Candian Horticultuist of April for particulars. Wm. Welsh, Kinkardine.

**GEO. VIPOND & CO.**

Fruit Commission Merchants

**MONTREAL**

Reliable..... Prompt..... Safe

**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 July 31, 1905.

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

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. Application for this bonus must be made before August 15, 1905. Address ADVERTISING MANAGER, The Canadian Horticulturist, Toronto, Ont.

A Handsome Premium will be Given Free to all Readers who buy goods from Advertisers.

Thro rebuilding operations we have a quantity of

**Second Hand Material**

viz

**Sash Bars, Ridge, Puoilm, Ventilators Glazed, 1 in. Pipe for Supports, Headers, Etc.**

Any person contemplating building can buy the above at bargain prices.

**JOHN H. DUNLOP**

644 Lansdowne Ave.

**TORONTO**

**NEW ADDRESS: 239 YONGE ST.**

*Galbraith  
Photoleo.*

**LEADING  
LANDSCAPE AND  
COMMERCIAL**

**Photographers**

**IN CANADA**

Call and see our new premises

**239 YONGE ST. TORONTO**

have taken the first place in the manufacture of fruit boxes, and the quality of work they turn out speaks for itself. Any information as to sizes, printing and prices will be gladly furnished on application. A great feature of the box goods is they are in great demand, command a much higher price than barrel goods, and shippers make a great saving in freight, as boxes can be packed on board cars and vessels very compactly.

**Steamships Improved**

Recognizing the importance of the green fruits, dairy and provision trade to the Dominion, and the possibilities of its great development, the Thomson line fleet has been fitted with the most up-to-date system of refrigeration and cool air, and the delivery to the consumer at London improved. An arrangement has been made with the Surrey Commercial Dock Co., London, Eng., to equip immediately alongside The Canadian Produce Warehouses west berth, in the Greenland dock, with refrigerated and cool air chambers at a cost of over £70,000. The berth alongside the warehouse so fitted is for the exclusive use of the Thomson line, and their vessels are the only ones that can discharge direct from the vessel's hold into the specially prepared cold storage provided for the apples, cheese and butter.

The Thomson line has procured the exclusive use of the Gould patent loaders in the ports of

Montreal and Portland. The loaders are so constructed as to pass package goods into the holds of the vessels without any jar, squeezing or breakage, and the line is thus enabled to deliver its cargo at destination in the best condition. We can confidently recommend these loaders to apple exporters. This line has had many years' experience in the carrying of green fruit, and has earned an enviable reputation both in the Mediterranean and Atlantic trades. All the vessels of this line are fully equipped with steam and sirocco fans, and no expense has been spared to make these vessels the best of any on the Atlantic.

Recognizing the necessity of an up-to-date refrigerato. service on the Glasgow route, the Donaldson line has fitted up special steamers, giving unexcelled cold storage facilities for the carriage of all classes of products, the carriage of apples and other green fruits and vegetables being a speciality. In addition, the vessels are fitted with sirocco fans of the latest type, which make this line so favorably known as amongst the most successful apple and fruit carriers on the Atlantic.

**Quality and Price.**—The fruit grower who prides himself on the quality of his fruit and who is careful in grading and packing deserves a better price for his fruit than his less careful neighbor. The way to get that price is to brand his packages and advertise the brand in a medium that reaches the trade.

**ATLANTIC REFRIGERATOR SERVICE**

**THOMSON LINE**

Montreal and London Service

- Iona, - cold storage and cool air, July 8
- Devona, cold storage and cool air, July 15
- Kildona, cold storage and cool air, July 22
- Hurona, cold storage and cool air, July 29
- Fremona, ..... August 5

Direct service to Newcastle, Leith and Aberdeen. Sailing cards will be furnished on application.

**DONALDSON LINE**

Montreal and Glasgow Service

- Athenia,.... cold storage..... July 8
- Lakonia,... cold storage..... July 13
- Salacia,..... July 20
- Kastalia,... cold storage..... July 27
- Tritonia,..... August 3

**LORD LINE TO CARDIFF,** fortnightly sailings.

FOR SPACE APPLY TO

**THE ROBERT REFORD CO., LIMITED**

STEAMSHIP AGENTS

Montreal, Toronto, Portland, Me., St. John, N. B.

TORONTO OFFICE: Room 110, Union Station

D. O. WOOD, Western Agent

Money Given Free to People who buy Goods from Advertisers in this Issue.  
See Notice in Advertising Columns.

THE CANADIAN HORTICULTURIST.

APPLE, PEAR, PLUM AND GRAPE

# BOXES

THE FIRSTBROOK BOX CO., Limited

TORONTO, ONT.

PRICES QUOTED ON APPLICATION

## Why? ————— Why?

The question is, Why should the farmers of Ontario send their boys and girls to the

## Ontario Agricultural College?

and the answer is, Because the boys will receive a practical and helpful working knowledge of Scientific Agriculture, and because the girls will be given a first-class training in Household Science at the **MACDONALD INSTITUTE**.

**Residence Accommodation is provided for both men and women.**

Macdonald Hall, the girls' residence, is one of the best equipped buildings of its kind in Canada, and the boys' dormitories are comfortable and commodious.

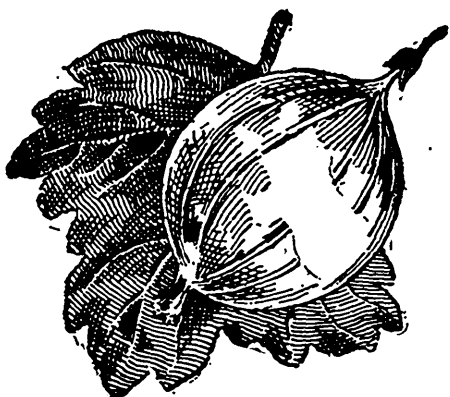
### COURSES

**Courses for Boys**, varying from two years to four years in length, commence on September 13th.

**Courses for Girls**, varying from three months to two years in length, commence on September 13th.

For full information regarding courses, terms, etc., write to **G. C. CREELMAN**, President Ontario Agricultural College, Guelph, Ont.

A Handsome Premium will be Given Free to all Readers who buy goods from Advertisers.



## Small Fruit Plants

Gooseberry, Red, White. Currants, Red, White, Black. Raspberry, Red, Yellow. Blackberries. Strawberry Plants. Strawberry - Raspberry. Roses. House Plants.

### Garden Roots

Asparagus. Rhubarb. Mint, Etc.

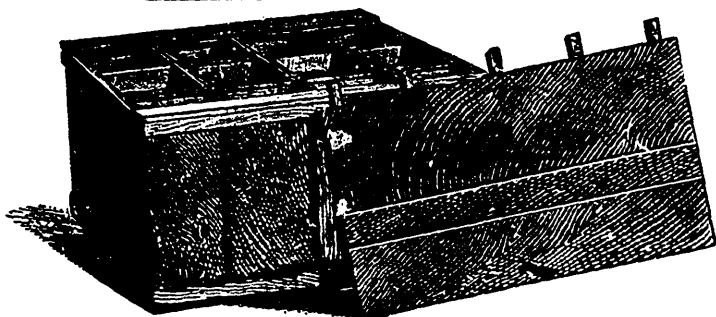
**WM. FLEMING,** NURSERYMAN

P. O. Box 54 **OWEN SOUND, ONT.**

## BASKETS

We are Headquarters for  
All Kinds of Splint Baskets

**FRUIT PACKAGES  
A SPECIALTY**



**THE OAKVILLE BASKET CO., - OAKVILLE.**

Use  
Corrugated  
Paper,  
it's tidy  
and quick.

## The Biggs Utility Fruit Box

Pat. Pending

Watch for  
the  
Biggs Box  
Press  
next month.

### is the Best—Six Reasons Why

#### Because

In appearance it is  
neat and attractive.

Standard Size,  
10 x 11 x 12  
inside measure.

#### Because

It packs to the fruit,  
(and the only box that  
does.)

#### Because

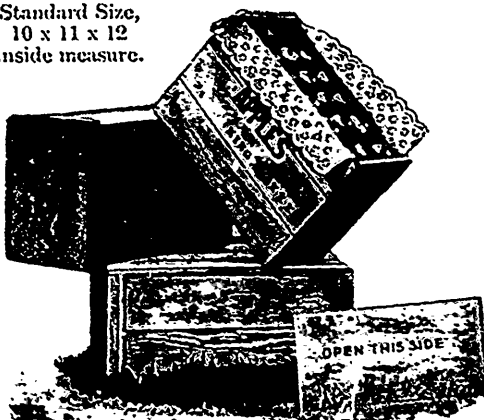
It has the strength  
and durability to  
stand rough hand-  
ling.

#### Because

It is handy to open  
and close (a boon to  
Inspectors and Sales-  
men.)

#### Because

It protects your fruit  
from bruising, and  
we can quote you  
these in the shock by  
car lot delivered.



#### Because

You can adopt the  
cleanest method of  
packing, using corru-  
gated paper instead of  
excelsior, and we can  
quote you these boxes  
in the shock in small-  
er quantities.

#### WRITE FOR PRICES

NOTE—Don't forget that success in the fruit trade depends upon a series of **GOODS—Good Fruit, Good Box, Good Packing** (which by the way shows **Good Sense**), and all make for **Good Returns and Good Nature**. Then, why not have these Goods?

**The Biggs Fruit and Produce Co., Limited. Burlington, Ontario**

Money Given Free to People who buy Goods from Advertisers in this Issue.  
See Notice in Advertising Columns.