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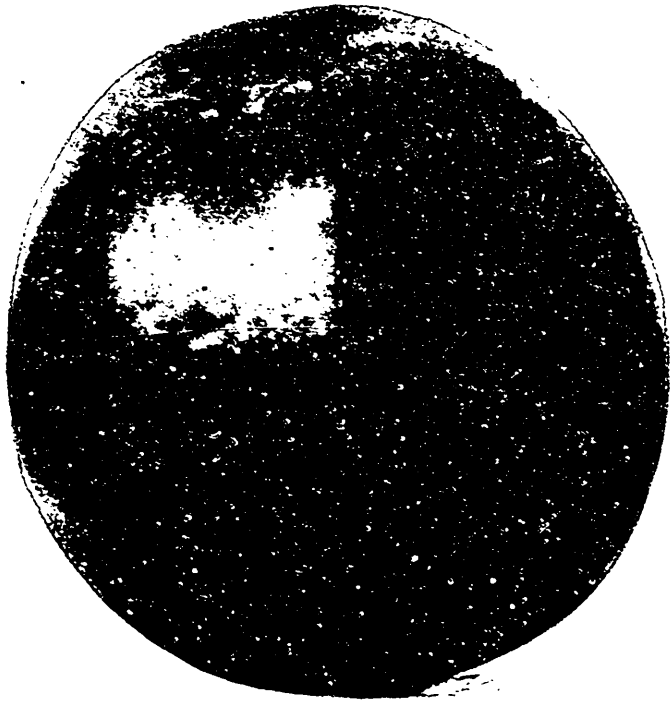
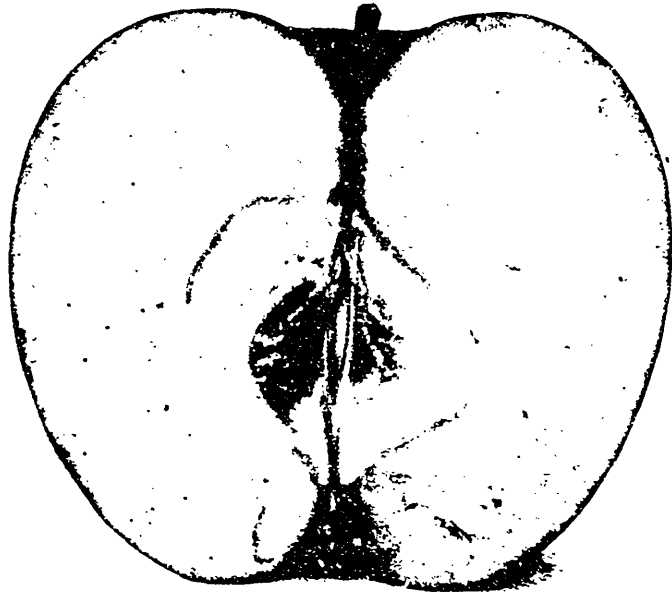


FIG. 2350. STARK APPLE.

# THE CANADIAN HORTICULTURIST

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## THE STARK APPLE

A COMPETITOR OF THE BEN DAVIS—AS  
GOOD A SHIPPER—BETTER IN QUALITY

**R**ECENTLY we received the following letter from Mr. A. C. Sabeau, Ross-way, Nova Scotia :

SIR,—I mail you an apple for name. It was grown in a neighboring orchard under the name of Stark. The tree is a strong grower and of spreading habit. Please identify the apple and if convenient please give a description of the Stark in the Canadian Horticulturist. Is this a true Stark ; is it a fair sample compared with those grown in Ontario?

The apple came to hand in good condition, and it is a fair sample of Stark as grown here. We do not know of the variety being much grown in Ontario, except by Mr. W. H. Dempsey, of Trenton, who has a good many bearing trees, the fruit of which he often shows at our winter meetings. Mr. Dempsey considers it one of the best commercial apples and one which compares favorably with the Ben Davis for profit, while at the same time surpasses it somewhat in quality. He finds it an excellent shipper, not easily showing bruises, and a good seller in the foreign market.

The frontispiece is made from a photograph of a Stark apple grown by Mr. Dempsey in 1898, which we find in our collection. The following is a description of it.

**Origin.**—Ohio.

**Tree.**—A stout, vigorous grower, productive.

**Fruit.**—Large,  $3\frac{1}{2}$  x  $3\frac{1}{2}$  inches; form roundish, slightly one sided, somewhat conical ; skin covered with shades and splashes of light and dark red on a greenish yellow ground, thickly sprinkled with brown dots ; stalk one-half inch long, stout, in a small cavity of medium depth, calyx large, half closed in a large shallow plaited basin ; flesh yellowish white ; texture a little coarse, firm and moderately juicy ; flavor, mild subacid, good.

**Season.**—January to May.

**Quality.**—Dessert, poor ; cooking, good.

**Value.**—Home market, fair ; foreign market, good.

In response to our inquiries regarding the behavior of the Stark apple in Ontario, we have received the following :

W. H. Dempsey, Trenton, Ont. :—“The tree has made very rapid growth ; the foliage is large, dark green in color and somewhat subject to fungus ; very productive every alternate year ; the fruit is large, clean, dull in color and not so attractive in appearance

as many other varieties, and it is a first-class commercial apple only for this fault. In some localities it has been shipped under the name of Baldwin."

Sam Nesbitt, Brighton, Ont.:—"In respect to the Stark apple I have always found it to be an exceedingly good shipper for export, as it apparently stood the passage over better than most any other apple in the months of February and March. There was one other point in its favor and that is that it never discoloured. Whether this will hold good after it has been out as long a time as Baldwins is a question that only the future will decide. The tree is a most prolific bearer, and the only objection that I have to the apples (and the same thing applies to buyers in the United Kingdom), is

the fact that they are not the right shade of red, making it difficult for the people who sell fancy apples to polish them and make the display that is necessary to catch the eye of the consumer.

Harold Jones, Maitland :—"In this section, where Spys and Baldwins cannot be successfully grown, the Stark has come to stay. It is perfectly hardy and a heavy bearer. The fruit keeps well into April. The color is a little dull, but the size and other good qualities mentioned places it near the top of the list as a desirable winter apple for the St. Lawrence valley.

"When attending the Fruit Institute meetings last winter I included Stark in a short list of best winters for planting in the commercial orchard."

## AMMONIA-COPPER CARBONATE

BY

PROF. L. LOCHHEAD

O. A. C., GUELPH, ONT.

**T**HIS fungicide is a valuable one at certain times because it will not discolor the fruit as Bordeaux does. It is neither as effective nor as cheap as Bordeaux, hence is seldom used in the ordinary spraying operations of the orchard. The proportions recommended in the preparation of this solution are as follows :

Copper-Carbonate ..... 5 ozs.  
Ammonia, about 3 pints (just enough to dissolve the Copper-Carbonate).  
Water.....50 gallons.

Or, if we want to make up a smaller amount, say 10 gallons, use the following :

Copper-Carbonate ..... 1 oz.  
Ammonia.....a little more than  $\frac{1}{2}$  pint.  
Water ..... 10 gallons.

The best way to prepare the solution is to make a thin paste of the carbonate first of all, and then dilute one-third of the ammonia with seven or eight times its volume of water, and pour this over the paste of car-

bonate. Then the mixture should be stirred vigorously and allowed to stand until the undissolved portion of the carbonate has settled to the bottom. The clear liquor is then poured off. To the undissolved portion of carbonate add a second, one-third of the ammonia diluted as before with seven or eight times its volume of water. The mixture is again stirred and allowed to settle. When the clear liquid is again poured off, the remaining undissolved portion of carbonate may be treated with the remainder of the ammonia. In this way the carbonate is all brought into solution, which is then made up to the required strength. Rain water should be used, else a heavy cloudy precipitate may be formed, which is often mistaken for undissolved copper-carbonate. The solution is of a clear, light blue color and will not injure even the most tender fruits.

# Notes and Comments

## THE RED ASTRACHAN APPLE

**T**HIS beautiful apple was introduced into England from Sweden in 1816, and since the Early Harvest has become so badly affected with scab, the Astrachan has of late been largely planted in Ontario as an early summer apple. The tree grows to be a large size, and is very productive; one at Maplehurst, forty years planted, gave a yield of ten barrels in 1895, which is not unusual, so that when prices are good this apple is very remunerative. The quality is only fair, and very tart; but the large size of the fruit, and its deep crimson color, often covered with a thin whitish bloom, makes it very salable.

During the last four years New York State and Ontario have been producing this apple in such quantity that after the first two or three pickings the price has been very low and we have been compelled to seek for a distant market. The apple is so tender that it is impossible to land it in the British markets in good condition except by cold storage, held at a temperature of about 33 F., a condition which it has hitherto



FIG. 2360. RED ASTRACHAN APPLE.

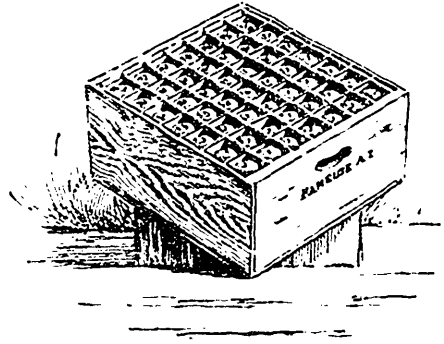


FIG. 2361. COCHRAN FRUIT CASE.

been difficult to ensure. A special officer, however, has been charged with this work by the Hon. Sidney Fisher, and we hope for complete success during the coming season.

## A MAGNIFICENT CROP OF ASTRACHANS

**N**EVER before has the promise of this variety been so fine as at present. One hundred and twenty large trees of it at Maplehurst are almost breaking down with the weight of clean, beautiful fruit, and all the finest are destined for export. They will be packed in cases with fillers, similar to the Cochran Case (Fig. 2361), only smaller, and weighing about 40 lbs. each. Each apple will have its own separate compartment, and all the apples in a case will be selected to one size. Astrachans will go in about three sizes in all, viz.: 2 $\frac{1}{4}$ , 2 $\frac{1}{2}$  and 2 $\frac{3}{4}$  inches in diameter. The cases cost about 20 cents each, and four of them will hold about the same quantity as an apple barrel. Several shippers will join us in making up car-lots of these tender apples, beginning early in August.

### GOOD MARKETS AT HOME IF ONLY ACCESSIBLE

IT is astonishing what quantities of fruit can be sold right at home, in our own Ontario, if only some scheme of easier distribution were in operation. Our province is full of villages where no fruit is offered, and yet where not only the villages, but the farmers about, would be most eager to purchase it. May we not hope that the extension of the electric trolley, and perhaps the automobile freight wagon will by and by help us to reach all these country sections and wonderfully help the commercial fruit grower to dispose of his fruit crop to advantage, without the great risk of loss attending distant shipments.

"I have a special method of my own of selling my Red Astrachans," said Mr. Willoughby, of Beamsville; "I have an acquaintance with the retail trade in some of the northern towns, and I send my teams direct to the stores with them, and get the very best price for them, with no expenses for freight and commission to be subtracted. In the year 1896 for example, I sold 1,000 baskets of Astrachan apples in this way, a large part of which averaged me 50 cents a basket, and that is better than you can do by exporting them."

### CHANCES FOR EXPORT OF FRUIT

MR. JOSEPH CHEAL, F. R. H. S., of Crawley, Sussex, England, a horticultural author and practical expert in gardening and fruit growing, called on us the 2nd of July. He expressed himself as particularly interested in the conditions for commercial fruit growing afforded by our country. Unfortunately for English fruit growers, much better rates were allowed for carriage of Canadian fruit, on the English railways, than for that which is home grown, but in spite of this discouragement there are many large commercial orchards in Great Britain. The present sea-

son is a most depressing one to the English fruit growers, for most unfavorable weather has prevailed, and supplies of apples, pears and plums will be very short.

Mr. Alexander McNeill, of Ottawa, who came in company with Mr. Cheal, reports failures of our fruit crop in several important parts of Ontario. There are scarcely any peaches in Essex, for the orchards were all cleaned out in the winter of 1898, and the newly set trees are not yet in bearing. Thousands of acres however, are being planted to peaches in Essex, so that in a year or two there will be immense quantities produced. The apple is very poor in quality in many parts of Northern Ontario, owing to prevalence of apple scab, which has been developed by excessive wet weather. Both leaves and fruit are blackened by this fungus in some places.

Mr. C. W. VanDuzer said, "I doubt the wisdom of trying to export fruit under the present conditions of transportation; the risk of loss is too great as things are, and I think I can do best at home."

"The Dominion Government," said Mr. McKinnon, "should buy fruit for experimental shipments, and have a packing house where the grading and packing should be done after the most approved fashion, and the work should be carried on until the most complete success is attained. If the Department of Agriculture, with all its means and influence, is afraid to undertake the risk, how can private shippers be expected to enter upon this business. I should like to know, said he, how it is that the temperature is not more quickly brought down in cold storage after the steamer leaves port. One of the thermographs showed that it was three days after sailing before the temperature was reduced to 40° F.!"

"Well," said Alex. McNeill, "this is work which I, as acting chief of the fruit division, will undertake to look after this

season. If the shippers will put up the fruit, I will have a careful oversight of it from the time it leaves the orchard until it is safely stored on shipboard, and Mr. W. A. McKinnon will meet it on arrival in Great Britain, so I think we ought to succeed this season."

#### SHORTENING-IN PRUNING

**P**RACTICAL experience in fruit growing has brought about some very radical changes in our views of orchard pruning. At one time our theory was: "Pruning is a thrust at the vitality of the tree, and the less of it the better," but now we are convinced this notion is entirely erroneous. We find the unpruned apple orchards void of fruit, even in this year of enormous fruitage; fruit spurs are stunted with dense shade, and produce nothing, while the tree itself is wasting energy in trying to thin out its own wood, and is choked with half dead and weak growing branches; while those trees which have been carefully pruned each year, are carrying loads of fine fruit, on vigorous wood.

#### ANNUAL CROPS THE RESULT

**I** SHORTEN-IN all my apple trees every year," said Mr. Brennan. "Here is a row of Spys and Baldwins which produce fruit every year. The secret is in the pruning and thinning. That tree is forty years old, and I do not intend to allow it to grow any larger, but will cut it back every spring, to encourage young wood growth, and this young growth is the bearing wood of the following year. I treat plum and pear trees just the same way. I was led to prune as I do by the success of the renewal system in pruning grapes. I argued that if this method applied to grapes why not to other fruits?"

*When do you prune?*

Mostly in early spring. My aim is to produce plenty of young vigorous wood

every year, and then I expect good fruit on it the following year. I reduce the amount of bearing wood that I may always have plenty that is fresh and vigorous.

*Do you manure heavily?*

Yes, I give a heavy annual dressing of ashes and bone dust, and couple with this clean and constant cultivation until August.

For a long time this Journal has been advocating the thinning of fruit, both to save the vigor of the tree and also to secure fine fruit; but never until now, have we found an orchardist carrying out the practice in a whole orchard. No wonder Mr. Brennan succeeds in making as much money off his fifteen acres as many a man does off his one hundred.

#### THINNING PEACHES

**M**R. BRENNAN says he finds the Alexander peach one of his most profitable varieties. Of course it is inclined to overbear and consequently to be small and worthless, but he prevents this by two methods of thinning. The first is by pruning. He shortens the peach wood every spring, never allowing the tree to grow beyond a certain size. This method not only thins out a portion of the bearing wood, but encourages a certain amount of new wood growth for the following year's fruitage. It also develops young growth from the ground up, so that he has no waste, barren wood, and his whole tree is within easy reach for thinning, spraying and fruit harvesting. One tree was pointed out which was fifteen years planted. That tree, said he, will never be allowed to grow any taller or spread any wider. The trees in the orchard are only twelve feet apart each way, and yet by his method of shortening back all vigorous growth every spring, they have abundance of room.

The second method is by removing a portion of the young fruit in June. Walking

through his Alexander orchard on the 28th of June, we found the ground literally covered with young fruit. "People," said Mr. Brennan, "are calling me a fool to waste my fruit like this, but I have learned by experience that thinning pays."

*What portion do you take off?*

Well, from those overloaded Alexanders, fully one-half. Here is a tree from which I took 1700 peaches on the 20th of June. The tree could never carry that quantity to perfection. Why, 100 peaches, well grown, would fill a twelve quart basket, and that tree was carrying enough peaches to fill over 30 twelve quart baskets! while eight or ten baskets is all it could possibly mature, to any size.

#### OVERCROPPING

**T**HIS principle applies equally to all fruits. If the tree overbears in one season, it cannot recover itself in time to produce a crop the year following, so that apples, pears and plums all need similar thinning of the fruit and similar shortening of the branches. "By this system of shortening," said he, "I get fruit every year from Spys, Kings and Baldwins, because I always encourage a certain amount of young wood growth, even in a season of heavy bearing, and this produces fruit the succeeding year."

The following from the Journal of Horticulture, England, goes to establish Mr. Brennan's method:

"In the whole gardening practice there is no greater mistake than that of overcropping. It is bad in every department, but worst of all with fruit, for not only are the trees incommoded during one season, and prevented from giving good fruit, but they are often seriously checked for another year, a more important point even than the other. The effects upon peaches and nectarines are very marked. The trees are called upon to produce about twice as many stones as are

necessary and this takes far more out of them than the production of the edible part or flesh.

But the strain upon the trees is so great that even the small amount of flesh upon the fruit is not worth anything. It is poor in flavor, and the fruits usually drop before they are properly ripe. Instead then, of having, say a hundred fine luscious peaches, or highly flavored nectarines, upon any given tree, we have, if the fruit is not properly thinned, perhaps double that number, and out of all, not a score of fruits that one could possibly send to a nobleman's table or a high class fruiterer's shop.

Apples on small trees are often badly treated in this way. With large orchard trees there is a great difficulty in thinning, and without a doubt, this combined with the let alone principle on which the trees are treated, is responsible for their often bearing once in two years. But with small trees there is no necessity for this. The fruits can mostly be thinned by hand from the ground or from a short pair of steps, and the increased value of the produce is out of all proportion greater than the trouble involved.

Even small and bush fruits may with advantage have attention in this way. Gooseberries, currants and even strawberries, unless there is a good demand for cooking fruit, should be well thinned. It is just now that the result of not thinning is most apparent, and I would ask any thinking producer to have a look round the nearest fruit plantation to him. In nine cases out of ten he will find this season's trees overburdened with small and comparatively useless fruit, that with judicious thinning might have been useful and profitable to the grower.

#### EARLY TOMATOES PROFITABLE

**I** FIND my early tomatoes about my most paying crop, said Mr. Wm. Armstrong of Queenston. I have made a business of



growing my own plants for early fruit for the last five years, with such success that now I set annually from 12,000 to 15,000 plants.

It was a delightful visit to Mr. Armstrong's home, on the 29th of June; it is situated on the bank of the Niagara River and his place is known as Riverside Fruit Farm.

*How early do you ripen your first tomatoes?*  
we enquired.

Usually by the first of July and sometimes sooner.

*What is your favorite variety?*

I prefer the Atlantic Prize to any other variety. It is flat, roundish, not too large, and excellent for slicing up for table use. I make it a special point to carefully select the seed from the finest specimens each year for my own planting, so that my strain of Atlantic Prize tomatoes is much better than any which can be bought under that name. Ignotum I find too large and too shy in bearing for profit.

#### PROFIT IN PLUMS

*Do you consider plums profitable?*

I do. Come and see my orchard for yourself. Mr. Armstrong showed us through an acre of land planted chiefly with Niagara and Washington plum trees heavily laden with fruit. It was fenced in and contained some fowls, which, he said, accounts for the fact that no curculio can be found in it. These, said Mr. Armstrong, are in my opinion the best commercial varieties. True, Washington is somewhat tender in flesh, but I have no trouble sending it to a near market like Toronto in perfect condition. Our Toronto boats leave at 7 and 11 o'clock a. m. and by shipping them the same day they are gathered, they reach Toronto by boat in perfect condition.

One Niagara tree about ten years planted, Mr. Armstrong estimated, would yield fifteen baskets of plums; surely it is difficult to estimate the cash value of such a tree!

Peaches, grapes, strawberries, plums and tomatoes, seem to be Mr. Armstrong's specialties, and in the latter we know of no one who excels him. He is surrounded by the fruit farms of men whose names are familiar, as for example, Carl E. Fisher, secretary of the Niagara Peninsula Fruit Growers' Association; Major Sheppard, the Farmers' Institute lecturer; and Mr. Vrooman, one of the early settlers of Queenston. In location it is most picturesque, with the Toronto boats in full view in old Niagara river, and the cliff rising up gradually in close proximity, surmounted by the famous monument to Sir Isaac Brock.

#### SUCCESS WITH PLUMS

THE Lombard is an enormous cropper, and this is the great fault with it, because the fruit is consequently small, and, growing in such clusters, is very subject to rot. If thinning is needed with any fruit it is surely needed in the case of the Lombard, and that with no stinted hand, for in this way alone can we succeed in producing such fruit as will command remunerative prices.

One of the finest young plum orchards we have seen belongs to Mr. George Davis, Beamsville, who took great pride in showing us what a magnificent load of Lombards the trees were carrying. There were 200 trees per acre, from five to eight years planted on clay loam, and such immense loads of fruit are seldom seen in a whole orchard. Mr. Davis said he had been wishing for curculio to come along and thin out his Lombards and save him the work, which he could see was positively necessary to secure fruit of any size. "I manure heavily," said he, "and I think that, in part, accounts for the enormous yield. I give a load of barn manure to every seven or eight trees, or about thirty tons an acre, and this I repeat every year. The result is evident in the wonderful thrift of the trees."

"I would not plant Lombards for profit," said Alex. Glass of Jordan, the well known originator of the Glass plum. "In my orchard of 800 trees I have only eight or ten trees of Lombard. I count it the poorest plum I grow."

*What are your most profitable varieties?*

"The Prince of Wales I count my first for profit; it is the best for all purposes. My choice of six best kinds for the commercial orchard is:—Prince of Wales, Goliath, Bradshaw, Coe and Reno Claude.

"It is strange," said Mr. VanDuzer, a prominent fruit grower of Winona, "that this year there is a general failure in many plum sections of Glass, Quackenbos and Columbia varieties, which by the way very much resemble each other. On the other hand Bradshaw and German prune are giving a most exceptional yield."

#### MAIN CROP STRAWBERRIES

"GIVEN the right soil," said Mr. E. B. Stevenson, our strawberry experimenter, who is now located at Jordan Station, "no fruit is more profitable than the strawberry. Look at the tremendous rows of fruit on these rows of Clyde, a variety that cannot be surpassed for productiveness, where there is enough moisture in the soil. As a rule it is far more productive than the Williams, except on light, dry soils, but of course it is not as firm for the long shipments. The Williams is largely grown for market, but, in my opinion, it is inferior to Saunders, which I would place first for main crop; this latter is a Canadian berry, large, bright, firm, and of good quality. It ripens all over, and is just as good a shipper as Williams."

*What is the best late berry?*

Well here is one which was introduced by J. H. Hale, the eminent peach grower. He says it is the latest berry on earth, and catalogues the plants at \$1.00 each! He has christened it Hales 11.59 P. M. You see it is not yet (June 20), beginning to

ripen, and Michel is nearly over. However it is not the only late berry; J. H. Black, of New Jersey, has been sending out some "pedigree stock," as he calls it, among others a variety called the Joe which is probably as late as Hales.

#### FANCY BERRIES

*Have you any fancy berry for the amateur excelling the Jessie?*

Well yes, I would say that either the Woolverton, or the New York is quite as desirable in the home garden, though of course Jessie is excellent in quality. The Marshall is an excellent berry too for the amateur; it needs rich, moist soil to do well, and it is usually almost as profitable for market growers as the Clyde. It is almost as early as Michel. A new berry from Michigan is one of the most promising of this year's introductions, being wonderfully large and productive. It is called Uncle Jim.

A full report on strawberries by Mr. Stevenson, will be published in the next annual report of the Ontario Fruit Stations.

#### RAPID INCREASE OF STRAWBERRY PLANTS

Speaking in The Sun of the rapidity with which a large strawberry plantation may be developed from a small beginning, Prof. Hutt, of the O. A. C., said: "People hardly realize how soon a very considerable area of strawberries can be developed from the experimental lots sent out from the college. Let me give you an illustration: Last year we set out a lot of strawberries of different varieties at the college grounds, for the purpose of seeing to what extent these would increase. The result was astonishing. The number of new plants developed from a single parent stem in one season on the average was—for the different varieties named—as follows: Sadie, 100; Ruby 85; Standard, 53; No Name, 51; Burt, 48; Buster, 47; Warfield, 42; William Belt, 41; Clyde, 38;

Glen Mary, 37 ; Wesley, 36 ; Van Deman and Fountain, 32 each ; Irene and Haverland, 31 ; Anna Kennedy, 30 ; Jucunda, 23. Lumping together the results with all these standards, it was found that the average number of new plants developed from each parent was 49. It does not take long to work into a strawberry plantation at that rate, does it? There is to be remembered, also, the fact that while it is quite a common thing to have failures with plants sent from a distance, it is a rare thing to have failure in replanting from your own parent stock."

POSSIBLE YIELD OF STRAWBERRIES

The wretchedly small yields obtained by some strawberry growers are due either to a too dry sandy soil or poor cultivation. The immense yields that have been sometimes taken from small plantations, prove what great possibilities lie within our reach in the growing of this most popular fruit. The following statement concerning the yield of this fruit would be ridiculed by some were it not made by Prof. Macoun, whose veracity no one doubts. He says in the Maritime Farmer :

" It is possible to grow 10,000 quarts of strawberries on an acre of land in one season. At the Central Experimental Farm on a small plot the yield has been as high as at the rate of 13,934 quart boxes per acre. The average yield obtained however is from 5,000 to 6,000 boxes per acre, but the higher yields are something to work for. Further details regarding the culture of strawberries are published in the Experimental Farm's reports and bulletins. More than 350 varieties have been tested at Ottawa, of which the following, after having been given a thorough trial, have proven the best : P = pistillate or imperfect flowers. B = Bisexual or perfect flowers :

Warfield, P. . . . .	Early	For market.
Reder Wood, B. " "		Good pollinizer. Productive.
Glen Mary, B. . . . .	Medium	For home market.
Greenville, P. . . . .	" "	Home use or home market.

Haverland, P. . . . .	Medium	Market.
Bubach, P. . . . .	" "	Home use or market.
Williams, B. . . . .	" "	Market.
Buster, P. . . . .	Late	Home use or market.
Howard's No. 41		
P. . . . .	" "	Market.

" In addition to the above, Marshall, B, William Belt, B, Nick Ohmer, B, and Brandywine, B, are excellent for home use but are not as certain to yield well. Clyde, B, is a heavy yielding berry some years, but is uncertain, as it suffers badly in dry hot weather."

CHERRIES AND CHERRY BIRDS

THE Board of Control of our fruit stations met at Maplehurst on the 5th of July. The new varieties of Duke cherries were of especial interest to the chairman, Dr. James Mills. There were five varieties noted down as suitable to keep up a succession for the market, and carrying immense loads of fruit for their age, viz. in order of ripening :—May Duke, Royal Duke, California Advance, Late Duke and Louis Philippe, the first of which is over long before the latter begins ripening. These Dukes are a class of cherries which are a mean between the sweet and the sour cherries, and most desirable for all household uses. The peculiar upright habit and the close and continuous clustering of the fruit upon the underside of the long upright branches, at once distinguish the trees from those of other classes. One special variety of this class, the Reine Hortense, was especially admired because of its immense size, and excellent flavor, but it is not as productive as the others.

I have had great trouble with cherry birds this season, said Mr. Orr. I have shot two hundred and fifty waxwings and in spite of me they have eaten up all my Early Purple cherries. That variety, we remarked, is the first cherry of the season and it is especially tender and tempting to the birds ; we have

concluded that the commercial cherry grower needs to plant the firmer varieties, which are not subject to their ravages.

"I question," said Mr. W. N. Hutt, "the wisdom of shooting those waxwings, indeed the legality of it. I believe they are insectivorous birds, and friends of the fruit grower, and should be protected. Surely some other means of protecting the cherries could be adopted, and the lives of these birds preserved."

"I have always read", said Mr. Orr, "that cherries succeed best on sandy loam ; but that is contrary to my experience. I have planted Early Purple and Windsor on both sand and clay, and I have found the trees much more productive on clay, healthier and longer lived."

#### FEEDING BIRDS ON CHERRIES

**M**R. GEORGE F. POWELL says he plants a quantity of the early varieties, sweet cherries, purposely for the birds to eat, especially such varieties as Coe's Transparent, Gov. Wood and May Duke. These trees, he says in Rural New Yorker, are given up entirely to the birds.

I have made it a practice in planting cherry orchards to put in a quantity of trees

of the early varieties of sweet cherries, such as Coe's Transparent, Gov. Wood and May Duke. We never pick them and never allow a bird to be frightened from the trees. They live upon these, and by the time our more valuable cherries, such as Black Tartarian, Black Eagle, Napoleon and Windsor are ripe we have no trouble from the robins. There will not be even two per cent. of these fine cherries picked or damaged by the birds. If every one would make it a point to put in a few extra trees of these early, juicy, sweet cherries, they would have little trouble with their more valuable varieties. Rather than kill off the birds I would plant cherries and give them the entire crop. It is one of the great drawbacks that we have so few birds inhabiting our orchards, in consequence of which we are forced to carry out the expensive process of spraying, without which comparatively little fruit of value could be produced. It is a great mistake on the part of fruit growers to kill off the birds, and I find that it not only economical to plant cherry trees for them, but I find that it brings larger numbers to my place, and they are very helpful in keeping down many insects that are not destroyed by spraying.

## THE MAPLE AS A SHADE TREE

A LETTER FROM ALEX. McNEILL, OF WALKERVILLE

**S**IR,—I have on several occasions when speaking to our Societies in different towns and cities, regretted the fact that our people plant the maple so exclusively as a shade tree. The maple is indeed a beautiful tree, and I hope the time may never come when it will not be extensively planted; but a recent visit which I made to the city of Burlington, Vt., would have convinced me had I not already been convinced, that the American Elm is superior in every respect. It is comparatively free from attacks of insects, has a most graceful form,

and endures the hardships of street and park life quite as well as any tree that is planted. The streets and parks of Burlington have many notable examples of the great beauty of the American elm as a shade tree ; and there is no reason why our towns and cities should not use a greater variety of shade trees than they do, and when a selection is made there should always be a large proportion of that "forest on a single tree"—the elm. This tree grows nowhere in greater perfection than it does in Ontario.

# MEN WHO HAVE SUCCEEDED—V

J. H. HALE

THE EXTRAORDINARY PERSONAL STORY OF THE MAN WHO FIRST PLANTED LARGE PEACH ORCHARDS IN CONNECTICUT AND GEORGIA, AND WHOSE WORK HAS BEEN AN IMPULSE TO PEACH-GROWING THROUGHOUT THE COUNTRY, AS TOLD BY HIMSELF IN "THE WORLD'S WORK"

**B**ORN and reared on a little Connecticut farm, with a love of fruits inherited from ancestors on both sides, I have among my earliest recollections the seedling peach trees along the fence row. The little Red Rare-ripe peaches that clustered on these bushy old trees every September were beautiful as



FIG. 2562. J. H. HALE.

a Crimson Rambler rose to-day. One old tree, more sturdy than the rest, and fruiting every year, strongly attracted me, especially after I had learned that it was over seventy years old. If a tree could fruit like that under such conditions, what might not be hoped for with better varieties and better culture?

My father died in early boyhood, and mother and children were kept hustling to get a living and keep up the interest on the

mortgage. A shovel, a spade, and a little old hand-cart were our only implements. The question of how to start a peach orchard had to give way to the more pressing question of how to get enough to eat from day to day. At twelve years of age I went to work by the month for a neighboring farmer, and one September day, cutting cornstalks near the beautiful valley of the Connecticut, I came across a seedling peach tree, right there in the corn field, loaded down with ripening fruit; rosy red peaches, sweet and delicious. Tired and exhausted from the heavy work of handling the cornstalks, I sat a long time under the tree, eating peaches and dreaming of the peach orchard I would have if ever I got money enough to buy the trees; and I believe the joy in the thought put such life into me that the extra work I did that afternoon more than made up for the time lost under the peach tree.

Continuing to work out by the month on farms, the fall I was fifteen found me with nearly one hundred dollars in cash. The winter following my last at school, I had been reading everything I could get on horticulture, and by spring I was ready to invest my cash in fruit trees and plants. As quick returns must be had, the start was made with strawberries and raspberries. Some cash came in the following June, and then the quarter-acre of my beginning was increased to an acre, and later to four or five acres. Keeping in view my peach dream, the first peach orchard of a few hundred

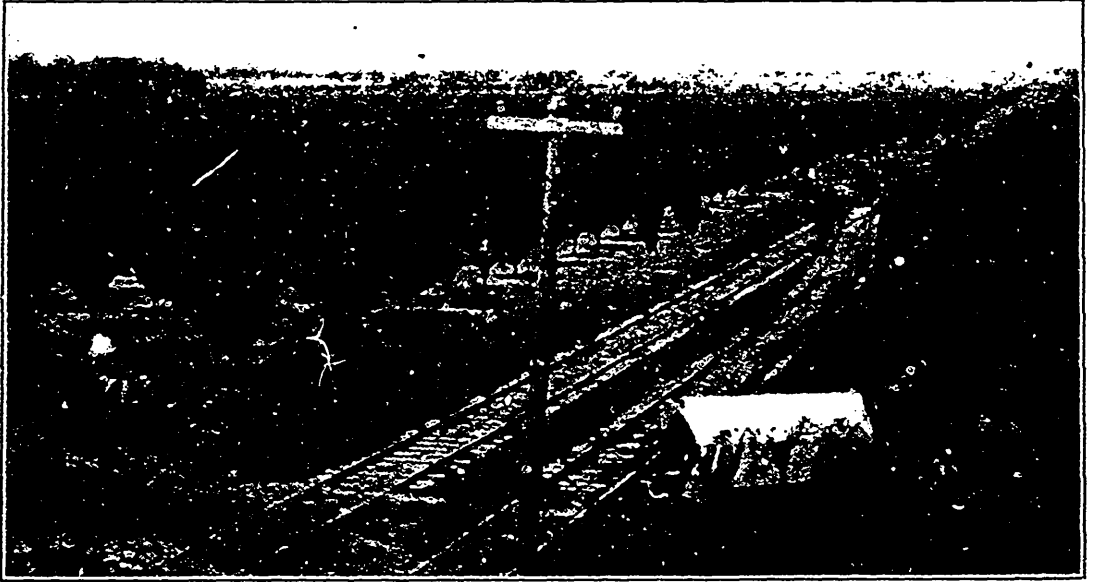


FIG. 2361. THE HALL PEACH ORCHARDS.

trees was now started, and the next year, during the fruiting season, a trip was made to Delaware to study varieties and methods. At that time, so far as I know, there was not a commercial peach orchard north of New York, and the following spring, when I planted out an orchard of 3,000 trees, it was the general opinion that the attempt to grow peaches on a commercial scale as far north as central Connecticut was a crazy scheme of an inexperienced youth, and could only result in failure.

Looking over the situation from time to time, and hunting up old fruiting trees in neighboring towns, wherever I could find them, it took but a few years to learn that the killing of fruit buds by the extreme cold of winter was one great danger to be feared. I found that side hills and tree tops had a way of sliding the frost down into the lowlands; and by tramping around with a thermometer just at daylight some of the coldest mornings, I found temperatures varying all the way from fifteen to twenty below zero on the level and in the valleys, while on the hill

sides, not over fifty feet above, the tube would show from eight to twelve below, and on the hilltops of 200 or 300 feet elevation, scarcely a mile away, the mercury would register nearly zero.

Here, then, was the place for peaches, if soil and other conditions were right. By straining to the utmost my slender resources and depending upon the berry fields for ready cash to keep the venture going, I managed to secure and plant nearly 10,000 trees in two blocks. I set about leasing what I thought were suitable lands for further development in the early eighties. One block was on land owned by a widow 93 years old, who, after signing the lease with her own hand, said, "Now, I am going to live long enough to see this peach orchard in fruit. How long will it take?" When she was told that it would be four or five years at least, and possibly longer if the winters were too severe, she smiled, and said, "Well, I will wait to see one crop, anyway." Six years later, when the first moderate crop came, I took the dear old lady,

then 100 years old, in a low and easy carriage, and drove among the trees. She picked the luscious fruit with her own hands from the bending branches, and was as happy over it as a young girl. On the way home she reminded me of her promise to stay till I had one crop, and then with a smile, and a trace of a twinkle in her bright little black eyes, said, "Does this really count for a full crop, or must I live a year or two longer to fulfill my bargain?" I assured her that this would not count, and I had the pleasure of showing her two crops after that, and taking tea with her on her 104th birthday, and it was not until six months later that she left us.

After five years of thorough culture the trees had just come to full fruiting age when three very severe winters in succession killed all the fruit buds. Deeply in debt as I was, and faced with necessity to maintain the standard of culture I believed in, my friends and well-wishers now advised the abandonment of the enterprise without sinking any more money in what seemed to them a hopeless endeavor. Anyhow, they said, the trees would live awhile without culture, and it would be time enough to spend money on them when they showed some signs of fruit-

ing. But with my hand once to the peach plow, I did hate to turn back, and then, thinking how the Lord hates a "quitter," I began hustling to borrow more money. It was a hard struggle, but a record of reasonable industry, coupled with good habits, enabled me to find bankers who were willing to loan money on faith and energy when there was no better collateral in sight.

In that first crop I was aiming for some peaches better than the markets had ever seen before in any considerable quantity, and I deliberately picked off more than three-fourths of the young fruit, greatly to the disgust of friends who could not understand that I was insuring larger and finer fruit.

As the fruit approached ripening, plans for marketing that had been years maturing in my mind were licked into shape. It had cost so much money and waiting to reach this first crop that it seemed necessary to get all necessary profits out of it. Determined to be my own salesman, I leased a vacant store in the near-by city of Hartford, and a month before peaches were ripe, hung out a large banner announcing that a lot of "Home-grown peaches, ripened on the tree," would be on sale there after a certain



FIG. 2364. FIELD PACKING AT THE SPRING GAP ORCHARD.

date. Then I visited the leading towns in Connecticut, Massachusetts, and Rhode Island, seeking out in each town one retail grocer or fruit dealer who handled high-grade goods. To him I told my little story of soil and variety selection, tillage, pruning, fertilizing and fruit thinning. I told him how the fruit was being gathered fully ripe, day by day, as it came to maturity, carefully assorted in three sizes, rejecting all unsound or imperfect specimens, packing the fruit in new baskets made of the whitest wood obtainable, every basket to be rounding full of perfect fruit of the grade, and guaranteeing uniformity of packing; that I was jobbing the fruit myself; that prices would probably be twenty-five or fifty per cent. above the market rates, but that the fruit would be worth it; and that I was prepared to give an exclusive agency to the one dealer in each town who would push the goods into the best family trade.

When the crop began to come in, liberal advertising in the Hartford papers started sales at once. The few outside trial orders gave such satisfaction that orders came pouring in faster than there were peaches to supply them, so that after the first week of the season the daily orders were far in excess of the supply, and prices were advanced to "what the traffic would bear." It was all cash trade, too.

With a girl to book orders and look after the cash, one boy and I worked in the store every night from six to eleven, taking the fruit from the wagons as they came from the farm, and making up the out-of-town orders. And again at four a. m. we supplied the Hartford and local trade, after which came a drive of eight miles out to the farm, there to spend the day assisting at the harvest or toning up of the weak places in the plan of picking, assorting and packing. I soon found that men, however honest, would occasionally sneak the best peaches to the top of the baskets, and that women,

with quicker eye, defter fingers, and natural honesty, made the best graders and packers.

Long days, hard work and lots of fun there were in that first crop, but the greatest pleasure of all was the signing of what then seemed a big check for \$2,100 that paid off the mortgage on the farm, and gave the mortgagee a chance to re-lend the money on a Kansas farm 1,500 miles away, where they could not see the borrower daily if he should depart from the orthodox ways of the neighborhood to branch off into the heresy of a new agriculture.

The peach harvest rounded up nearly \$10,000 profit, from a farm that my neighbors thought three months before was not good security for a loan of \$2,000. All other debts were paid, and the entire surplus was promptly invested in fertilizers for the orchard. Winter's frost destroyed all hopes of a crop the next season, and money had to be borrowed to keep things going; but only for a little while, for 1889 gave a banner crop of superb fruit, which, marketed as before, gave net profits from thirty-five acres of over \$24,000. Such a fruit harvest was a novel sight in New England, and dealers, consumers and land owners from far and near flocked to the orchards by the hundreds each day. New England received a stimulus in peach growing, resulting in the planting of over 200,000 trees in the season of 1890. Continued planting since shows at the present time over 3,000,000 trees in the peach orchards of Connecticut, more than 100,000 in Rhode Island, 300,000 in Massachusetts, and not less than 50,000 in southern counties of New Hampshire.

My own planting has at least kept pace with the rest, so that now 50,000 trees in Connecticut alone represent the outgrowth of the "crazy" scheme of twenty-five years ago. Rocky hills and semi-abandoned brush pastures have been purchased; woods, rocks and stumps have been cleared away at an expense—often exceeding five and even



ten times the cost of the land itself; yet the new industry has paid all the bills, and left me a cash reward far greater than my limited education and abilities would probably have commanded in any other business or profession.

The old cornfield is now a part of my farm; peach trees by the thousand cover the hills, and in peach harvest, when 75 to 100 Italians are joyfully singing as they gather the fruit, I do not feel so lonely as I did once on that same old hill.

## THE NEW YORK MARKET

ITS POSSIBILITIES FOR CANADIANS—UNLIMITED  
DEMAND FOR LATE STRAWBERRIES—LETTERS

FROM

MR. FRANCIS WAYLAND GLEN

BROOKLYN, N. Y.

BROOKLYN, N. Y., July 3rd, 1902.

SIR,—This morning my grocer charged me 18 cents per quart for strawberries. They were fine, but not the best they came from Oswego; they have been the same for the past 6 days; red raspberries, 16 cents; blackcaps, the same; good blackberries, 10 cents to 12 cents; currants, 10 cents; prime California cherries, 12 cents per pound; Georgia plums and peaches, 10 cents per quart; whortleberries, 15 cents; local cherries, 10 cents; pine apples, 12 cents each, of fine quality; red and yellow bananas, very cheap, quality best; apricots from California, 10 cents per quart. With all these fine fruits fresh and in fine condition, strawberries hold the price above quoted. Prime berries have been sold wholesale at 16 cents for the past week.

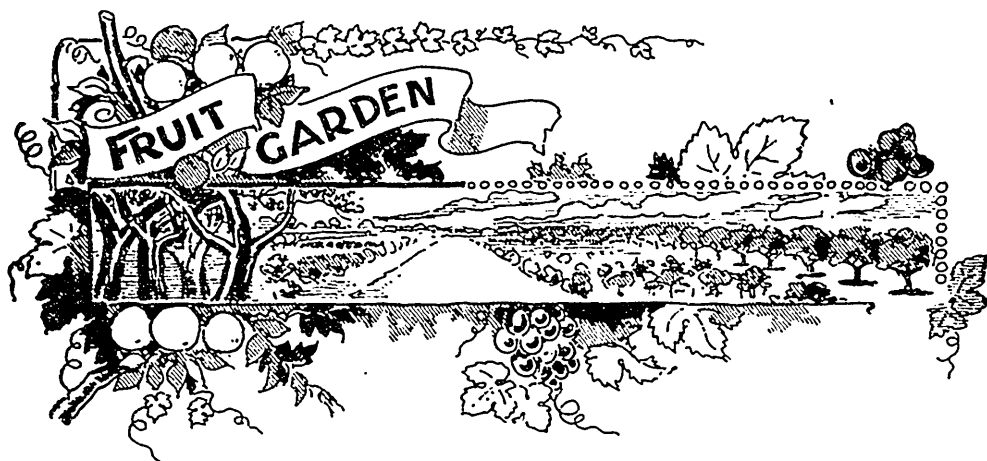
We have 10,000 grocers in this city. If they only sell 10 quarts per day each, the total sale will be 100,000 quarts per day. Then there are 2,000 retail dealers who make large sales. Now at these prices a late strawberry in Ontario would be a money maker. As a rule from June 21st to July 15th strawberries command high prices in this market. The time is near at hand when we shall have complete reciprocity in trade with Canada, then Canadian fruit growers in all the provinces east of Manitoba will have free access to the best market in the world at their very doors.

BROOKLYN, N. Y., July 10th, 1902.

SIR,—To-day strawberries bring 18 cents per box at retail, and the demand more than equals the supply. New England and New York can easily consume 500,000 quarts per day at this price after July 1st. People think that blackberries, raspberries and blackcaps are too sweet this season and currants are acid. They are quite willing to pay a large price for strawberries. N. B. and N. S. should supply New England, and Ontario New York and Pennsylvania. The market is unlimited, returns prompt in cash. A good late strawberry will net the grower 10 cents per quart. We get strawberries from Florida, Louisiana, Georgia, Tennessee, Virginia, Maryland, New Jersey, and why not from Canada?

BROOKLYN, N. Y., July 12th, 1902.

SIR,—My grocer tells me that this is the last day for strawberries for 1902 from Oswego. Some fine berries will still come to market from the North, but the price will be so high that the grocer in these parts of the city, where the very wealthy reside, will buy them all. For the past twelve days the price for good prime berries has been 16 to 18 cents per quart. At this price they should net the grower 10 cents. Wholesale price for the past few days has been 15 to 16 cents.



## HINTS TO APPLE GROWERS

GOOD VARIETIES PAY—FOUR FAVORITES—  
TOP GRAFTING—INDIVIDUALISM IN FRUIT  
TREES—THE TALMAN SWEET A STOCK

BY

W. H. COARD, LL.D.

**I**N THE older parts of Ontario, such as the counties of Middlesex, Perth, Oxford and Brant, as well as portions of Huron, where the best apples grew in times gone by, to-day there is a great neglect of young tree planting as well as of pruning, and the natural result is a diminution in the quantity of apples grown and a decline in the quality of the fruit produced. Now, in Grey, in the north-eastern part of Durham, and in the county of Northumberland, the young orchards are just about equal to the older ones in number, showing that planting is there going on vigorously.

In the former cases there is no doubt the trees were planted from some twenty-five to forty years, when there was no exact knowledge of, and, perhaps, but little experience, in varieties—when only apples

were in demand, when the soil was new, when insect pests and fungous diseases were rare, and when the only skill required was simply to take the fruit. Under these circumstances the business of apple growing was exceedingly profitable; but there soon came a glut in the earlier varieties. They were not suitable for the export trade, so that as soon as the home market was supplied there was no further call for them. The soil lost something of its virgin freshness; the trees would not grow so well; and with the increased number of trees there came a quadrupled increase in fungous diseases and insect pests. Not only was there a falling off in the demand for the particular variety they were growing, but there was an increased difficulty in growing any variety; hence farmers got the idea that there was no money to be

got out of apples, and they let their orchards run wild, they allowed noxious insects to multiply and fungous diseases to run their course, with the inevitable result that the orchards were almost ruined. In the Georgian Bay district, however, it is not difficult to persuade farmers that orchards can be made to pay; but everyone should understand that to be a successful apple grower he must choose suitable varieties, adopt clean cultivation, pursue systematic pruning, spray at the proper time in the proper manner with the proper solutions, and direct careful attention to cover crops. "Where ignorance is bliss 'tis folly to be wise," is not in the science of horticulture. This the the Dominion Department of Agriculture is trying to instil into the minds of fruit growers by means of lectures and object lessons. Mr. A. McNeill, acting chief fruit inspector, is engaged in this work, and this is how he teaches the young idea how to grow fruit successfully, profitably, and ready for sale. He arranges a meeting in a central locality and spends from half an hour to an hour in-doors lecturing and answering all sorts of questions put to him by growers and others. Then he proceeds with his audience to a near-by orchard, where he commences an expedition in search of noxious insects and fungi. Having discovered a pest (aided perhaps by a magnifying glass), he next proceeds to prepare his Berdeaux mixture, and then sprays the infected parts with the force pump, taking care to demonstrate as well as to explain the difference between showering, or sprinkling, and actual spraying; for while spraying with poison is salvation to a plant, tree, or shrub, showering or sprinkling means very often destruction. All insecticides and fungicides should fall on vegetation in the most delicate spray, otherwise the tree may be injured.

Mr. McNeill found in his recent tour

through the counties already named, a general belief that there were no insects this year doing any damage. His magnifier soon discovered hosts of insects. The oyster shell bark louse is very prevalent, the cigar case bearer in some districts was quite numerous, the tent caterpillar was in evidence, but not seriously, and the canker worm in some localities was very plentiful; but for multitude, the bud moth simply swarmed. The result of finding these pests where they were supposed to be conspicuous by their absence so struck the farmers that Mr. McNeill could have sold a gross of magnifiers on the spot. It was an object lesson that will never be forgotten; it was nature study in its most tangible form; it was that practical experimenting which leads to the conversion of the desert into a fruitful field, and clothes the dismal prairie with a world's grain field.

It does not always fall to the lot of a Government to witness the good results of missionary zeal, but here in Canada we are constantly reaping where we have sown, and Mr. McNeill reports that the result of the forward policy of the Minister of Agriculture has already, in the fruit section, led farmers in the older portions of Ontario, to abandon their former slovenliness and to go in for clean cultivation, while in the newer districts the fruit growers themselves so appreciate what has been done to help them that they have become living exponents of the same policy.

To secure and maintain profitable apple cultivation after following out the work necessary, everything depends upon the variety cultivated. The grower must produce what the market requires, the market will no longer be content to adapt itself to the whims of the grower. No matter how healthy or prolific a tree may be, if the fruit be not of the right variety it is valueless.

Undoubtedly winter varieties are those that are paying best.

The four varieties of apples that are receiving the most attention now are Baldwins, Ben Davis, Greenings, and Spys. As these varieties cover only the fall and winter months, it is certainly not wise to overlook entirely the early sorts, because there must spring up a market for the earlier sorts as soon as the others have got the market securely.

Top grafting has received a great deal of attention this spring. The average farmer thinks there is some mystery about grafting, so it is very gratifying this year to find him amenable to culture on the point. It is gratifying to discover how many farmers are taking up grafting, for where it has been put into practice it has been eminently successful. One Ontario farmer who had never grafted a tree in his life, after hearing Mr. McNeill's lecture some time ago, top grafted a large number in his orchard, and his losses were under 3 per cent. of the number grafted.

Grafting should be made a part of every boy's education. Notwithstanding all the care the nurseryman can give to his stock, serious mistakes will be made in the varieties, and if for no other reason than that every lad should know how to perform so simple an operation as grafting.

Trees have individualism just as animals have, and for reasons that we cannot explain, one tree with apparently no better

chance than another growing by its side, of the same variety, will be prolific while the other is comparatively barren.

The best orchards of the future will be those that are planted with some hardy vigorous stock like our Tallman Sweet, or Macmahon's White, and when these have formed a stock ahead at two or three years old they may be top grafted from selected trees.

As the nurseryman practices propagation he exercises no discrimination, because his cuttings are from productive and non-productive trees alike, and more often than not they are taken from trees that have not come into bearing at all, consequently he must perpetuate a good many poor specimens.

The man who top grafts has an opportunity to examine a thousand trees, and, selecting the best can top graft his whole orchard with the confident expectation of having nearly all his trees approach very near in merit that one in the thousand that he selected for his grafting.

One reason why top grafting cannot be recommended to the average farmer indiscriminately is that he cannot be always induced to do the work in the proper time or in the proper manner. He cannot always be trusted in the matter of selection. And he is too apt to be careless and indifferent, leaving the greater number of his trees ungrafted to the serious detriment of the symmetry of the orchard.

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**New York School of Agriculture and Horticulture.**—Mr. G. F. Powell's work at Briarcliff Manor, New York City, has already been referred to in these pages. Practical instruction is here given in all branches of Agriculture and Horticulture, with accom-

panying lectures and class room work. Finding the acreage at Briarcliff too limited for rapid development of the work, the trustees have purchased over 400 acres of land near Poughkeepsie for the permanent establishment of the school.

# THE FRUIT CROP

APPLES FINE IN SOME PARTS, SCABBY IN OTHERS—  
PLUMS AND PEARS A LIGHT YIELD—PEACHES HEAVY

OUR excellent contemporary the Sun has been making some recent inquiries regarding the fruit crop, which goes to substantiate the correctness of our tabular statement in July number, as follows:

## DROPPING REPORTED

T. H. Race, of the Recorder, and a director of the Ontario Fruit Growers' Association, writing from Mitchell, says: "The prospects for apples throughout this section are good. We are looking for rather more than ordinary crop if the promise at the present time holds out to a fulfilment. I notice, however, that with some varieties a heavy drop has been going on since the hot days of the past week began. This may be somewhat owing to the change of temperature, and may prove beneficial, as it was noticed that some varieties were setting very heavily, and a few apples dropped while the cool, wet weather lasted. If the drop proves only normal, the size of the remaining fruit will be better, and the crop will be a better one than we had in either of the last two years. Some farmers are reporting that the Spys have not set well, but on close examination I find there is quite enough fruit set to make a good crop, though it is as yet owing to the cool weather too small to be readily seen. The Spy has, however, been shyer in setting than most other varieties. So far as I have seen there has been little systematic spraying owing to the continued wet weather, but notwithstanding this, there has not been so much damage done by the codling

moth as in other years. It is too early to speak of fungus diseases, such as scab or black knot, so far as apples are concerned. The latter trouble is showing on the pear crop."

## IN THE BANNER COUNTY

D. J. Nesbitt, writing from Brighton, the centre of the great Northumberland apple district, says that the prospect for the crop there is good, the yield promising fully equal to that of 1900. The apples will be quite clean, as there are no insect or fungus enemies except on the Snows; these latter will be somewhat spoiled. "The apples are falling off to a considerable extent," he adds. "Baldwins and Spys are going to be the best crop with us, but all kinds are fairly well loaded."

Wm. Rickard, M.P.P., of Newcastle, speaking from Durham, a close rival to Northumberland as an apple producer, says: "Apples at the beginning of the season were, generally speaking, very thick on the trees, but a great many have since fallen. In some instances the crop has actually been left thin. This may be the best all round, as the crop generally promises to be a good one."

## ANOTHER BIG APPLE CENTRE

A. Gifford, of Meaford, writing from the center of the magnificent Georgian Bay fruit district, says: "Apples constitute the most important fruit crop in our section. It is too early to say just how they will turn out. Moreover, there is a great variation in the crops on adjoining farms,

but some varieties (Baldwins and Greenings) are light, while Spys are variable. Ben Davis promises fair, though many are falling. Kings and fall varieties are fair. All varieties are high colored for the time of year, but more or less spotting is already visible. Insects are not as numerous as in past seasons. As a whole, it will require very favorable weather to secure an average crop."

C. L. Stephens, the well-known horticulturist of Orillia, says that apples, so far as he can ascertain, from enquiry and observation, at present promise fairly well for quantity, and where fungus disease has not prevailed the quality and size will be extra fine. "Several varieties," adds Mr. Stephens, "are badly affected by black scab on fruit and leaves, but there is little or no trouble from any insect pest as yet. I think five and one-half bushels per tree is too high an estimate for this section, where most orchards are composed of comparatively small and young trees; four bushels will be nearer the thing. The fruit is, however, holding on well."

#### IN CENTRAL ONTARIO

"Everything," says Dundas and Flaville Brothers, of Lindsay, "points to a large and good apple crop in this section of the Province." "The prospects about Oshawa," writes Edwin Worden, "are for a yield about equal to that of 1900. Quality so far is also good, the fruit being clean and large."

"Apples about St. Catharines," writes Robert Thompson, "are clean, bright, and free from insect enemies. The fruit is already beginning to show color. The crop is not quite as heavy as in 1900, but the apples are holding on well and becoming a good size for so early in the season."

#### IN HURON AND BRUCE

A. E. Sherrington, Fruit Station, Walkerton: "Apples promise above an average

crop, but are suffering from fungus. The quality, I am afraid, is going to be poor. The fruit is holding on well, but foliage looks bad."

F. C. Elford, Homesville, Huron County: "The apple crop will not be as heavy as was anticipated, and from present appearances not as large as that of 1900. The fruit is holding on well, but is scabby."

N. D. McDougall, Tiverton, Bruce County: "The yield of apples in this section will not be as high as in 1900, this being the off year for Spys in this section. Early varieties, however, promise a good yield, but the average per tree all round will not go beyond four bushels. The fruit is clean and free from fungus and insect enemies. The apples are forming well, and hold strong to the branches."

#### BAY OF QUINTE DISTRICT

W. H. Dempsey, of the Fruit Station at Trenton, Bay of Quinte district: "There is a difference of opinion regarding the apple crop. Some growers say they promised a heavy yield, more than ever before; others say they expect only a little over half an average, that they cannot find more than two apples in a cluster, never three or four, and in a great many cases only single fruit. Some say, too, that the apples are dropping badly. A few people have a heavy crop of Baldwins and Kings; others have none. What orchards I have seen will not equal the estimate of 1900, 5½ bushels to a tree: about 3 bushels to a tree will be what they will give for trees from six years up to thirty or forty. There is considerable fungus, which no doubt accounts for so many apples dropping. There are no complaints from insects."

#### NORTH SIMCOE

G. C. Caston, Craighurst Experimental Station: "Apples generally will not be more than an average crop. Early apples

will give a good yield, but winter varieties are not above the average. The fruit is still dropping badly."

#### ONTARIO COUNTY

Henry Clendenning, writing from Manilla, in Ontario County, says: "The prospects of the apple crop are fair, though the wet weather has prevented rapid growth. In consequence of the wet weather the fruit is smaller than usual at this date. The fruit is holding on fairly well, but there is a good deal of black spot or scab owing to the fact that very little spraying has, on account of the wet weather, been done this year. There has not been much damage from insect pests except the leaf roller. This has attacked a number of orchards. The yield of ap-

ples will probably be about one-half to two-thirds that of the crop of 1900."

#### THE GEORGIAN BAY EXPERIMENT STATION

J. G. Mitchell, of the Fruit Station at Clarksburg, in the Georgian Bay district, says: "Since last report the fruit situation has been somewhat changed. Apples are still growing well, and promise an abundant yield. So far the fruit is holding on well, the dropping being no more than necessary. We have been particularly free from insect enemies, but apple scab is now showing signs of development, and may cause considerable damage should wet weather continue very much longer. All things considered, there is prospect of more than average crop."

### AN OFF YEAR IN PLUMS

THOUGH SOME LOCALITIES PROMISE A GOOD YIELD—  
OTHER FRUITS IN GENERAL TURNING OUT WELL

"Plums about Brighton," writes D. J. Nesbitt, "will be about one-third of a crop, and pears about half a crop."

T. H. Race, Mitchell: "The small fruit crop has been and is abundant. Strawberries have been very plentiful, but as few of them have been put down, the demand for other fruits for canning purposes will not be affected. Currants, gooseberries and raspberries are an abundant crop, and are likely to supply a large place in household consumption. Cherries are not a good crop, and the early ones now coming into the market are readily bought up. Plums are not going to be a heavy crop, though some varieties are bearing well. It seems to be an off year with the old standard, Lombard, as it did not blossom this season except with an occasional tree. I might observe here that I am dis-

carding the Lombard from my collection, owing to the liability of the tree to black knot, and the fruit to rot, and am planting in its stead the Abundance and Burbank. These latter are bearing heavily this season. Pears were promising well for a time, but within the last few days a blight has struck some of the trees, and the black spot is beginning to show badly on the Flemish Beauty. Clapp's Favorite is promising well, but with all the later varieties the crop will be only a bare average."

C. L. Stephens, Orillia: "There will be about 20 per cent. of a plum crop, as compared with last season, the curculio has been pretty bad, but we are very free from aphid. Pears, not grown much, but I hear of several good bearings of Flemish Beauty, which so far are in good condition. Most grapes are only just now in

bloom, so that the prospect is very poor for ripe grapes in September."

A. Gifford, writing from Meaford, one of the greatest plum districts of the Province, says: "Plums will be a light crop, below last year in quality. Pears below the average, except Flemish Beauty which so far promises well."

J. G. Mitchell, Clarksburg Fruit Station: "In plums the prospect is not so favorable as in apples. Some growers report very poor crops, others say their plums are nearly all falling off. This seems to be the case in orchards which have had poor care, while in orchards which have had good care and cultivation there is a full crop. On the whole I think the plum crop will be much below average, and in addition to this many acres of trees have been torn out and burned, the owners thinking it too much trouble to grow plums at the prices realized in late years."

A. E. Bellman, Bowmanville: "Plums have set well on some trees, and poorly on others; but I think, upon the whole, the yield will be considerably below last year. Pears seem a very good crop, but have dropped a good deal. Notwithstanding the dropping, they will be nearly as good as last year."

Murray Pettit, Winona: "The plum crop will be medium. The trees are healthy and no rot. Burbank and Bradshaw will be much heavier this year; Washington, Lombard, Yellow Egg, and Reine Claude lighter. Peaches a heavy crop. Bartlett pears will be a quarter crop, Flemish Beauty and Duchess an average, other varieties rather light. Grapes good."

John R. Walker, Cheapside: "We will not have over half the plum crop we had last year. Pears are a fair crop, but not up to last year by a third."

A. W. Peart, Burlington: "Plums are below an average, considerably short of

last year. Pears, dwarfs, are average; standard varieties are below an average; peaches, above an average; grapes, an average crop; currants, red, below average; black, above an average; blackberries, above an average. Insects and fungi have done little damage yet to the apple. During the past few days, however, a leaf blight has developed on certain varieties of red currants, other varieties being entirely exempt from it."

#### IN NORTH SIMCOE

G. C. Caston, Craighurst Experimental Station: "Cherries are almost a total failure; plums, 25 per cent.; pears, fairly good. The curculio is getting in its work on what few plums there are. Frequent rains have prevented successful spraying this year."

#### UNITED STATES FRUIT PROSPECTS

Although the fruit prospects in the United States are not as good as they were a month ago, the indications are, says the Official Crop Reporter, issued by the United States Department of Agriculture, for better than average crops both in apples and peaches this season.

The Climate and Crop Bulletin, speaking on the same subject, says: "In Michigan, New York, and New England apples continue promising, and a further improvement is reported from Kansas and Oklahoma; elsewhere a very inferior crop is indicated. Except in Michigan, Tennessee and Arkansas, peaches are scarce."

#### IN WESTERN NEW YORK

Secretary Hall, of the Western New York Horticultural Society, has kept close watch of fruit conditions since the May frosts, and from correspondence with fruit growers over that section of the State finds many gratifying conditions. Apples never



looked nicer, being absolutely free from fungous disease.

#### TOMATOES ARE DOING WELL

The tomato crop, which may be included under the head of fruit, does not

promise at all well. In fact, tomatoes never made a much poorer show than they are doing in Kent County this year. If what is seen in Kent is a fair indication of what is found elsewhere, tomatoes for canning will be a scarce article this season.

## CHANGES IN VARIETY OF APPLES GROWN IN NOVA SCOTIA

BY

F. C. SEARS

PROF. OF HORTICULTURE, WOLFVILLE, N. S.

**I**N these days of the almost endless multiplication of new varieties of fruits, when every year sees the launching of new sorts which it would seem (from the introducers' descriptions) must displace altogether the old favorites, it is interesting to observe the changes taking place in the varieties of apples which are set in commercial orchards.

I have before me a report of the Nova Scotia Fruit Growers' Association of 1883 in which is given a descriptive list of the "nine principal kinds of apples grown in Nova Scotia," and it is stated that this list was prepared in 1880, so that over twenty years have elapsed since it was compiled. The list, which is the work of Mr. R. W. Starr, is as follows: Gravenstein, Ribston Pippin, Blenheim Pippin, King of Tompkins, Baldwin, Nonpariel, Northern Spy, Yellow Belleflower and Golden Russet. At a recent meeting of our Horticultural Club, on the same authority, the following list was selected as the "ten best commercial varieties" from Nova Scotia to-day—Gravenstein, Ribston Pippin, Blenheim Pippin, King of Tompkins, Golden Russet, Baldwin, Northern Spy, Stark, Fallawater and Nonpariel. In other words, after twenty-two years' experience Mr. Starr drops the Yel-

low Belleflower from the list and adds the Stark and the Fallawater. Truly this is not a great change for so long a time!

But when one comes to examine critically his revised list, which undoubtedly comes very close to being the ten most popular among Nova Scotia growers to-day, it is surprising how many of them have one or more serious defects viewed from the standpoint of the grower. Some of the most obvious are these:—The Gravenstein, though all that could be desired for quality and growth, comes so early that prices are low and the demand limited. The Ribston has a serious tendency to dry rot and is almost wholly a dessert apple, so that the market is limited. The Blenheim dry rots and the King is often a shy bearer and apt to be affected with "collar-rot." The Golden Russet is a very irregular bearer, with a few growers giving good and regular crops, but more often being a light, shy bearer. The Baldwin is, we believe, about as popular as any variety grown, though its tendency to overbear every other year and "under-bear" in between is against it. The Spy is all right except that it is too slow in coming into bearing, and the Stark is very popular just now but has not been grown very extensively, is not of high quality and

those who know it best say that it is seriously liable to a browning of the skin, akin to the dry-rot of the Ribston. The Fallawater is excellent in most respects but is very liable to attacks of "collar-rot," while the Nonpariel, though an ideal apple in many respects, is not of high quality and is developing, in the western end of the Annapolis Valley, a most alarming tendency to canker.

All this simply shows that the ideal varieties have not yet been produced, at least in great numbers, and while more knowledge may help us to overcome some of the defects mentioned, still we should welcome the present tendency to introduce new sorts and should hope great things from it.

Just now the Red Russet, which is said to

be a cross between the Baldwin and the Roxbury Russet, is coming into favor wonderfully with those who know it. And like almost every other locality the Ben Davis has been largely planted in Nova Scotia of late and growers are still wondering whether this was wise or otherwise; while Ontario, McIntosh Red, Gano, North Star and Ohio Nonpariel are varieties which are claiming more or less attention as new and promising sorts for general planting.

Altogether we cannot doubt that within the next twenty years we shall see a much greater change in this matter of varieties than has been witnessed in the last twenty, and we may reasonably hope that "the change will do us good."

## NEW FRUITS

Mersereau Blackberry is highly eulogised on the circulars which have come to hand, emphasizing four cardinal points in its favor: great size, luscious flavor, great hardiness of canes and great productiveness. It is claimed that in quality it is exceptionally sweet, rich and luscious, without a core. A shortcake made of it is more delicious than that made from strawberries. The yield is enormous; the introducer declares that as much as 12,000 quarts per acre have been harvested.

The King Raspberry is said to be the earliest red variety, its fruit of the brightest crimson and of best quality, equalling in this respect the popular Cuthbert, than which it is a better shipper.

Peach, Duke of York.—Our early peaches are usually so small and rot so badly in ripening that many of our peach growers are quite discouraged with them. In consequence of this there are very few early varieties being planted. At the Royal Horticultural Society's show on May 20th a new variety was exhibited, which received the award of merit as a new variety of great promise. It is called the Duke of York, and is a cross between the Early Rivers nectarine and the Alexander peach. The flavor is excellent, and the fruit pretty and well colored, and of the largest size. Its season is the same as that of the Alexander peach.

# HINTS TO ONTARIO FRUIT SHIPPERS

THE TASMANIAN APPLES—SOME SPECIAL VARIETIES—NONE  
EQUAL TO CANADIAN—LESSONS TO BE LEARNED IN PACKING

A LETTER FROM

A. McD. ALLAN

SUPT. OF FRUIT EXHIBIT FOR THE DOMINION AT WOLVERHAMPTON, ENG.

PROBABLY the most striking characteristic of the Tasmanian apple is the similarity of all the varieties, and the fact that all are alike firm in flesh, but devoid of juice and possessed of but little flavor. Doubtless the absence of juice accounts to a large extent for the fact of their carrying so well to distant markets. Some dealers inform me that it is a rare thing to find decayed or partially decayed specimens among the best kinds, especially in the early shipments. But in the second quality sometimes nearly half the contents of a box is worthless.

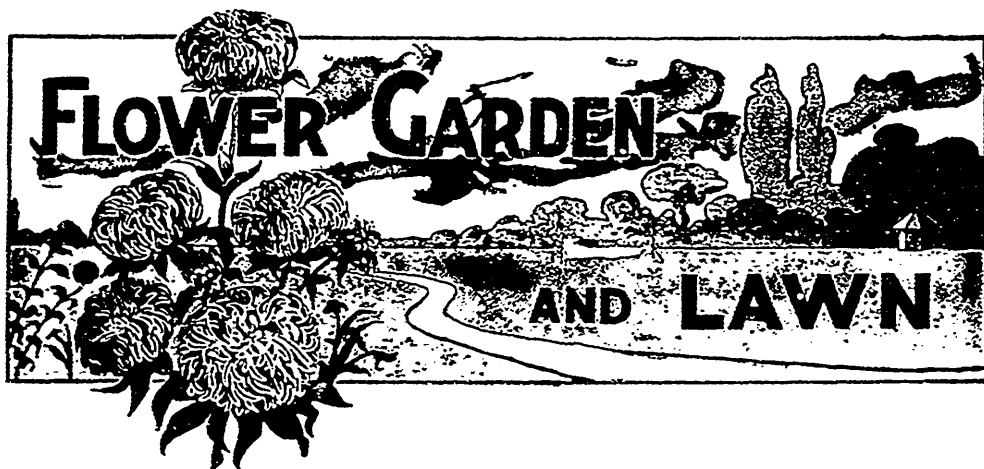
The box is made from hardwood and contains from thirty-eight to forty pounds of fruit, each sample wrapped in tissue, or soft light brown paper. There does not appear to be much, if any fungus spotting in them, but they wilt and become wrinkled in the skin and dry in flesh. Excepting a slight blush upon the cheek there is an absence of high color. They are of the pippin family, the yellow kinds with a slight blush being considered the best for dessert, and the hard, green kinds for cooking only. The highest quality variety is named "New York," size and color about equal to a good medium sized Yellow Bellflower, core large and open like that variety, but calyx closed and set in deep, smooth basin, stem short and thick, set in a smooth, open, deep basin. This variety has a fine aroma which would lead one to expect fine flavor, but it is quite disappointing in this respect. This and several other kinds are of the Ribston form, or rather between that and Chenango,

while another class of varieties is flatter and does not average so large or heavy.

Storman Pippin, which is said to be the best of this latter class, is a fair representative of them all in form and color, and resembles New York in all but form. New York brings the highest price, from ten to twelve shillings; Storman Pippin 8 to ten shillings; other named kinds, five to seven shillings. Tasmanians are now all in the market and will soon be in consumption just as French strawberries and cherries arrive. Canada has nothing to fear from Tasmanian apples, even if they come in direct competition. But we can learn a lesson in careful selecting and packing. I am convinced that it will pay our shippers to send all first-class samples in boxes, wrapping each specimen in tissue, and to send forward in cold storage, even if freight rate should be much higher in that way.

The shipper who does this, taking great care to select absolutely choice specimens, to adopt and register with a neat, appropriate brand, stencil the correct name of fruit and its grade as well as the name of shipper upon every box, will make a fancy price in any market here and create a demand for all that Canada can send in future years.

Many dealers complain of the bad packing, and indeed it would be hard to regain confidence in barrel packing, as the trade everywhere express strongly against it, although some do admit a change for the better lately. But even these strongly advise the use of the box.



## FLORAL NOTES FOR AUGUST

HOW TO GROW FREESIAS—REPOTTING CALLA LILIES AND PELARGONIUMS—MAKING CUTTINGS OF GERANIUMS—RAISING PANSIES FOR NEXT YEAR—PRACTICAL HINTS

BY

WM. HUNT

O. A. C., GUELPH, ONT.

**F**REESIAS.—A few of these pretty little Cape bulbs should be started now for early winter flowering. Reserve some bulbs for later potting, so as to have a succession of their sweet-scented flowers from December to April. Plant five or six bulbs in a 4 or 5-in. pot. Very rich soil is not necessary, soil that geraniums will grow well in will suit freesias. Cover the tips of the bulbs so that they are almost a quarter of an inch under the surface of the soil. The top of the soil should be about half an inch from the rim of the pot to allow room for watering. Stand the pots outside where it is not too sunny, never allow them to dry out, and do not keep the soil soaked with water all the time. Let the pots stand outside until early in September, then re-

move them to the window or greenhouse. Place them in a cool part of the house, as the freesia dislikes forcing. Larger blooms, and more of them, are the results of letting freesias take their time in growing.

### CALLA LILIES

These should now be repotted if they require it. Do not over-pot them. Too large a pot often means lots of leaves, but no lilies. Sometimes a top dressing is better than repotting. This is done by taking about an inch or so of the old top soil, and putting some good rich soil in its place. Keep the calla lilies outside in partial shade until there is danger of early frosts. Water well when once established in the pots.



FIG. 235. CALLA LILY.

### PELARGONIUMS

These are often known as "Lady Wash-in-t-m" geraniums. August is a good time to cut the old plants well back. Cut the growth of the past season back to within an inch or so of its base. Water the plants very sparingly until the stems show signs of growth. When the young buds or growth is scarcely one-eighth of an inch long, the plants should be shaken out of the soil they are in. If too heavily rooted, which is not often the case, cut off the tips of the roots and repot the plants into a size smaller pot. Use two parts of good loamy potting soil, and one part of sharp, fine sand well mixed together. Water the plants once thoroughly, then withhold water until the soil shows signs of dryness. Place the pots outside in a shady position on some coal ashes or boards, the latter are to keep worms out of the pots. A shaded sash and frame is a

good place for pelargoniums after repotting, until they are taken indoors. Repot the plants into pots one or two sizes larger in December. Use richer soil and less sand for putting them in at this time. The tips of the growth taken from the pelargoniums now will strike readily in sand in pots. The cuttings of these should have about five or six joints, unless the growth is hard, when shorter cuttings may be used.

### GERANIUMS AND COLEUS

Cuttings of these should be taken now so as to get the plants established before winter sets in. Five or six cuttings put in sand in a 4-in. pot, and the pot plunged in the ground outside where the hot sun does not strike it, will suit geranium cuttings very well. Keep the sand moist, but not soddened with water.

### PANSIES

If these are wanted for early spring flowering the seed should be sown now. Sow in a shallow box in fairly light soil. Place the box in a shaded place out of doors. When the plants are large enough to handle, plant them out in light, rich well drained soil in a shaded frame facing the south. A sash should be placed over them in very severe weather in winter, or the plants should have a light protection



FIG. 236. FREESIA IN GREENHOUSE.

of brush and leaves from December to March, instead of the sash.

#### PETUNIAS AND VERBENAS

If you have a choice variety of these you wish to take up to save over winter, cut the plants well back now. As soon as

young growth commences, take them up carefully when the soil is moist, and pot them into some good potting soil. Place the pots in the shade or in a frame with a shaded sash if you can. Water sparingly for a time after the first watering.

## BEGONIA RUBRA

AS A COVER TO THE BACK WALL OF A GREENHOUSE

BY

A. ALEXANDER

HAMILTON

WHEN my present conservatory was built about four years ago, I removed a plant of *Begonia Rubra* from an old greenhouse and planted it in a narrow border, about 18 inches wide, which run between the cement walk and the wall. The plant was about 6 feet high, and had but three stems or canes. The back wall was covered with wire netting to the height of 18 feet, and the whole width 21 feet.

At the end of the second year it had reached the top of the wall and had sent up about ten other canes as large as bamboo canes which were soon at the top, and with the laterals covered a space of more than 250 square feet. About two years ago all the old parts were cut out and the new canes laid in. It is now at this time covering about two-thirds of the entire wall space. From the day it was planted till now, nearly five years, it has been covered with its scarlet flowers in great abundance continuously.

This shows what many common pot plants are capable of when given their liberty and fair conditions. The photo does not do justice to its appearance as it had to be taken at an angle.



FIG. 2567. BEGONIA RUBRA.

# FICUS ELASTICA

BY

WM. HUNT

**T**HE *Ficus elastica*, or Rubber plant as it is commonly called, is without doubt one of the best and most enduring of decorative plants, either for the greenhouse or the more trying conditions that exist in a window or room of a dwelling house. Although its habit of growth is not as graceful as many well known house plants, such as palms, aspidistra, etc., the thick leathery leaves of this *Ficus* will often retain their bright glossy appearance for a much longer period than most varieties of house plants including those just mentioned, even under more adverse treatment. The propagation of the rubber-plant is, however, the most difficult problem for the amateur plant grower to solve, in connection with its culture. Large plants have frequently to be cut back in order to secure a more shapely plant, or to keep its strong growing branches within reasonable bounds. It is seldom however, that the growth taken from an ill-shaped plant is successfully propagated. A description of some of the methods usually adopted by florists in the propagation of the *Ficus* will perhaps be acceptable to readers of the *Horticulturist*, who may perhaps have a plant that may require cutting back so as to make it more shapely and symmetrical looking. The pruning or cutting back does not injure the plant unless cut back too severely, as it soon breaks into new growth again if not cut back too far into the old wood. Even in the latter case it is only a question of time before it starts into growth again.

**Mossing Cuttings.**—This method of mossing partially severed cuttings of the *Ficus*,

is probably the best and surest method of propagation for the amateur to attempt. For the operation of mossing, a fairly strong and healthy branch or shoot should be selected. One or two of the leaves should first be cut away at the place selected for the base of the cutting. The selection of



FIG. 2568.

FICUS CUTTING SHOWING INCISION.

the part of the branch that is to form the base of the cutting is an important point toward being successful in the cutting taking root, as the wood must not be too old and hard, or too soft and pulpy. Usually, the wood is in a suitable condition about ten or twelve inches from the terminal point



FIG. 2369.  
MOSSED FIGS CUTTING.

of the shoot or branch. After the removal of the leaves as before mentioned, an incision should be made on the underneath side with a sharp knife, as shown in the accompanying cut. The incision should be made in a slanting direction, running from the base of the cutting toward the tip, and from a half to three quarters of an inch in length, and should extend about two-thirds through the branch, leaving the remaining one-third of the branch uncut. The incision should terminate close under a leaf joint if possible. After the incision has been made a small thin piece of chip about one-sixteenth of an inch thick should be inserted at the termination of the cut. This is done to keep the incision open, so as to allow the thick sap to flow clear away from the incision, as otherwise it would congeal and prevent the cutting from callusing and rooting. The chip should be long enough to extend just through the cutting.

A small stick, or piece of wire should be tied along side of the cutting for a few

inches above and below the incision, to keep the cutting in its proper position. Sufficient wet moss should then be wrapped around the cutting so as to cover the incision fully an inch thick after it has been bound tightly around. The wrapping of moss should extend about three inches above and below the incision, tapering gradually to each end, as shown in Fig. 2369. The moss should be bound tightly around the cutting with raffia or fine twine. Sphagnum moss is the best if it can be obtained, if not, ordinary green moss can be used. The bandage of moss should never be allowed to become dry, but should be kept quite moist by syringing or sprinkling with water once or twice every day. In about five or six weeks after the mossaing process the cutting should be examined, when, if rooted, it can be severed entirely from the plant, as shown in Fig. 2370 and potted. If not rooted the moss should be



FIG. 2370.  
ROOTED FIGS CUTTING.



again put around the cutting as before described, and left for a week or two longer. If on examination the base of the cutting shows signs of decay instead of rooting, it should be severed entirely from the plant. In this case the cutting could then be shortened a joint or two at the base, and placed in a four inch pot filled with sharp sand. Place the pot in a shaded warm part of the green-house or window and keep the sand moist. A plant may possibly be obtained in this way.

The best time of the year for striking cuttings of the *Ficus*, whether by ordinary or moss cuttings, is during July and August. A warm, sheltered, and fairly well shaded position in the greenhouse or conservatory, is the best place for the plant to ensure success with this method of mossing cuttings. A greenhouse, however, is not absolutely necessary to be successful, as I have rooted cuttings by this method out of doors during the hot months of summer by standing the plants in a warm, well sheltered position.

In potting the cutting most of the moss should be first removed and the plant securely staked. The leaves should also be tied together fairly tight, so as to prevent the cutting from shifting about in the pot. Use light sandy soil for the first potting, and not too rich. Water the cutting rather sparingly until it has become well rooted in the pot, and keep it in a warm shaded place for a time. I have attempted to describe as clearly as possible the method of rooting cuttings by mossing them, some allowance, however, must be made as to depth and length of incision, length of cutting, etc., as these must of necessity vary a little according to the growth of the branch made use of.

**Single Joint Cuttings.**—These cuttings consist of a single joint with leaf attached. The best part of the branch to secure these cuttings from, is from a few joints above and below the part of the branch described as

suitable for cuttings for mossing. Insert the cutting firmly in sharp sand, so that the base of the leaf and stem at the joint is just under the surface of the sand. A shallow box about two inches deep, well drained and filled with sand, will perhaps be better than pots for these cuttings, as they are less liable to be shifted about in the sand. These pots or boxes—as the case may be—of cuttings can be placed in a warm shaded part of the greenhouse, or in a frame that should



FIG. 2171.  
FICUS CUTTING WITH "HEEL."

be covered closely with a sash thickly shaded, so as to exclude the direct rays of the sun. Careful watering so as to keep the sand always fairly moist is necessary to be successful with these cuttings. I have known cuttings of this kind to strike root successfully when the pots have been placed in a window. Single joint cuttings, how-

ever, must be taken in the hot weather if they are to be rooted successfully. The after treatment of the single joint cutting will be the same as recommended for the mossed cuttings.

**Terminal Cuttings.**—These cuttings and the method of taking them differs very little—except so far as the strong growth of the *Ficus* necessitates—from a geranium or almost any ordinary cutting or slip. The cutting may possibly be a little shorter than that recommended for mossing, especially if the growth of the cutting is short and close jointed. The leaves of these should be tied up fairly close together and inserted in sand, one in a three or four inch pot, and the cutting securely staked. The staking is a very necessary part of the operation, as the weight of the leaves may cause the cutting to move or shift about in the sand and thus prevent its rooting. The same position, etc., will suit these as recommended for single joint cuttings. Oftentimes short cuttings can be taken from the large branches of an old plant with what

is known as a “heel” attached. This “heel” is simply a small piece of the stem, from which the cutting is growing taken off, with the cutting as shown in Fig. 2368. If these kind of cuttings can be obtained they will, as a rule, root more readily than the terminal or plain cuttings before mentioned. Terminal cuttings should be cut off near to and close below a leaf joint, as they strike more readily than if severed mid-way between the leaf joints.

I have recently had several letters from subscribers to the Horticulturist, asking for information respecting the propagation of the *Ficus elastica*, hence my reason for writing such a lengthy paper on this subject. I may, however, say in conclusion that the method of mossing cuttings as described for the *Ficus*, can be successfully applied to other plants, more especially to the tall and overgrown stems of *Dracenas* and *Cordylines*, that have a natural habit of becoming tall and unsightly looking as decorative plants.

## FRUIT CROP NOTES

The Winnipeg papers are making the most of the report of the Fruit Inspector in the Northwest, who repeats the story that Ontario has been losing the trade of the Northwest on account of bad packing. We would like to hear something from the Ontario fruit growers on this Northwest trade.

Apple growers, in anticipation of a somewhat larger crop than usual, should provide ample storage. Boards of Trade and Fruit Growers' Associations can do no better work than encourage the building of farm and general storage houses and the establishment of evaporators.

House cellar storage is not usually very successful with apples. The fact is we want a cooler temperature than is usually obtained in a house cellar. A cellar under an out-door building that can be opened cold nights and closed during the day is much more successful.

Reports come from Nova Scotia that the unusually cool winds in May and June and the ravages of the Bird Moth will make the apple crop small in quantity and inferior in quality this year. J. W. Bigelow, of the Provincial Fruit Growers' Association estimates the Nova Scotia crop at 200,000 barrels for shipment.

# CANADIAN MAPLES

TEN VARIETIES IN CANADA—CAREFUL DESCRIPTION WRITTEN FOR THE JOURNAL

BY

W. T. MACOÛN

HORTICULTURIST CENTRAL EXPERIMENTAL FARM, OTTAWA, O. T.

IF THERE is one Canadian tree which is known to young and old it is the maple. That patriotic song, "The Maple Leaf Forever," is one of the first which the little children learn to sing at school; and often it is sung in the refreshing shade of the maples on a hot June day, when the value of the maple as an ornamental shade tree is pointed out to the scholars by the teacher. Then, the maple sugar and syrup in the early spring impress the maple on the minds of Canadian youth more than perhaps anything else. Those of maturer years sing the same song, enjoy the same shade, and many also the sweets of the sugar maple. The latter also admire the form and foliage of the trees and the economical value of the wood for furniture and other purposes. The emblem of Canada is thus well and favorably known to young and old.

While almost everyone, from the little child upward, is familiar with the maple, comparatively few, especially in our cities and towns, can distinguish the common species from each other, and still fewer know all the species which are to be found in Canada. It is in the hope of making the different species better known that these notes are written.

There are ten native species of maples in Canada, all of which are perfectly hardy at Ottawa, with the exception of the Large-Leaved Maple (*Acer macrophyllum*) which kills outright, and the Vine Maple (*Acer circinatum*) which, although it becomes

hardier from year to year, cannot be called more than half-hardy.

Six of the species grow to be large or medium sized trees, while four are but small trees or shrubs.

The technical descriptions given in this article are taken from the "Cyclopædia of American Horticulture," as they are simpler and more concise than those found in botanies; but the nomenclature is principally that used in the "Catalogue of Canadian Plants" (Macoun), which is most familiar to readers of the "Canadian Horticulturist." These changes have been made in the names, but both old and new are given. The illustrations are from photographs kindly furnished by Mr. F. T. Shutt.

1. Sugar or Rock Maple (*Acer saccharinum*, Wang; *Acer saccharum*, Marsh).—"Large tree, 120 feet, with bark; leaves 3-5 lobed, cordate, 3-6 inches long, with narrow and deep sinuses; lobes acuminate, sparingly dentate, usually glaucous and glabrous beneath; fruit with little spreading wings." It is found from Nova Scotia to the western end of Lake Superior, and in scattered places to the Lake of the Woods and northward to Lake St. John, Lake Temiscamingue, and to the Long Portage on the Michipicotin River, north of Lake Superior. It is the most valuable and one of the most beautiful of all Canadian maples. It is one of our best timber trees, the wood being highly esteemed for many purposes. Being hard and tough, it is used where strength is required, as for axles of wagons, handles of

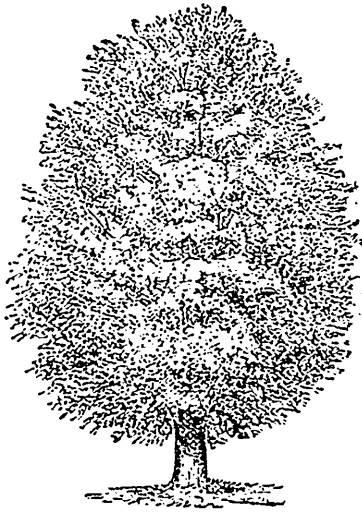


FIG. 2372. SUGAR MAPLE.

tools, etc., and on account of its fine grain and the fact of its taking a good polish it is much utilized in furniture making, the well-known Bird's-Eye Maple being obtained from this species. As fire wood, the Hard Maple has few equals, and many a log has warmed Canadian homes on wintry nights. The sap of the Sugar Maple gives it a unique place among Canadian trees, for although other trees yield sap which may be converted into syrup or sugar, there are none which produce it which equals the Sugar Maple in richness and palatability. Sugar making is quite an important and profitable industry in some parts of Ontario and Quebec, and the supply of pure syrup and sugar never seems to equal the demand. The continued tapping of the trees does not appear to lessen the vigor of them, and trees which have yielded many a quart of sap live through several generations of tappers. It is as a shade tree, however, and on account of its brilliantly colored foliage in autumn, that the Sugar Maple is best known to those living in cities, towns and villages. For street purposes it stands without an equal, being of fine shape, dense foliage,

comparatively free from insect pests and fungous diseases, and long lived. In October the foliage of this species and the Red Maple assume those varied, delicate, and gorgeous tints which help to give such character to our forests, brightens up our city streets, and gives autumn a gayness which the falling leaf alone dispels.

The Sugar Maple thrives on almost all kinds of well drained soil, but makes little growth where the ground is constantly wet and cold.

2. **Black Maple** (*Acer nigrum*, Michx; *Acer saccharinum nigrum*, Torr & Gray).—“Large tree, 120 feet, with black bark; leaves cordate, with sinus mostly closed, generally 3-lobed, with broad sinuses, the sides of the blade mostly drooping, green and pubescent beneath; lobes acute, entire or obtusely toothed; fruit with diverging wings.”

For a long time this was regarded as merely a variety of the Sugar Maple, but it now ranks as a distinct species, and rightly so, for it has quite a different appearance from the former, and is fairly well distributed throughout Ontario, from Ottawa westward. It is not as attractive a tree as the Sugar Maple, the foliage being much duller, but it makes a striking object, as the leaves differ so much from the other large maples, the lobes being almost or quite entire. The wood of this tree ranks next to the Sugar Maple in quality. This tree also yields sweet sap, but is not used in sugar making to any extent.

3. **Red, Scarlet, or Soft Maple** (*Acer rubrum*, Linn).—“Large tree, 120 feet; leaves 3-5 lobed, 3-4 inches long, green above, pale or glaucous beneath; lobes unequally and crenately serrate; flowers red or scarlet, rarely yellowish; petals 5; fruit glabrous.”

The range of this maple in Canada is from the Atlantic Ocean west to the Rainy River and a little further north than the Sugar Maple.

The Red Maple is not as useful a tree as the Sugar Maple. Although a prominent Canadian tree, its value for timber, fuel and sugar being not nearly equal to the other, but it is quite, if not more, ornamental. Beginning in the early spring before the leaves make their appearance, the scarlet blossoms, which are so profusely borne, brighten our streets at a time when they are much appreciated, and in the month of June the bright red fruit continues to make this tree attractive. It is, however, in the autumn that it shows to best advantage, when the leaves take on the bright scarlet and lighter hues which make the maples famous. Odd trees will be found assuming bright tints early in the autumn, and the contrast between these and the deep green of the surrounding foliage is very marked.

Where the soil is suitable, the Red Maple makes quite as good a tree for streets and parks as the Sugar Maple, but often it is planted in ground where it will not thrive and it dies before reaching its prime. This tree, unlike the Sugar Maple, does best in wet soil, and is found in the wild state in swampy land or bordering lakes and rivers, being often called the Swamp Maple. Large numbers of the Red Maple are planted as shade trees in our cities and towns, and where the soil is moist they succeed well, but if the soil is naturally somewhat dry and becomes dryer where permanent walks and roadways prevent air and moisture reaching the roots of the trees, they gradually sicken and die. Many such trees may be seen in the City of Ottawa to-day.

4. **Silver or White Maple** (*Acer dasycarpum*, Ehrh; *Acer saccharinum*, Linn.—“Large tree, 120 feet; leaves deeply 5-lobed to 5-cleft, 4-6 inches long, green above, silvery-white beneath; lobes deeply and doubly serrate; flowers greenish-yellow, apetalous; fruit pubescent when young.”

The Silver Maple is not as well distributed as either of the preceding species. It is



FIG. 2373. SMOOTH MAPLE.  
(*Acer glabrum*, Torr.)

found in New Brunswick in a few places, and is quite rare in the Province of Quebec, but is abundant in the Province of Ontario. It appears to succeed further north than either the Sugar Maple or Red Maple, a few specimens planted near the Canadian Pacific Railway at Portage la Prairie, Man., being quite hardy. It has also been planted at Brandon, Man., and although not perfectly hardy does not always kill outright.

This tree is less valuable than the Red Maple for timber or fuel, being very soft; nor does it color as highly in the autumn as either the Red or Sugar Maple, but it is a more graceful tree than either of the others, being of more spreading habit and having more finely cut foliage. Like the Red Maple, this species thrives best in moist ground, and where the conditions are favorable attains a great size. It is a very rapid growing species, and on this account is often planted in preference to other kinds.

The Silver Maple blooms earlier than the

Red Maple, but the flowers are not so attractive. The fruit, which is of large size, ripens about the middle of June, at Ottawa, and is very noticeable when lying on the footpath. There is a well known cut-leaved pendulous variety called Wieri which is a very graceful tree.

5. **Large-Leaved Maple** (*Acer macrophyllum*, Pursh).—"Tree 100 feet high; leaves cordate, deeply 3-5 lobed or cleft, pubescent when young, pale green beneath, 8-12 inches across, middle lobe mostly 3-lobed; racemes

from other Canadian species. Unfortunately, it winter kills at Ottawa. Nor do I know where there is a large specimen growing in Canada outside of British Columbia. The leaf in the illustration is a very small one, but gives an idea of its shape.

6. **Ash-Leaved Maple, Box Elder** (*Acer Negundo*, Linn; *Negundo aceroides*, Moench.— "Large tree, 70 feet; leaves pinnate; leaflets 3-5, ovate or oblong lanceolate, coarsely serrate or 3-lobed, mostly glabrous, 3-5 inches long; flowers before the leaves;

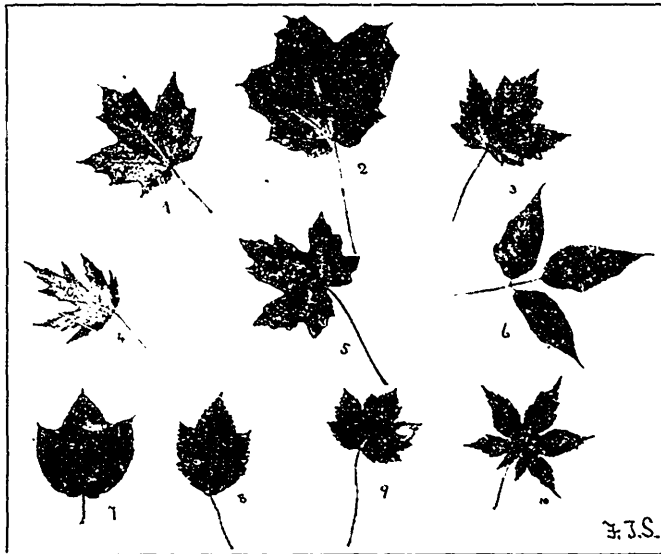


FIG. 2374.

1. *Acer saccharinum*, Wang. 2. *A. nigrum*, Michx. 3. *A. rubrum*, Linn.  
4. *A. dasycarpum*, Ehrh. 5. *A. macrophyllum*, Pursh.  
6. *A. negundo*, Linn. 7. *A. pennsylvanicum*, Linn. 8. *A. spicatum*, Lam.  
9. *A. glabrum*, Torr. 10. *A. circinatum*, Pursh.

pendulous; fruit with yellow, bristly hairs, largely winged."

The Large-Leaved Maple is confined to the Province of British Columbia, and is only found there in the valleys along the coast in the southern part of the province and on Vancouver Island. It is a majestic tree, and reaches a great size in favored spots in British Columbia. The leaves are of great size, often measuring a foot in diameter, which distinguishes this maple very readily

staminate flowers in pendulous corymbs, pistillate flowers in pendulous racemes."

A separate genus was formerly made of this tree and it was called *Negundo aceroides*, but in recent years it has been included with the maples. The Box Elder is not found in a wild state in the Maritime Provinces and in the Province of Quebec. In Ontario large trees have been found in the valley of the Humber, near Toronto, and near Chat-ham, which were thought not to have been



FIG. 2375. FLOWERS OF SUGAR MAPLE.  
*Acer saccharinum*, Wang.

introduced ; but apart from these two localities, it is not found wild in the writer's knowledge elsewhere in the province east of the Kaministiquia River, which is west of Lake Superior. It becomes more abundant westward, and is very common in Manitoba and the Northwest Territories. On account of its very rapid growth and ease of culture, this tree is often planted in Ontario for shade and ornamental purposes. It, however, usually proves very unsatisfactory, being unshapely and breaking down easily. The fruit also remains on the female trees during winter, making them quite unsightly. In Manitoba and the Northwest Territories, however, this tree has great value. It is a veritable ironclad and withstands the severest winters. It grows to be a handsome and shapely tree on the prairies, and is very useful for shade, for windbreaks, for firewood, and for other purposes. What the Sugar Maple is to Ontario, the Box Elder is to Manitoba and the Northwest Territories. The male and female flowers of this maple are borne on different trees.

7. **Striped Maple** (*Acer Pennsylvanicum*,

Linn).—"Tree rarely 40 feet ; bark greenish, striped with white lines ; leaves slightly cordate, roundish obovate, 3-lobed at the apex, 6-8 inches long, finely serrate, ferruginously pubescent beneath when young ; racemes glabrous, drooping."

The Striped Maple is common in Nova Scotia, New Brunswick, Quebec, and in Ontario as far as Lake Superior. It is a very handsome little upright tree, with large attractive foliage and curiously striped bark, the stripes being well defined and very noticeable. The flowers, which are yellowish green, are borne in pendulous racemes and add to the attractiveness of the tree. This maple delights in cool, shady woods, and does not thrive in the open as well as most of the other species. The leaves are not highly colored in autumn, but become a pleasing yellow.

8. **Mountain Maple** (*Acer spicatum*, Lam).—"Shrub or small tree, rarely 30 feet ; leaves 3 or slightly 5-lobed, coarsely serrate, pubescent beneath,  $2\frac{1}{2}$  to  $4\frac{1}{2}$  inches long ; racemes rather dense, long, upright ; fruit with diverging wings, bright red in summer."

This is a very common maple in damp or wet woods from Nova Scotia to the northern part of Manitoba and as far north as York Factory along the Hudson Bay. In the east it is little more than a shrub, but in northern Manitoba it becomes a small tree. As this species grows more in the open woods than the Striped Maple it usually succeeds better in cultivation. It has its own good points and is well worthy of a place in the ornamental grounds. It blooms during the month of June, and the flowers are followed by bright red fruit which makes the tree quite attractive ; the leaves, also, are more or less highly colored in autumn.

9. **Smooth Maple** (*Acer glabrum*, Torr).—"Shrub or small tree, 25 feet, quite glabrous ; petioles bright red ; leaves deeply 3-5

lobed or 3-parted, 1-5 inches across, dark green and shining above, pale or glaucous beneath; lobes doubly serrate."

This is a western species and grows wild from Vancouver Island eastward to Banff, in the Rocky Mountains. It has succeeded remarkably well at Ottawa and has proven quite ornamental, the red petioles of the leaves and the red branches contrasting well with the glossy green foliage. The largest specimen at the Experimental Farm is about twelve feet high and twelve or thirteen feet across. It is asserted that there are two species in what was formerly regarded as one, and that the form found along the western coast is quite a distinct species from that growing in the mountains. If this division is made we shall have eleven species in Canada instead of ten.

10. Vine Maple (*Acer circinatum*, Pursh).--  
" Small tree, rarely 40 feet; petioles and

peduncles glabrous; leaves 7-9 lobed, 2-7 inches across, glabrous; lobes acute, doubly serrate; flowers in drooping corymbs with purple sepals."

The beautiful little Vine Maple has quite a limited range in Canada, being confined to Vancouver Island and to the valleys near the coast along the mainland of British Columbia. The leaves of the Vine Maple are paler green than the other species, which gives them a more delicate appearance. They are somewhat similar to the Japanese *Acer palmatum*, and it is possible that the two were originally derived from the same species. The handsome flowers, fruit and leaves, and the graceful appearance of this maple, make it very desirable for ornamental purposes where it will succeed. At Ottawa it is only half hardy, though one specimen has now been nearly hardy since 1867.



FIG. 2379. VIEW IN HON. WILLIAM GIBSON'S GREENHOUSE.

Inverurie is the county seat of the Hon. William Gibson, and is yearly becoming of more interest to the student of horticulture. Mr. Thomas Robertson is gardener, having had eight years' experience in England and fifteen with Mr. James Goldie, of Guelph.

A new greenhouse 24 x 24 feet, attached to the house, was finished in January, 1902, and we give a snap of some plants in one corner. The geranium is remarkably fine, one truss measuring 32 inches in circumference.





## The Canadian Horticulturist

COPY for journal should reach the editor as early in the month as possible, never later than the 12th. It should be addressed to L. Woolverton, Grimsby, Ontario.

SUBSCRIPTION PRICE, \$1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

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LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events or doings of Horticultural Societies likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of Horticulturists.

ILLUSTRATIONS.—The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, etc.; but he cannot be responsible for loss or injury.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

DISCONTINUANCES.—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrearages must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post-Office address is given. Societies should send in their revised lists in January. If possible, otherwise we take it for granted that all will continue members.

ADDRESS: money letters, subscriptions and business letters of every kind to the Secretary of the Ontario Fruit Growers' Association, Department of Agriculture, Toronto.

POST OFFICE ORDERS, cheques, postal notes, etc., should be made payable to G. C. Creelman, Toronto.

## Question Drawer

### Poison Ivy.

1300. SIR.—Could you tell me, through the columns of your valuable paper, how to get rid of Poison Ivy? Is there any spray that would kill it.

It is all around the fences on one side of my place, and I cannot get at it to plow it down without removing the fences, and I am told that plowing is not very effective.

C. DAVIS, Toronto.

As far as I am aware, there is no method by which poison Ivy can be completely destroyed by means of spraying. The leaves and parts above the ground might be killed by spraying with some strong acid, but this would not seriously injure the creeping stems below the ground. The only satisfactory way to rid the ground of this troublesome plant is by digging or plowing it, and raking or harrowing of all of the broken stems.

Those who are at all subject to the effects of this poisonous plant should not attempt this work without first protecting the hands by the use of leather mits.

O. A. C., Guelph.

H. L. HUTT.

### A New Cherry.

1301. SIR.—Please name the enclosed cherries. I want to buy some more trees of the variety for planting next spring.

Almira.

D. B. HOWES.

The samples much resemble Plymouth Rock, a variety which we have just finished gathering, (July 21st.) This in our opinion is one of the best late sweet cherries in our collection, and it is marvellously productive, and of a very pleasant flavor.

# Open Letters

## BOULEVARDS VERSUS PRIVATE GARDENS

A LETTER FROM

W. F. CLARKE, GUELPH

FAMILIARLY KNOWN FROM CONTRIBUTIONS TO THE MONTREAL WITNESS  
UNDER THE NOM DE PLUME OF "LINDENBANK"

SIR,—I have been an advocate of the boulevard system of improving town and city lots in preference to the custom of having division fences, of all sorts and sizes, as a means of securing privacy and safeguarding the contents of the private garden. But I cannot shut my eyes to one very strong incidental objection to the boulevard plan, and that is the fact, for such it really is, as things now are, that it really means the extinction of the private garden. Not boys merely, but grown-up men and women, appear to think that the absence of a fence is a license to roam at will, and that a fence only is a notice to quit trespassing. Gradually we find, here in Guelph, where I live, that gardens are becoming more rare, and while it is quite true that grass and trees are "things of beauty" and "joys forever," no one can pretend that they may wholly supplant the garden with its varied attractions. It strikes me very forcibly that we need some legal protection to guard boulevards from trespass, but still more we need the protection of a better public sentiment in regard to the rights of owners of property, whether it is protected by a fence or by any other intimation of ownership. His-

tory tells us that in King Alfred's days people were so honest that jewelled bracelets and other valuable ornaments might be safely left hanging on trees and nobody but the rightful owners would ever think of touching them. If such things were left thus exposed in these days there would be a perfect scramble for possession of them.

I have a fence around my place yet in the delusive hope of being able to protect flowers and fruit, but I strongly suspect that the boulevard system has had much to do with the prevalence of that loose public sentiment which appears to make many people think they have a right to go wherever there is free passage, and to take whatever they have a fancy for. In my young days it used to be a school maxim and copy headline: "Who steals a pin it is a sin." Is this doctrine taught in our public schools to-day? Garden thieves and trespassers must be taught a few sharp lessons by police magistrates, and even parents must get some schooling in regard to the morals and manners of their children on these points if we are to see any marked improvement.

Guelph, July 1, 1902.

# CABBAGES

HOW TO GROW TWO CROPS IN ONE SEASON

BY

S. H. MITCHELL

ST. MARYS, ONT.

**S**OME years ago I discovered a process by which two crops of good cabbage can be grown successfully on the same land and from the same plants in one season. As it has not been published heretofore, I contribute it for the readers of the Horticulturist.

The first crop must be early. Have the ground rich and well prepared; use good, well hardened plants from the middle up to the end of April, according to the season. Set not closer than thirty inches apart each way, so that it will give room for cultivation, hoe often, the oftener the ground is stirred the sooner the crop will mature. It should be cut from the first to the middle of July. Cut the heads carefully, as soon as ready, leaving the stumps as long as possible. Now continue to cultivate the ground often and moderately deep. The large leaves will shade the ground and the stumps from the sun. A new growth will rapidly appear all around the stumps, and the old leaves will drop off.

When the largest shoots are three or four inches long, with a sharp knife cut off all the shoots except the strongest one; cut close to the stump but do not cut into it, keep off all shoots that may appear, except the one for the head.

If your ground is good and rich, you will

get a good head on each stump, eight or ten pounds weight, and of the best quality for fall or winter use.

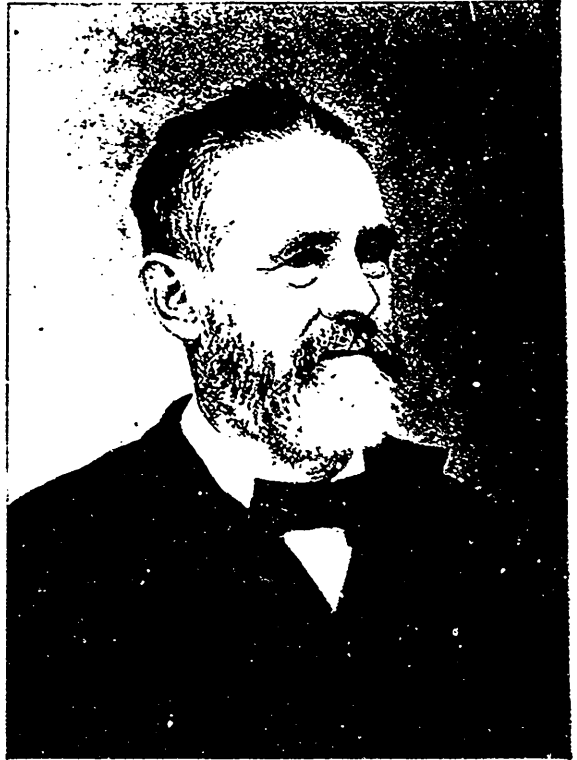


FIG. 1111. DR. T. H. HOSKINS,

of Newport, Vt., who has frequently contributed to this Journal interesting notes on Hardy Apples, passed away June 27th.

## Notes from the Horticultural Societies

**Grimsby.**—One of the pleasantest gatherings yet held by the Grimsby Horticultural Society was a Rose Show, held on the lawn of Mr. Ambrose Pettit on Tuesday evening, June 8th. The principal attraction was a hedge of Crimson Rambler roses a quarter of a mile in length, extending along the carriage drive from the road to the house. They were trained up a wire fence, and were now about three years planted. Every plant was a marvel to behold, with its enormous load of great trusses of gorgeous blooms, their deep crimson color enriched, at the time of

our visit, by the direct rays of the setting sun. We estimated at least 5,000 roses on each plant, or a total, on the hundred plants, of over half a million. Several delegates from the Hamilton Horticultural Society who came down on the evening trolley, said they had never seen anything anywhere to equal this Crimson Rambler hedge, and that it was worth a journey of one hundred miles to see.

A table of roses and other cut flowers was displayed on the verandah, and a brief program of music and recitations as the twilight changed to darkness, concluded the delightful evening party.

## FRUIT PRIZE LISTS

**A** REVISION of Fruit Lists is most urgently needed for the reasons which were well set forth by Prof. Hutt, O. A. C., Guelph, at the recent meeting of the Canadian Association of Fairs and Exhibitions, in Toronto, whose paper we published on page 98.

Any one who reads over the lists of varieties for which prizes are offered at the various fairs, both small and large, will see that they are made with reference to varieties grown, and without any reference to varieties most profitable or best adapted to the section concerned. The planting of many varieties which are useless and unprofitable is thus encouraged. Besides this, we find that we are growing altogether too many varieties of fruit. What we need is to know and recognize the best variety of its season for market and the best for home uses, and then to plant accordingly. In making a shipment of apples to a distant market, a car of one straight variety can be easier sold and at a higher price than if it consist of several varieties. So in planting a commercial orchard we should bear this point in mind.

With these considerations in view, a committee of the Ontario Fruit Growers' Association, consisting of Messrs. W. H. Bunting, of St. Catharines; Prof. H. I. Hutt, of the O. A. C., Guelph, and L. Woolverton, of Grimsby, met together and prepared the following preliminary list of fruits as a basis for the preparation of a fruit prize list for township and county fairs in Ontario. Of course each section must decide for itself whether to choose the list recommended for the northern or southern sections or whether a combination from both lists. The com-

mittee will gladly receive criticisms from the readers of this Journal.

### CLASS I—APPLES.

Five specimens of each variety.

For Southern Sections.

#### (a) COMMERCIAL VARIETIES.

- |   |   |
|---|---|
| <p><small>SEC.</small></p> <ol style="list-style-type: none"> <li>1. Baldwin.</li> <li>2. Ben Davis.</li> <li>3. Blenheim.</li> <li>4. Cranberry.</li> <li>5. Duchess.</li> <li>6. Greening.</li> </ol> | <p><small>SEC.</small></p> <ol style="list-style-type: none"> <li>7. Gravenstein.</li> <li>8. Hubbardston.</li> <li>9. King.</li> <li>10. Ontario.</li> <li>11. Spy.</li> <li>12. Wealthy.</li> </ol> |
|---|---|

13. Any other named variety.

#### (b) DOMESTIC VARIETIES.

- |  |  |
|--|--|
| <p><small>SEC.</small></p> <ol style="list-style-type: none"> <li>1. Chenango.</li> <li>2. Duchess.</li> <li>3. Fameuse.</li> <li>4. Greening.</li> <li>5. Gravenstein.</li> <li>6. Jonathan.</li> <li>7. King.</li> </ol> | <p><small>SEC.</small></p> <ol style="list-style-type: none"> <li>8. Primate.</li> <li>9. Ribston.</li> <li>10. Swazie.</li> <li>11. Spy.</li> <li>12. Wealthy.</li> <li>13. Any other named variety.</li> </ol> |
|--|--|

14. Seedling variety.

#### (c) COLLECTIONS.

15. Best collection of 5 above named varieties for export.
16. Best collection of 5 above named varieties for dessert.
17. Best collection of 5 above named varieties for cooking.

#### (d) CRAB APPLES.

Twelve specimens of each variety.

- |   |   |
|---|---|
| <p><small>SEC.</small></p> <ol style="list-style-type: none"> <li>18. Hyslop.</li> <li>19. Transcendent.</li> </ol> | <p><small>SEC.</small></p> <ol style="list-style-type: none"> <li>20. Whitney.</li> <li>21. Any other named variety.</li> </ol> |
|---|---|

For Northern Sections.

#### (a) COMMERCIAL AND DOMESTIC VARIETIES.

- |   |   |
|---|---|
| <p><small>SEC.</small></p> <ol style="list-style-type: none"> <li>1. Alexander.</li> <li>2. Duchess.</li> </ol> | <p><small>SEC.</small></p> <ol style="list-style-type: none"> <li>7. McIntosh.</li> <li>8. Scott's winter.</li> </ol> |
|---|---|

- |                              |                  |
|------------------------------|------------------|
| 3. Fameuse.                  | 9. St. Lawrence. |
| 4. Golden Russet.            | 10. Transparent. |
| 5. Hibernial.                | 11. Wealthy.     |
| 6. Longfield.                | 12. Wolf River.  |
| 13. Any other named variety. |                  |
| 14. Seedling variety.        |                  |

(b) COLLECTIONS.

15. Best collection of 5 above named varieties for export.
16. Best collection of 5 above named varieties for dessert.
17. Best collection of 5 above named varieties for cooking.

(c) CRAB APPLES.

Twelve specimens of each variety.

- |                   |                              |
|-------------------|------------------------------|
| 18. Hyslop.       | 20. Whitney.                 |
| 19. Transcendent. | 21. Any other named variety. |

CLASS II—GRAPES.

Three bunches of each variety.  
(For Southern Sections).

- |              |                |
|--------------|----------------|
| SEC.         | SEC.           |
| 1. Agawam.   | 7. Lindley.    |
| 2. Brighton. | 8. Moore.      |
| 3. Campbell. | 9. Niagara.    |
| 4. Concord.  | 10. Vergennes. |
| 5. Delaware. | 11. Wilder.    |
| 6. Diamond.  | 12. Worden.    |

13. Any other named variety.
14. Seedling variety.
15. Best collection of 5 varieties.

(For Northern Sections).

- |  |            |
|--|------------|
| SEC.                                   | SEC.       |
| 1. Campbell.                           | 4. Moore.  |
| 2. Lindley.                            | 5. Moyer.  |
| 3. Lady.                               | 6. Worden. |
| 7. Any other named variety.            |            |
| 8. Best collection of three varieties. |            |

CLASS III—PEACHES.

Five specimens of each variety.

- |                                     |               |
|-------------------------------------|---------------|
| SEC.                                | SEC.          |
| 1. Alexander.                       | 7. Old Mixon. |
| 2. Champion.                        | 8. Salway.    |
| 3. Early Crawford.                  | 9. Smock.     |
| 4. Elberta.                         | 10. Steven.   |
| 5. Garfield.                        | 11. St. John. |
| 6. Ingold.                          | 12. Triumph.  |
| 13. Any other white flesh variety.  |               |
| 14. Any other yellow flesh variety. |               |
| 15. Seedling variety.               |               |
| 16. Best collection of 5 varieties. |               |

CLASS IV—PEARS.

Five specimens of each variety for Southern Section.

(a) COMMERCIAL VARIETIES.

- |                              |              |
|------------------------------|--------------|
| SEC.                         | SEC.         |
| 1. Anjou.                    | 7. Dempsey.  |
| 2. Bartlett.                 | 8. Giffard.  |
| 3. Bosc.                     | 9. Goodale.  |
| 4. Clairgeau.                | 10. Howell.  |
| 5. Clapp.                    | 11. Keiffer. |
| 6. Duchess.                  | 12. Louise.  |
| 13. Any other named variety. |              |

(b) DOMESTIC VARIETIES.

- |  |                |
|--|----------------|
| SEC.   | SEC.           |
| 1. Anjou.                                      | 7. Lawrence    |
| 2. Bartlett.                                   | 8. Marguerite. |
| 3. Bosc.                                       | 9. Rosteizer.  |
| 4. Clapp.                                      | 10. Seckel.    |
| 5. Duchess.                                    | 11. Sheldon.   |
| 6. Flemish Beauty.                             | 12. Wilder.    |
| 13. Any other named variety.                   |                |
| 14. Seedling variety.                          |                |
| 15. Best collection of 5 commercial varieties. |                |
| 16. Best collection of 5 domestic varieties.   |                |

(For Northern Section).

- |                    |           |
|--------------------|-----------|
| SEC.               | SEC.      |
| 1. Anjou.          | 2. Clapp. |
| 3. Flemish Beauty. |           |

CLASS V—PLUMS.

Twelve of each variety.

(For Southern Sections).

(a) EUROPEAN PLUMS.

- |   |                      |
|---|----------------------|
| SEC.  | SEC.                 |
| 1. Bradshaw.                                    | 7. Purple Egg.       |
| 2. German Prune.                                | 8. Pond.             |
| 3. Glass.                                       | 9. Reine Claude.     |
| 4. Coe.   | 10. Smith's Orleans. |
| 5. Gueii.                                       | 11. Washington.      |
| 6. Lombard.                                     | 12. Yellow Egg.      |
| 13. Any other named yellow variety.             |                      |
| 14. " " " " dark "                              |                      |
| 15. Seedling variety.                           |                      |
| 16. Best collection of 5 above named varieties. |                      |

(b) JAPAN PLUMS.

- |   |                        |
|---|------------------------|
| SEC.                                    | SEC.                   |
| 17. Abundance.                          | 10. Red June.          |
| 18. Rubank.                             | 20. Any other variety. |
| 21. Best collection of three varieties. |                        |

(For Northern Sections).

(c) AMERICAN PLUMS.

SEC.	SEC.
1. Aitkin.	9. New Ulm.
2. American Eagle.	10. Silas Wilson.
3. Bixby.	11. Wolf.
4. Cheney.	12. Wyant.

5. City.	13. Any other variety.
6. De Soto	14. Seedling variety.
7. Gaylord.	15. Best collection of
8. Hawkeye.	5 varieties.

CLASS VI—QUINCES.

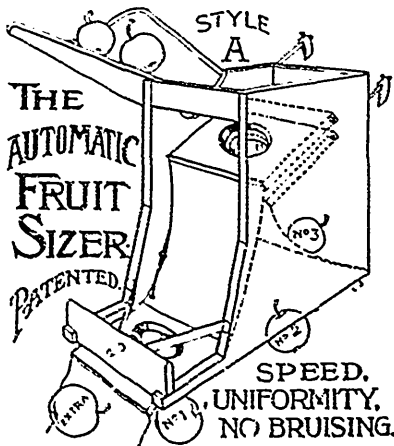
SEC.	SEC.
1. Orange.	2. Any other variety.

BOOKS FOR FRUIT GROWERS.

FRUIT, FLOWERS, ETC.

Apple Culture, Field Notes on.	Bailey.	So.75
Bulbs and Tuberos Routed Plants.	C. L. Allen.	1.50
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