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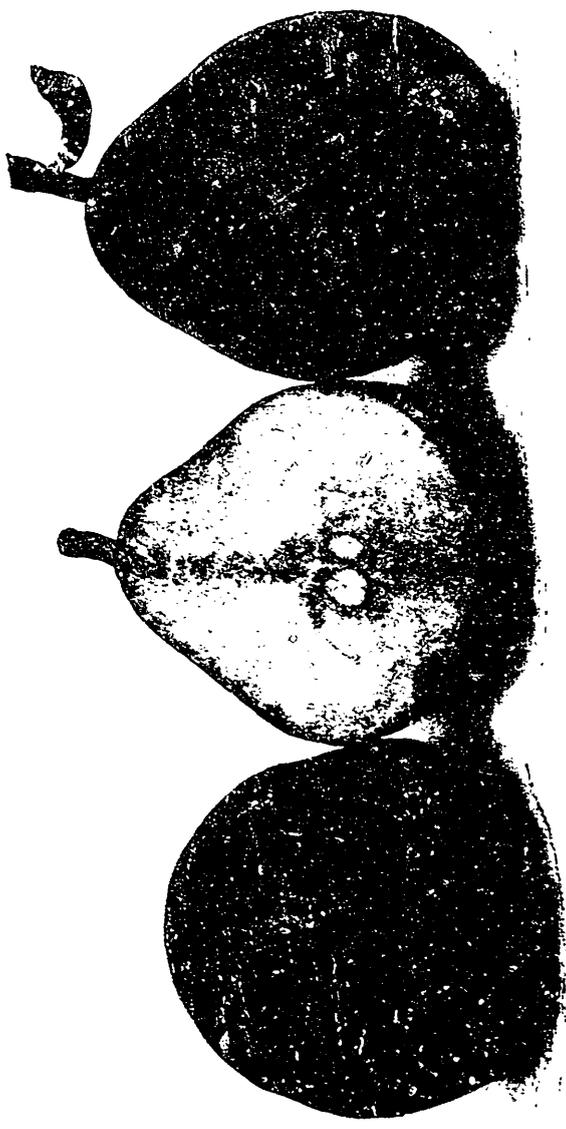


FIG. 2176. THE SEASIDE PEAR.

4187

# THE CANADIAN HORTICULTURIST

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## THE SECKEL PEAR

OUR frontispiece is an excellent representation of the Seckel pear, a variety that is everywhere acknowledged to be the very finest dessert pear in cultivation. This pear originated on the farm of a Mr. Seckel, of Philadelphia, near the Delaware River. No one seems to know anything about the origin of the original tree, which bore its first fruit about the year 1765. In 1819 a tree of this pear was planted in the garden of the London Horticultural Society, and the fruit was pronounced "to exceed in flavor the richest of their autumn pears."

For years we have grown this pear at Maplehurst, both as a standard and as a dwarf, and must pronounce in favor of the latter for beauty and for quality. For the garden of the amateur who wants the finest quality of pear for his table, or for the connoisseur who wants to complete an interesting collection, we know no pear so desirable; indeed it should find a place in every fruit garden which is planted for home uses; but we do not consider it advisable to plant it largely in the commercial orchard on account of its small size. True, very high prices have been secured for the Seckel pear in special markets where it is well known, but, as a rule, the buyer of a fruit looks for size as well as for beauty

and quality, and the commercial grower must not expect ready sale for small sized pears or small sized apples.

The tree is readily distinguished from other trees in our experimental grounds by the olive brown color of the wood, its short stout joints, and the compact, symmetrical head. The fruit itself has a deep, yellowish brown color, with a bright red cheek; the flesh is very fine grained, melting and juicy; the flesh is honey sweet, with a spicy and delicate aroma; season September to October.

### OPINIONS OF OTHERS ON THE VALUE OF SECKEL.

MR. T. H. RACE (Mitchell):—By its very nature the Seckel pear is a dwarf. It may be a paradox to say that, so far as size goes, it is less a dwarf when grown on a dwarf tree than when grown upon a standard. As a standard the tree is inclined to load too heavily and the fruit to run too small, the tree itself grows too thick and close if left to itself, and the wood is too brittle to stand much, or any trimming. A dwarf tree, if inclined to over-load, can easily be thinned, and a good sized fruit may always be obtained. It is not so easy thinning a standard, and if the tree is cut out to lessen

its top, every wound will sooner or later lead to a fatal termination of the part affected owing to the brittle nature of the wood. In brief the Seckel should be grown as a dwarf where it can be done. As a standard it should be trimmed very sparingly, and the fruit thinned if size is desired.

W. WARNOCK, (Goderich):—I consider the Seckel pear one of the very best dessert pears of its season. I know some trees here that have been bearing fruit for the last forty years, and they look healthy enough to continue for forty years to come. The tree grows to the greatest perfection here, and is a regular bearer.

A. M. SMITH, (St. Catharines):—I consider the Seckel one of the best dessert pears we have. The tree is free from blight, is a regular and abundant bearer; to get the best results it should be regularly fertilized and pruned. Though the fruit is small, it will attain a fair size if well thinned and will bring a good price.

W. W. COX (Collingwood):—The Seckel is not much grown in this section. People want quantity rather than quality in this country. It does well here, and I consider it one of the best pears grown. I believe it will be called for a few years hence.

## Notes and Comments

### A COMMERCIAL PEAR ORCHARD.

**D**O you advise me to set out a commercial pear orchard of standard pears? I had some notion of setting Tallman Sweets for grafting Spys and Baldwins, and setting dwarf pears between.

Where can I buy good trees the cheapest? By good trees I do not mean the largest, but thrifty and true to name.

MORLEY HOWELL, St. George.

We are inclined to favor the planting of dwarf pears and small fruits in the apple orchard, until the trees require the whole ground; and indeed after it is full grown, in case the owner has only a limited amount of ground to cultivate. As a rule a dwarf tree has seen its best inside of twenty years, and it takes all that time for an apple tree to reach its best days. In planting a commercial pear orchard one must be guided very much by the market for which they are intended. The foreign market is attended with great risk of loss, should the variety be inferior or the conditions on shipboard be unfavorable. Ordinarily speaking the near market is the safest, for this a large number of varieties may be planted; while for export it is best to plant only one or two kinds, and those

the largest and finest that will succeed in the locality.

Fine trees may be purchased at reasonable rates from any of the nurserymen advertising in this journal.

### PRICE OF APPLES AND PEARS IN GREAT BRITAIN

**S**IR,—Is there any record kept anywhere of prices which Canadian fruit fetches in Great Britain? Have pears been selling well in the Old Country this year? What kinds sell best?

MORLEY HOWELL, St. George.

Every week we get reports of actual sales of Canadian apples in Glasgow, Liverpool or London. Just now we have opened a report of 25,000 bbls. at Liverpool, and fine Baldwins were sold at 15s., or \$3.65 a barrel, which would net the shipper a little over \$2.00 in Ontario. Poorer stock sold down to 7s., or about half, and would only net from 75c. to \$1.00; while fine Kings sold as high as 20s., or about \$4.87 a barrel!

Pears have not realized as high prices as we had expected. Our Bartlets sold in Glasgow from 5s. to 6s. a half bushel case, and our Duchess at from 4s. to 6s., rather low

compared with prices obtained some previous years.

Probably such choice goods in small packages should not be sold by auction, but rather by private sale; for in this latter way each case is sold upon its merits, and not at the mercy of a public market. We are credibly informed that buyers at the public auction often put their heads together, and let one bidder establish the price, and then divide the spoils. No doubt, now that we have cold storage, and our fruit can be held, the necessity of quick sales will be done away, and we may expect to sell our fancy packages by private contract, and thus realize their full value.

#### CHOICE APPLES AT HOME

**M**R. JOHN BRENNAN, Grimsby, will not export his choice Spys. He sells them by private sale in Canada, and says he has realized this season as high as \$1.75 a bushel box for them on private order. Does not this prove that there are always people in every country who are ready to pay a high price for such goods?

#### THE FRUIT MARKS ACT

**I** THINK," said Mr. G. E. Fisher, of Burlington, "that this Act needs a thorough revision. It compels people to do what they cannot do, gives them no advantage if they do it, and punishes them if they don't do it. The speculator uses it to frighten the grower into taking a low price for his apples, and the grower who packs his own fruit in fancy grades is compelled to mark it XXX when it is far superior to ordinary fruit of that grade."

Don't you think the value of Canadian apples abroad is advanced by the Act?

"Possibly, but it does not provide any basis for contract. No court will declare a sale valid if the buyer refuses to pay on the ground of the fruit not being up to grade. There should be provision for government

inspecting and branding, so that a seller could get a certificate of grade from an inspector for a car load of apples, and sell on that government grade. Then his sale would be final.

"The Act is not what we growers want; we must have a committee to take up the matter, and take time to go into it fully."

#### FALL PLOWING

**I** HAVE read that where an orchard is to be set out the soil should be loosened up with a sub-soil lance.

I am thinking of putting out a pear orchard, and perhaps an orchard of Tallman Sweets for grafting next spring. When should I sub-soil the ground? this fall, or would the changing conditions of winter render that work useless by spring. Please let me know at once about this, as I want to plow the piece now, and if you advise it I will put the sub-soil lance on the plow this fall.

MORLEY HOWELL, St. George.

The preparation necessary to fit soil for fruit trees depends very much upon its texture. In deep, rich sandy loam, where there is considerable humus, little attention seems necessary except ordinary plowing and thorough harrowing of the surface soil; but in the case of soils more close in texture, the deeper the previous cultivation the better. Indeed no after-care or cultivation of the surface can ever make up for neglect of this deep moving and enriching of the soil, in which the roots are to spread, and for which they are to draw their nourishment. This work should be done in autumn, so that the excellent action of the winter's frost may help unlock nature's fertility, and at the same time have a mechanical influence in fining the texture of the ground. Downing says "no fruit tree should be planted in a hole of less size than three feet square and eighteen inches to two feet deep," and again "the most skillful cultivators among us make their spaces four or five feet in diameter, or three times the size of the roots, and it is incredible how much the luxuriance and vigor of growth, even in a poor soil, is promoted by this."

## A COMMERCIAL APPLE ORCHARD.

I AM going to plant out two acres in apple trees for commercial purposes. I had decided on Astrachan and Duchess for early, and Wealthy for fall, and King or Baldwin for winter. Would you recommend my choice for winter apples, and would it be variety enough for this quantity, or could you recommend any change (excepting Ben Davis and Spy)? I want apples of good quality and appearance.

Is King and King of Tompkins the same? I have been told by agents that they are distinct and different. If so, which is best, and can it be got from any of our nurserymen? An answer through your paper would oblige.

• C. H. DAVIS, East Toronto.

We would advise planting lightly of summer apples for commercial purposes. There is little or no sale for them in our home markets, and the export in cold storage is so expensive, that there is very little profit in them. The Duchess is preferable to the Astrachan, because it averages larger in size and carries better. The Yellow Transparent is good because it can be sold earlier than either, and is very productive.

We would, on the whole, prefer Gravenstein to Wealthy, as a fall apple for profit, especially in the southern part of the province, because of its excellent quality, almost equal beauty, and it does not drop so badly. In the northern parts, of course, Wealthy is best.

There is another apple that probably excels either as an export apple, and that is Blenheim Orange. It is a fairly good bearer and a little later, so that on the whole it is a better shipper than either. Blenheims, exported this fall, have brought as high a price as Kings.

We would not advise planting largely of either Kings or Spy for profit, although when once you have the fruit, you have the most valuable varieties in our whole list. The King, however, is so unproductive that it is unprofitable, and the Spy is so long coming into bearing that you may count on at least fifteen years of waiting before it

will begin to yield paying crops. The Baldwin and the Ontario are good and productive, and consequently profitable, while a small proportion of Ben Davis will always bring good money.

The only King apple known in Ontario is the King of Tompkins Co., so that the latter designation may as well be omitted.

## APPLE POMACE FOR COWS.

THE experience of four years with apple pomace silage at the Vermont station, using over twenty cows, is a unit in affirming the nearly equivalent—if not, indeed, quite equivalent—feeding values of apple pomace and corn silage. No undesirable results whatsoever have followed its use. Cows continuously and heartily fed have not shrunk, but on the contrary have held up their milk flows remarkably well. Neither does the milk nor the butter seem injured in any respect. A satisfactory ration used by station has been hay, silage (one-third corn silage and two-thirds apple pomace silage by weight) and from 4 to 8 pounds grain, the latter varying according to age, stage of lactation, etc. Fifteen pounds of pomace per cow has been fed daily with entire satisfaction. Inasmuch, however, as reports of severe shrinkage occurring coincident with the use of apple pomace are current, care and watchfulness are advised in feeding it at the outset.

Apple pomace needs no special care in ensiling. If leveled from time to time as put into the silo and left to itself uncovered and unweighed it does well.

It is trusted that this article may be of some service in calling the attention of dairymen to a waste product of much food value which, in this season of partial failure of the corn crop, ought to be utilized. Let not a pound of apple pomace go to waste this fall behind the cider mill.

## THE QUESTION OF VARIETIES IN APPLES.

**T**HIS is a very old and vexed question for the fruit grower. Time was when the variety mattered little. There were cider apples, cooking apples, and dessert apples, and their names were of little moment; for the price was the same for all. The only question was productiveness, and for this the Greening and Baldwin were the favorites with planters of thirty years ago. Then it was found that red apples sold better than green, and the favorites were Baldwin, King, and Spy; but as time passed, the Baldwin did not always meet expectations, the King was unproductive and the Spy too slow in coming into bearing; so that of late the Ben Davis has enjoyed a season of great popularity because it seemed to combine in one apple productiveness, color, and shipping qualities.

## QUALITY THE LEADING FEATURE.

**O**F late however, the question of quality has become more and more important until we find our finest quality, colored cooking apple, the King, is bringing the very highest price in the British market, being sold sometimes as high as \$7.00 a barrel when Greenings and Baldwins are only \$3.00 and \$5.00. We have no doubt at all that quality will every year become more important and that, for the best results, especially in a fancy trade, high flavor will be in time a more important feature for the grower to consider, than even productiveness of tree or color of fruit. For the man who can afford to wait, and who will give the best cultivation, our Northern Spy is most to be commended, for it combines quality and beauty as no other apple on the list, while the Ben Davis is almost at the bottom of the list for quality, and should be planted sparingly.

## THE BEN DAVIS.

**O**UR position on this question is strengthened by the present drop in demand for Ben Davis, where this apple is best

known. Immense orchards of it have been planted in Illinois and great profits have been made from them; but a change has come, for consumers have tired of an apple of such poor quality and are asking for something better. In proof, we quote from "The Fruit Grower's Journal," of Cobden, Ill., as follows: "The current receipts of apples in this and other leading markets of the West at present and for some time past, show that over nine-tenths of the receipts are of the Ben Davis variety. On last Saturday four boats unloaded on our levee 10,000 barrels of apples, fully three-fourths of them from Illinois and the remainder from Missouri. A canvas of the subject among the receivers disclosed the fact that 9,500 barrels were Ben Davis, and railroad receipts show a similar record. Now this proportion is out of all reason, greatly to the detriment of the apple industry and an injury to the apple growers at large.

"For years the Ben Davis has been found a profitable apple from a commercial standpoint, and this has led to a heavy run on the nurserymen for such trees. The demand not only continued without abatement, but rapidly increased to the exclusion of all the better sorts, and we are thus confronted with the startling fact that a large number of the best varieties grown had to give way to one of the poorest in cultivation—an apple hardly fit to eat or cook, and yet every market in the entire southwest is now flooded with it. The inevitable result is before us, as the Ben Davis is now selling at figures that average only a trifle over half that the other sorts are bringing.

"A most discouraging feature is still in store for the Ben Davis, for most of the orders coming in for apples now request no more Ben Davis. Even the country merchant, who orders only five or ten barrels, almost invariably adds, 'Don't send me any Ben Davis.' Thus much lower prices for it seem assured, while the other sorts, so much

more desirable, will not suffer by the general decline because they are wanted by the trade everywhere."

#### THE APPLE MARKET STIFFENING.

CONSIDERING the quantity of apples in our country, it is surprising how stiff the prices hold for good stock. The lowest market is usually in November and early in December, because then everyone is shipping, and inferior stock must be sold, or it will spoil on hand. The foreign crop is very light, and not only England but all Europe is calling out for our apples. Add to this the rapid opening of Manitoba and the Northwest as a market for our fruit, and we have most encouraging prospects for the sale of our fruit products not only this year but in future years. Several fruit men have shipped their apples and Kieffer pears to Winnipeg, and report even better results than by exporting them to Great Britain. Nor is this the only new outlet. This year for the first time, a line of steamers is running between Montreal and Capetown, S. A., and the prospect is for a splendid apple market in that country, and already a shipment of boxed apples is on the way.

There are a great many of the best apples now being stored in cold storage in Montreal, and other large centres, to be placed on sale when the poor sort is disposed of. And no doubt these will bring prices that will compensate for the risk and trouble of storage, unless the unusual quantity thus stored should weigh down the market in early spring, and the early apples from Tasmania should come into close competition with our stored stock.

#### BOXES FOR CHOICE APPLES.

MR. J. B. THOMAS, of Covent Garden, London, England, recently paid a visit to Ontario, and was greatly taken with our beautiful apples. He writes: "Fruit buyers are clamoring for choice,

gilt edge stock in boxes. But herein also mistakes will arise if care is not used to keep out all ordinary fruit. The buyers of this class require a first-class article, suitable for the English best class trade, who can rely upon the contents where the question of price is of little or no importance. For those who, unfortunately, do not control fancy fruit this year, I would say, do not be tempted to try this new method, as failure is with you before you start. Boxes should measure inside—long, 21 ins., deep, 9 ins., wide, 11 ins. Pack with very thin tissue paper.

"I believe more in small profits and quick returns, on which basis I favor the trade more before Christmas than after. I do not consider now our English markets are safe to reckon upon as being open after the second week of March, leaving the public a fortnight for consuming that supply ere the arrivals come to hand from our Southern Colonies—Australia and Tasmania."

An English correspondent of the Sun writes farther on the subject as follows:

"It is in some cases only when we come to the jobber or retailer and the middle-class consumer, that we meet the man who seriously and reasonably prefers the box. Unless, then, a shipper carefully selects his market (perhaps even his broker), when he sends a consignment of apples in boxes, he must be prepared to continue shipping, even at a loss, until by sheer merit his package forces recognition—until, in fact, the retail demand makes itself felt, and is echoed back along the line of trade, with the result that even the brokers enter into competition to secure his fruit in his package. That will take time and care, and cannot be accomplished by the shipper who sends spasmodic shipments in boxes here and there, and gives up when prices do not at once reimburse him for the extra outlay.

"Above all, whether in markets which are now favorable or adverse, nothing but prime,

sound stock (every apple perfect), should be sent in boxes; the first essential is to establish confidence in the box, which is for Canadian apples a new package, and then it will be time enough to send various grades, between which the buyers will learn to distinguish. For common stock, use the barrel."

#### OUR EARLY APPLE SHIPMENTS ALARM BRITISH FRUIT GROWERS.

IT is evident that our Astrachan and Duchess apples were a surprise to the British people. Such beautiful color so early in the season cannot be had in England, where the sun is so seldom seen, while our clear Canadian skies and the burning rays from old King Sol paint our Astrachans with most beautifully colored cheeks. In this connection the following extract from the journal, Green Grocery, of London, England, will be of interest:

A few weeks ago we reported the first consignment of American apples—much earlier than usual. From these early consignments it would appear that American growers intend to place their produce upon the market to compete with our earlier supplies. Now, if this is the case, home growers must wake up. Granted that we are heavily handicapped this season, everything being late owing to the weather, it is not always so. Every grower is aware of the fact, or should be, that the early produce fetches the best price, and this applies to fruit as well as vegetables. Intending apple planters must therefore plant early varieties as well as late ones.

That home growers can beat all comers at growing apples, pears, peaches, grapes, and most other fruits, can be gleaned by those who care to visit the show of British grown fruit held under the auspices of the Royal Horticultural Society at the Crystal Palace, which, by the way, takes place on Sept. 18, 19, 20, or by visiting many of the horticultural shows held in country districts. How to pack the fruit when it is grown, however, is quite another matter, and one about which growers in this country do not trouble themselves sufficiently. It is the greatest mistake possible for growers to content themselves by packing their fruit in sieves and half-sieves just because their fathers and grandfathers did so before them, and the sooner they get out of this "rut" the better. On account of the excellent grading or evenness of the foreign fruit, the method of packing, and its general appearance, the fruit in many cases is purchased in preference to English, not because it is better in quality, for often it is not, but because of the general appearance which home growers would do well to remember.

#### SUCCESS IN EXPORTING TENDER FRUIT.

THE writer has been forwarding a car load of apples or pears each week since early in August, beginning with the Astrachan and Duchess; continuing with Bartlett pears in September, and Gravenstein, Kings, Greenings, Baldwins and Spy in October.

These have all arrived in excellent condition in Liverpool, Manchester and Glasgow, so that the anxiety about their safe carriage seems to be entirely removed, and we may ship with more confidence.

For Astrachan and Duchess we used the Wilson cases, with fillers, which kept each apple separate from every other apple, and this helped their delivery in a safe and excellent condition. Messrs. Woodall & Co., Liverpool, wrote on receipt of them, saying, "These apples arrived in very good condition. The Astrachans were fairly well colored and nicely graded as to size."

#### CONFIDENCE IN CANADIAN APPLES.

"WERE you not a little sanguine in your statements about the Ontario apple crop published a few months ago?" we asked Inspector McNeill at the St. Catharines meeting. "Not at all," said he, "Granted that in Essex where they ripen a little early, or where scab or bitter rot is prevalent, that buyers are few and a large quantity of such fruit goes begging, there is a keen demand for our prime apples. Why, in many parts of Ontario to-day I know of \$1.00 to \$1.50 being paid for the fruit in the orchards, and in the Georgian Bay District, where apples ripen late and are known to keep well, growers will not accept these prices but have combined to store and ship during the winter. I believe there are 500,000 barrels stored in that district alone.

#### OUR NO. 1 OR XXX GROWING IN VALUE.

Does the Fruit Marks Act work in the interest of the apple grower?

"Certainly it does," said Mr. McNiell. "Why already our Canadian XXX apples are becoming known among English buyers, and are wanted in preference to those marked with ten X's from countries where there is no inspection. After another summer or two we shall find retailers ordering our XXX apples, with confidence, at steady values. Here is a grand work for us inspectors, viz., to see that this grade is kept up to the mark, and this we mean to do."

A SAMPLE ACCOUNT SALES.

MANY of our readers will be interested in a sample account sales of these summer apples, so we print one in full. The cases contained about 40 pounds of fruit each, so that about four would equal a barrel, so that the highest price shown, seven shillings a case, would equal about 28 shillings, or seven dollars a barrel—a pretty fancy price for an apple that is almost unsalable in our Canadian markets. The smaller sized fruit, marked X, and only 2 1/4 inches in diameter, sold for from four shillings to four and nine pence, which, of course, brought down the average very much for the whole of this lot.

GLASGOW, 5th Sept., 1902.

Account sales of 303 cases apples ex 'Kasbalia,' sold by Thomas Russell, by order and for account of L. Woolverton, Grimsby, Ontario. L. Woolverton.

Selected fruit, 2 cases.....	7 0	£	14
" " 24 " Astrachan	6 0	7	4
Inspected " 40 " " "	5 3	10	10
xxx 16 " " "	4 6	3	12
2 1/4 xxx 4 " " "	5 6	1	2
2 1/2 xx 20 " " "	5 3	5	5
2 " " "	5 0		10
xx 16 " " "	5 9	4	12
25 " " "	5 6	6	17 6
17 " " "	4 9	4	9
58 " " "	4 6	13	1
x 48 " " "	4 0	9	12
2 1/4 x 11 " " "	4 9	2	12 3
Dessert x 18 " " "	4 6	4	1
x 1 " " "			5
Inspected x 1 " Scotch Ben Davis	5 9		
303 cases.....		£74	4 3

CHARGES.

Freight on goods.....£26 2 4

River and Harbour dues.....	}	7 11 6
Master portorage.....		
Landing, selecting, cooperating, catalogues, advertising, etc....		
Cartage to warehouse, houseing and delivering.....		
Marine insurance, telegrams....		2
Commission and guarantee.....		3, 14 3 37 10 1
Net proceeds.....		£30 14 2

THE EXPENSE OF PACKAGES.

There is a serious difficulty now a days with every fruit grower. Freights and commissions eat so large a hole in our proceeds, that we cannot afford to give away so large an amount in gift packages, which are never returned, but always go with the fruit. This year for example, the bill for packages at Maplehurst was about \$1200, of which \$600 has been for apple boxes, \$400 for baskets and \$200 for barrels.

The California apple box is cheaper, for being only 18 inches long instead of 22, much thinner sides are used; so that while ours costs \$12.00 per 100, theirs can be made for about \$8.00.

ASTRACHAN IN GLASGOW MARKET.

OUR worthy exchange, the Sun, having made some remarks rather discouraging about the export of summer apples, Mr. W. A. McKinnon, who is in Manchester, representing the Fruit Division of the Dominion Dept. of Agriculture, writes in reply as follows:

"I see that your columns have contained expressions of doubt as to the 'holding up' quality of Red Astrachan apples, so I am sure you will be glad to note the following facts:

"One Wilson case of Astrachans, which arrived in Glasgow September 4th, was sent at once to Liverpool, and kept at a temperature of 38 degrees for two weeks; one tray was then removed, and kept in a warm house for a week, without showing any serious deterioration. The other trays

were 75 per cent. sound after another two weeks in storage. A similar tray was kept in Glasgow in a room which averaged 60 to 65 degrees in daytime, for six weeks, when half a dozen apples were still perfectly sound and good. Some had been eaten, and of those which showed decay all had been bruised or defective at the spot where such decay had started. It would seem therefore that selected Astrachans, if properly shipped, have plenty of 'life' in them after arrival here to answer the commercial requirements of an early apple.

"Glasgow is doing remarkably well with box fruit, the trade preferring as little packing material as possible with the fruit, and asking for carriage in ventilated packages and compartments, except where cold storage is absolutely essential.

#### DUCHESS PEARS.

"Some Duchess pears from Burlington are pronounced the finest in flavor and appearance ever seen in Glasgow by one of the best retailers here. I examined and sampled them along with some French Duchess of equal size, and there was simply no comparison between them, the Canadian fruit being infinitely superior. The Grimsby ventilated half-case (a variation of the Californian), with wrapped fruit and very little excelsior packing, if any, is undoubtedly the favorite package with the trade here."

#### SPOTTED GREENINGS NOT WANTED IN GREAT BRITAIN.

**I**N a letter to Mr. A. McNeill, Mr. McKinnon says: "I shall, at the risk of wearying you, state once more that this is no place for poor apples or pears. There are tons of trashy fruit in the country, and they find their level in the poorest class in shops, some being really too miserable to sell for costers' barrows. It is simply absurd for shippers to forward poor fruit,

paying as much for all incidental expenses (except, alas, for commission), as they do for good merchantable stock. I wrote you to this effect from Paris early in September, and have no doubt you passed the unheeded warning on to the public. Yet to-day's lot, ex-Numidian, showed up in painful contrast to similar varieties from Boston. Greenings were especially poor, and have suffered greatly from 'sweat spots,' particularly in the heart of the barrel. Buyers summarize thus: 'Canadian fruit very poor this year, but packing marvellously improved.' There are exceptions, but two Irish buyers to-day said they could at least count on the bulk bearing definite relation to the face, although they knew nothing of the Fruit Marks Act."

And to the Sun he writes: "Lots of poor stuff," Mr. McKinnon says, "has come forward to the slaughter, and some have even taken the trouble to pack this poor stuff in boxes and Wilson cases for shipment."

And the editor sensibly remarks: "It is surely foolish enough to send poor fruit to such a distant market, in any form of package, but it is scarcely possible to conceive of the folly shown in packing this poor stuff in expensive packages. It is possible, however, that the shippers did not know just how poor the quality of stuff was that they have sent over. There were shown at the meeting of the Entomological Society at London last week some Greenings which had, by accident, been delayed at a Canadian port on the way to the British market. These were delayed for about the time it would have taken them to reach the place of sale in Britain. The apples had on them small black marks, caused by fungus disease, and the rot which looked insignificant at the time of shipping had, while the fruit was being delayed in transit, developed until the whole thing was covered with black rot. Fruit which is at all badly spotted should not under any consideration be sent to the Old Country market.



FIG. 2456. BITTER ROT.

## BITTER ROT OF THE APPLE.

THIS disease is very destructive to the apple, south of the 40th parallel, but we had hoped that in latitude 43 to 45 would escape it entirely. We once thought the same of the San Jose Scale, but were quite mistaken, for it bears the cold only too well, and now we find many Ontario orchards quite seriously affected with Bitter Rot of the apple. It is identified, says Professor Burrill, in growing apples by minute brown brown specks which enlarge so as to make each a conspicuous dark colored circular spot, which, while preserving its circular form and maintaining a sharply defined border, gradually extends to become soft; but is soon depressed, or somewhat sunken, while the skin assumes a leathery appearance. The outer portion of the spot remains smooth and polished, while the central area loses its lustre and becomes roughened by the formation of a multitude of minute pustules arranged in irregular, concentric circles. When the atmosphere is not too dry, each of these little pustules open and there exudes in microscopic masses, or columns, a waxy substance, which is at first pale pink in color, then pale dull red, or, at length, grayish when long exposed to the sun. The spot ultimately, becomes shriveled in appearance, tough in texture, and very dark, approaching black in color. When there are, to begin with, several spots, they run together but

commonly preserve some indication of the original centers of each in the general area of infection.

The diseased apple finally becomes dark brown throughout, and shriveled into a dry hard, and much wrinkled mass, called a "mummy." This may remain firmly attached to its twig on the tree for a year or more, but commonly falls to the ground before the drying process is entirely completed.

In our orchard at Maplehurst we have noticed this disease especially troublesome in one block of trees on the lake shore, and it is apparently inclined to spread. In Illinois the disease has become most alarming, and, in 1900, the loss in four counties was estimated to be \$1,500,000. The best remedy is faithful spraying with Bordeaux mixture, at frequent intervals.

## FRUIT TRANSPORTATION IN NOVA SCOTIA.

OUR friends in Nova Scotia have had much to complain of in the transportation of their fruit, but Mr. Ralph S. Eaton writes that now, by contract with the Furness Withy Company their Deputy Minister of Trade and Commerce has secured nearly everything asked for. The following is a copy of the letter reviewed from that official by Mr. Eaton:

"I think all of the clauses which were asked to be inserted on behalf of the fruit growers last winter are contained in the contract and are in effect as follows:

"It provides that the steamer shall be fitted with suitable accommodation for carrying perishable cargo such as apples or other fruit, dairy produce and other produce, without deterioration, with holds and tween decks provided with a thorough system of ventilation by means of forced circulation of fresh air by electric or steam fans in such manner as to secure a uniform cool temperature; the intakes for fresh air to be protected by contrivances for that purpose similar to the Gibbs Steamship Ventilators so as to operate in all weathers without permitting water, spray, or other dampness being taken into any place where cargo is carried, and that such ventilating appliances shall be operated at all times when cargo is on board; that at least one of the steamers employed shall be equipped with refrigerating plant for the forced circulation of cool air through places where tender or early varieties of apples are carried; the space to be secured to be from 25,000 to 30,000 feet; tempera-

ture to be maintained at between 50 and 55 degrees Fahrenheit; that the steamer while so employed shall not carry in any hold or between any decks more than five tiers of barrels of apples or other fruit except they be stowed in such manner and in such tonnage as will relieve any tier from the weight of more than four other tiers; that the steamers when carrying fruit shall be run at an average speed of not less than twelve knots per hour."

#### A CURIOUS APPLE TREE.

WE take the following from a recent issue of the *Orillia Packet*: "A decided curiosity in fruit was left at the *Packet* office on Saturday by Mrs. Silas Prophet, of Atherley, in the form of a stem from an apple tree, bearing from one bud a fair size apple, a crab apple, and a pear. The freak grew on a tree in the orchard of Messrs. Gaddey Bros. The tree has produced a number of the oddities, but most of them had been eaten by the children. The pear is well formed, but otherwise it resembles the apple in appearance, having the same coloring and markings. Mr. Wellington Fisher, to whom the

*Packet* showed the odd combination, thought it most remarkable and worth preserving."

We show an engraving of this curiosity, which will give our readers a correct idea of form, which is certainly a monstrosity. It has no other value, however, for the flesh of apple, pear and crab are all apple.

#### A LANDSCAPE GARDENER'S CRITICISMS.

WE take it as a compliment that such a man as W. H. Manning, so long Secretary of the American Park and Out-Door Association, and a landscape architect, should find interest in our journal. In a recent letter he writes:

The "Flower Garden and Lawn" always has something of interest in it. I see this time that you have the garden of Mr. R. S. Anderson, where I should judge some man who likes freaky stone structures has been in charge. Certainly the effect is not a good one from a landscape architect's point of view, whose purpose it is to make an attractive picture in which no one object will be unduly obtrusive. The little glimpse of a street car used as a summer-house on Main street is very interesting and rather more attractive. The garden at Bowbrook is certainly an attractive one, although here I should think there had been an attempt to introduce too many curious conceits in the way of artistic structures. Mr. J. M. Hall's garden at Hamilton interested me rather more than the others in a way, because it is evidently not the work of a gardener but that of a flower lover who has a more definite purpose in view than the display of plants, pots, rockeries, and the like. This little place will be a gem in its way. Notice, if you will, how well the fence is being covered, and how soon the existing growth will so completely cover it that it will merge into the distant landscape. I have written Mr. Hall, asking him if he can let me have a copy of the photograph that is reproduced in the *Horticulturist*.

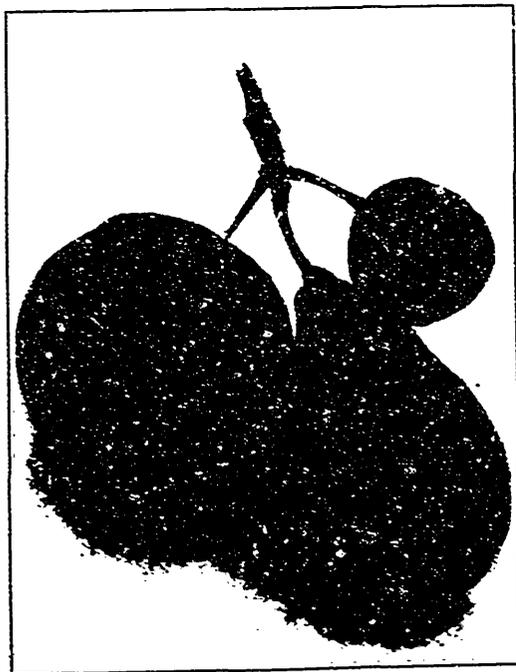


FIG. 2451. PEAR, APPLE AND CRAB ON ONE BRANCH—A CURIOSITY.

## CHEAPEST AND MOST EFFECTIVE SPRAY

A PUBLIC DEMONSTRATION IN MR. ARCHIBALD'S ORCHARD NEAR ST. CATHARINES—A THRESHING ENGINE UTILIZED TO COOK THE LIME AND SULPHUR WASH—INSPECTOR FISHER'S PERSEVERANCE BRINGS SUCCESS.



FIG. 2452. ORCHARD SPRAYED WITH LIME AND SULPHUR MIXTURE.

THE Hon. John Dryden has recently received the report of the San Jose Scale Commission on Mr. Geo. E. Fisher's work as inspector, and these gentlemen have expressed themselves fully satisfied with the results attained thus far.

For fungous diseases of fruit trees of all kinds, and for scale insects, a winter or spring application of the lime and sulphur wash was found to be the best and cheapest remedy, and this in the opinion of Mr. Fisher, might be profitably applied to one's whole orchard whether affected by scale or not, because it cleansed the bark and made the tree more vigorous.

On Wednesday, the 19th, an orchard demonstration meeting was held on the farm of Mr. Archibald, near St. Catharines, at which a large number of fruit growers were present, and in addition, as representatives of the Government, Mr. G. C. Creelman, Secretary of our Association, Mr. Alexander

tor, and Mr. L. Woolverton, Secretary of the Ontario Fruit Experiment Stations.

The great objection so far offered to the use of this remedy was the trouble of preparation, but here we found Mr. Fisher preparing it in a wholesale way, and at a cost of only about  $1\frac{1}{4}$  cent a gallon, or about  $\frac{1}{8}$  the cost of whale oil soap. Twelve kerosene barrels were arranged in a row, as shown in our engraving, and the contents kept boiling by the steam generated in the threshing machine boiler at the end, and conducted to each barrel by gas piping. The formula used was one pound of lime to one half pound of sulphur in one gallon of water, all boiled at least two hours, and applied hot. If allowed to cool before applying, a chemical change takes place which renders it less effective. After Mr. Fisher had explained the process of preparation, the crowd retired to the orchard and examined trees McNeill, of Ottawa, Dominion Fruit Inspec-



FIG. 2453. BOILING LIME AND SULPHUR AT McCARDLE'S.

treated last spring with this mixture, and others treated with whale oil soap; and while none of the trees were completely cleansed of scale the former were in better condition than the latter.

Mr. McNeill suggested the use of the small agricultural boiler for individual farmers who could not co-operate; to this Mr. Fisher assented, saying it could also be done in a still smaller way in iron pots over

an out-door fire, but of course would be much slower and more expensive.

When should it be applied? Some one asked.

In early spring, said Mr. Fisher, usually in April. It only needs to be applied once a year, and of course it is not a suitable spray for the foliage. If a summer remedy is needed, an emulsion of crude petroleum and water is recommended instead.

## MEN WHO HAVE SUCCEEDED

JOHN CLAUDIUS LOUDON — THE FATHER OF  
HORTICULTURAL JOURNALISM—LANDSCAPE GAR-  
DENER — TRAVELER — JOURNALIST — AUTHOR.



1782 John Claudius Loudon 1843.

English horticultural literature than his, but his fame was earned by the most intense study and application. Now-a-days it seems the fashion among many students to affect to despise hard study, and to impress their mates with how much they know with the least application. Success is not so attained; it is only secured by hard persevering labor.

Born in 1782, the son of a farmer, he was early encouraged in his tastes for gardening by being apprenticed to a Mr. Dickson, Nurseryman and "Planter" at Leith Walk, Edinburgh. The time was most opportune, for like the swinging of a pendulum, the ideals of garden design were just ending a great revolution, and turning from the extreme of the formal or architectural style, which had prevailed in England during the early part of the 18th Century, to the landscape gardening style, which gave more freedom of conception, while adapting nature's best examples to the park and garden.

Mr. Loudon's work as a draughtsman of estate and garden plans, brought him into acquaintance with men of refinement and education, such as Sir Joseph Banks, of

**T**HE old Latin Proverb, "*Labor omnia vincit*," has been often quoted and perhaps in no case is it more clearly demonstrated than in the life of John Claudius Loudon. There is no name more prominent in

London, and other men of eminence, from whom no doubt he gathered much that inspired his pen in later years. His first published book was "Observations on the Formation and Management of Useful and Ornamental Plantations, and on the Theory and Practice of Landscape Gardening" and this appeared in 1804, when he was only twenty-one years of age. How many young men of to-day have given the world such a work at such an age!

Previous to this he had contributed an article to "The Literary Journal," criticising the use of Scotch Pine and sombre Yew trees in the parks and gardens of London as giving altogether too gloomy a character to the landscape; and also advising the planting of the Thames embankment and Picadilly with those strong fine Buttonwood trees, which to-day are so essential to the attractiveness of those sections of the great metropolis.

When not engaged in landscape designs, Mr. Loudon wasted none of his precious time; he would either be engaged in writing some article for a journal, or some book for publication; or he would be reading Greek or Latin authors; or he would give attention to his favorite pastime the practice of painting, in which he was successful enough to have one or two of his pictures hung in the Royal Academy.

In 1813 Mr. Loudon visited Gottenburgh in Sweden, to see Linnaeus, the great father of Botany; thence he journeyed on to Berlin, to Riga and St. Petersburg, "proceeding," says the Journal of Horticulture, "he wended his way to Moscow, on which journey he got fixed in a snow storm. His horses were unable to extricate his vehicle, and judge of his consternation when he saw his postillions unyoke their horses and ride off. He remonstrated; he pleaded that he would surely fall a prey to the roving wolves, or, if he escaped them the awful cold would overcome him. He was calmly told to go inside his vehicle and

securely fasten the windows, upon which no harm need be feared; and the drivers added, as they rode off, that they would be back early the next morning with extra horses. And so they left Mr. Loudon alone on a Russian waste, with a snowstorm in its fury around him and the howls of the wild wolves borne in ghoulisn discord upon the screaming winds. Well might he cower and dread the worst; it would be a test to the nerves of even the Great Duke, and the memory of one moment in that awful night when a pack of wolves crossed the road where he was held was never forgotten during the remainder of his life. Returning via Prague, Dresden, Leipsic, Magdeburgh and Hamburg; the itinerant again landed in England on the 27th of September, 1814." During this long and interesting route of travel he had sketched views of every place of any gardening merit, and had, of course, made copious notes, which are found in his "Encyclopædia of Gardening." He had made himself known to most of the leading scientists, and had been elected Member of the Imperial Society of Moscow, the Natural History Society of Berlin, the Royal Economical Society of Potsdam, and many others.

The loss of his fortune, through an insecure investment, added necessity to love of work as an inspiration to his zeal, and in addition to several books which he was writing, he established in 1826 "Loudon's Gardeners' Magazine," which was continued until his death in 1843.

He was married at the age of forty-seven to Jane Webb, herself an authoress, and the two were most congenial and devoted to each other; and to her we owe an excellent memoir of his life written for his last work, "Instruction for Young Gardeners," which was not quite finished at the time of his sudden death.

Perhaps his greatest work was the "Arboretum et Fruticetum Britannicum," which

is still the best illustrated work of its kind, and considered indispensable by students of botany. It was five years in preparation, viz., from 1833 to 1838, and in its accomplishment he spared neither labor nor money. He resolved that all drawings should be made from nature, and employed seven artists constantly at this work, accompanying them during the day, and working on the literary part at night, even until the small hours of the morning. No wonder he was deeply in debt when it was all finished, to artists, printer, stationer and engraver; and the amount would have staggered any ordinary man, for on counting up the cost he found it no less than \$40,000, and to the end of his life he was engaged in the almost

superhuman effort of clearing off this mighty debt.

In speaking of his illness Mrs. Loudon writes: "I feel that I cannot continue these melancholy details; it is sufficient to say that though his body became weaker every moment, his mind retained all its vigor to the last, and that he died standing on his feet. Fortunately, I perceived a change taking place in his countenance, and I had just time to clasp my arms around him and save him from falling, when his head sank on my shoulders, and he was no more."

And Mr. Wm. Paul, the great nurseryman of Waltham Cross, who knew him personally, says of him, "Loudon was the greatest Horticulturist England has ever known."

## BY-PRODUCTS OF APPLES.

The Vermont Experiment Station has been investigating various methods of utilizing the by-products of the apple. Cider-making, the station declares to be unprofitable if carried on by the use of hand-grinders and presses. On an average it required one bushel of apples to make two gallons of cider, while with modern machinery and an eight-horse power gasoline engine a bushel of apples would make four gallons of cider at a cost of 2.3 cents a gallon. They found making apple jelly from cider to be profitable. A hundred pounds or eleven gallons of cider would make twenty-five pounds of pure jelly, at a cost of about one cent a pound for the cider used, that is, twenty-five cents worth of cider for twenty-five pounds of jelly. For table use one pound of sugar for each five pounds of jelly, and the material costs about three cents per pound of the finished jelly. Marmalade was made by cooking the apples in cider, and eighty

pounds of fresh fruit, eight gallons of fresh cider, and thirty-five pounds of sugar, making 116 pounds of marmalade, which, with the apples at twenty-five cents a bushel and cider at 2.3 cents a gallon, cost less than two cents a pound for materials. When the fruit was pared and cored by hand, it lost over twenty-five per cent. in weight, but when put in whole, and put through a colander after it was cooked, it lost but five per cent. In making vinegar, they found that the common method of allowing the cider to ferment and sour at will was unprofitable. To add vinegar mother and cultures of acetic acid and controlling the temperature, good vinegar was made, but the process was slow and wasteful. To mix equal parts of fermented cider and old vinegar changed the whole to good vinegar quickly, but this requires keeping on hand a large stock of old vinegar.

## FRUIT TREES—PRINCIPLES REGULATING GROWTH.

**I**N studying methods of manuring orchards, it must be admitted that the general principles which apply to fruits apply quite as well to vegetables; that is, the essential constituents of manures must be the same. A fruit tree will not make normal growth in a soil destitute of nitrogen. That nitrogen encourages leaf-growth is a recognized fact, and since trees grow by means of leaf and root, its presence is required in the soil in order to promote the growth and extend the life of the tree. It is very evident, too, that potash is an essential constituent in the growth of fruits, not only because it constitutes a large proportion of the ash of the wood of the apple, pear, cherry and plum, and more than 50 per cent. of the ash of fruit, but because it forms the base of the well-known fruit acids, and in order to nourish a tree properly as well as to ensure proper ripening, phosphoric acid is also very necessary. It is also a matter of common observation that, in the production of stone fruits particularly, lime is an important constituent. Its function seems to be to strengthen the stems and woody portion of the trees, to shorten the period of growth, and to hasten the time of ripening. Fruit trees growing on soils rich in lime usually show a stocky, steady, vigorous growth, and the fruit ripens well; while these on soils which contain but little lime, particularly the clays, appear to have an extended period of growth, the result of which is that the wood does not mature and the fruit does not ripen properly.

Nitrogen is particularly efficacious in promoting growth. In fact, the amount of growth and the color of foliage are reliable guides for the application of nitrogen. When

mature or bearing trees make a foot or more of growth upon all shoots, and when the leaves are of good size and dark green colored, the soil probably has enough nitrogen. A free application to such soils of the element nitrogen might do more harm than good in promoting growth at the expense of fruit.

### TILLAGE AN ADVANTAGE.

In general it is better to supply nitrogen by good cultivation, which assists nitrification in the soil. If the trees do not make sufficient growth and are yellowish in foliage, good cultivation begun early and repeated very frequently in connection with the use of potash and phosphoric acid, will usually correct it.

Potash is generally the most important ingredient to be applied directly to orchards, particularly after the trees have reached mature age. The store of available potash in the soil is much increased by the thorough tillage which has already been recommended, but in fruit-bearing orchards potash should also be supplied in some commercial form, as sulphate or muriate of potash.

In general phosphoric acid is probably less important in fruit production than potash, although it throws the tree into fruit quicker, and has a most beneficial influence on the growth of the wood and leaves. The best form in which it may be applied to trees is probably by bonedust, and half and quarter-inch bones. The coarser the bones the heavier should the dressing be.

The amounts of manure to be applied depend upon the character of the soils, the kind of fruit, and the age and vigor of the trees.—*Gardeners' Chronicle*.

# MARITIME FRUIT GROWING

PRINCE EDWARD ISLAND RAPIDLY COMING  
TO THE FRONT AS AN APPLE COUNTRY—  
NOTES FROM OUR SPECIAL CORRESPONDENT.

**W**HILE the crop of apples has been short in Nova Scotia and the luscious Gravenstein is very little in evidence this fall, Prince Edward Island, under its excellent F. G. A. organization, presided over by our friend Rev. Father Burke, seems to be rapidly coming to the front as a fruit-growing province. In apples, plums and pears she has made wonderful and permanent progress; and now it appears there is ample evidence that she can grow peaches. A splendid specimen of the Elberta species three years from planting was put on exhibition recently at Charlottetown by Mr. Murchison of Bonshaw. Islanders are pleased with themselves.

The cold and wet weather of spring played great havoc with the fruit prospects of Nova Scotia. In blossoming time there was very damp weather, and the pollen was not as a consequence distributed. The Gravenstein is almost a complete blank, despite a perfect profusion of bloom. Later bloomers seem to have done better. Baldwins and Ribstons are a good catch and the quarter crop of the province is made up of these and some early varieties. Commercially, Nova Scotia is not likely to compete very largely in the foreign or domestic markets this year.

New Brunswick never attempted, to any extent, fruit-growing. Not that apples cannot be grown there successfully, but somehow or other the spirit of organization, which does all things now-a-days, has not invaded her. She has had nurseries, has made her own of the Duchess, for example, which is everywhere grown in the Maritime

Provinces under the name of "New Brunswick," but has not induced the people in any numbers to take to orcharding.

Little Prince Edward Island, garden from end to end, shut out from the possibility of manufacturing by its insular position, has been casting about to develop all its agricultural possibilities. Fruit growing is among them decidedly; and of late it has made gigantic strides there. The Federal Government has given the F. G. A. two skilled instructors, who have travelled over the Island from end to end this season and held demonstration classes in all the wide range of horticultural work. They have got into as many individual orchards as time would permit, and proved the wisdom of Father Burke's contention at Cobourg last year, that missionary work in horticulture is best done in the orchards of the class of farmers needing instruction of that kind. A small province like P. E. I. lends itself admirably to this work.

The Exhibitions have been dissappointing in the fruit departments this year at Halifax and St. John, while Charlottetown's display has never been excelled in the provinces. The Maritime Farmer, of Sussex, N. B., thus alludes to this feature:

"At this point (the fruit stands) came a revelation of the show and it is apparent that in the future, and in the very near future at that, Prince Edward Island must be reckoned with in the fruit markets of our country. It is not alone the question of quality but quantity as well." The writer, Editor Ross, himself an Ontarian, and well qualified to judge, reviews lucidly the large

lists of kinds on exhibition and praises the men who are rapidly bringing the little Island to the front as a fruit country.

"There was one group" he says, "which could always be found gathered around these tables in the centre of the building. It consisted of Rev. Father Burke, the aggressive president of their Association, beaming on everyone as the surprise of the visitors was voiced; Secretary Dewar; Inspectors Richard Burke and G. H. Vroom, who have this summer been strong in preaching the gospel of good orcharding on the Island; Senator Ferguson; and John Robertson, of Inkerman, the largest orchardist of the province, we are told. These men have a right to be enthusiastic. The possibilities of orcharding there are beginning to reveal themselves and the future is one of great promise. Father Burke informed us that next season will witness a readjustment of their prize list and a weeding out therefrom of all but the commercial varieties. He argues, and is supported by his executive, in favor of an exhibition work which shall not only be illustrative but educative in that it will endeavor to discourage orcharding which is other than of the dollars and cents description. This is as it should be."

Some who go to apple shows to see all the different varieties on exhibition may not

be over pleased with this resolve of the practical officials of the F. G. A., but, on the whole, its wisdom will commend it to all fruitmen.

The prize list appears to have comprehended about all the commercial varieties and an exhaustive list of others. It will be interesting to see what those gentlemen discard as a means of comparison with their own tastes and necessities in this important matter. To the surprise of many the Island beat Nova Scotia in their own Gravenstein. And she may excel us in growing Ontario apples.

Already P. E. I. has sent forward a considerable shipment of fruit, apples principally, to Great Britain in the Manchester Trader. She has many more to send and may be now regarded as established in the business. Large orchards of a single kind are coming on and soon it will be a pleasure for the buyer to extend his operations to "The Garden of the Gulf." We hope the good name it enjoys for honest packing may never be impaired and that the commendable efforts of its progressive F. G. A. officials may continue to bear good fruit. A large commercial concern for preserving and canning is now on its feet on the Island, and must assist those patriotic men to the immediate expansion of the fruit industry.

## RECENT RESEARCHES IN THE ORIGIN OF SPECIES.

SINCE Darwin advanced his theory of the origin of all species of plants by natural selection, scientists have, to a great extent, spent their time in speculating as to the various factors in evolution and the methods of inheritance and descent. A few, however, have depended largely upon the result of direct experiment with the plants and animals themselves. Instead of looking around for a ready answer in nature to every question they find in their re-

searches, these men take the living things and, by years of experimental research with them, secure the desired information. Among such men are Dr. White, of the Smithsonian Institution, Washington, and Prof. Hugo de Vries, Director of the Amsterdam Botanical Garden. As a result of his labors, de Vries now gives to the world a new theory, that of the origin of species by imitation or sudden change.

In support of this theory, Dr. White, in

an October issue of *The Independent*, tells of a rather remarkable experience with tomatoes, an experience which he thinks goes to show conclusively that varieties can originate by sudden change or mutation in the seed plants. He first points out the botanical classification of the tomato, and divides the group into three forms, known as *Lycopersicum esculentum*, *L. solanopsis*, and *L. latifoliatum*, respectively. Each one of these includes some of the large number of varieties catalogued by our seedsmen; yet each form is readily distinguished by differences of flower and leaf, and of general habit and relative size of the plants. *L. latifoliatum* is represented in our Canadian catalogues by the variety Mikado or Turner's Hybrid, while a good example of *L. esculentum* is the Acme.

Now Dr. White's experience was as follows: In 1898 he obtained some seed of the Acme, raised the plants and set out his small plot of about thirty plants. These grew and fruited, and were typical of the variety in every way. Seed was saved from some of the best fruits and plants raised therefrom in the spring of 1899, with the expectation of obtaining a crop of Acme from them. Dr. White thus describes the result: "The seeds germinated promptly and the young plants grew healthfully, but from their first appearance above ground they showed a marked difference from the Acme plants from which they sprang. When they reached the fruiting stage they had all developed into typical representatives of *Lycopersicum solanopsis*. To put the matter in the strongest light, I repeat that the whole crop changed uniformly and completely from *L. esculentum* to *L. solanopsis*, the change having taken place in the germinating seeds, which I planted in the spring of 1899. Not only was there complete plant mutation, but the fruit differed in flavor, consistence and shade of color from that of the parent Acme plants, and it also ripened earlier than did the latter.

Unfortunately, Dr. White did not save any seed from this new type. In 1900, however, he replanted with Acme, to see if the same result would follow. The seed was obtained from another source, a hundred miles from Washington, and the plants raised therefrom came true to type. Special care was exercised in the selection of seed from typical plants both as regards plant and fruit. This seed, sown in 1901, produced plants with the same characteristics as those of 1899. Exactly the same change had occurred in both these years.

Both White and De Vries prove conclusively that the changes in the plants under their observation were not the result of hybridization, as many would contend. If not hybridization, then what? The new plant form appeared suddenly with all its characteristics in full perfection. It was perfect upon its first appearance, and constant in its progeny. Such being the case, then varieties may originate by sudden change or mutation. As De Vries says: "Varieties may originate by one or two other methods, yet some undoubtedly did arise by mutation or abrupt change, an instance which came under my observation."

This theory is not in any way opposed to that of evolution, but simply furnishes a concrete example of the way evolution takes place. It appears to those who doubted the statements of many scientists that life has existed on the earth for a period of time almost beyond human comprehension. So, too, it allows of those who still believe in the special creation of species a right to a place among rational scientists. De Vries thinks it is possible to study the production of such new forms as observed by White and others, and to ascertain the laws which govern them. Then, with a thorough knowledge of these laws and the causes of mutation, one might even aspire to attain a method of producing the new forms at will.

P. W. H.

# THE CEDARS OF LAKE COUCHICHING

BY

T. H. RACE

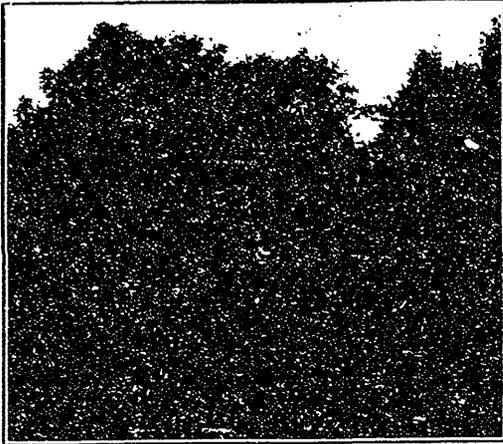


FIG. 2485. CEDARS AT THE HERMITAGE, ORILLIA.

THE photo engravings which illustrate this article will give one but a poor idea of the beauty of the trees they are intended to represent. What is there in tree or shrub in all America more beautiful than the common cedar, or American Arbor Vitæ? The cedars of Lebanon were noted for their size; those of America for their natural and artistic beauty, but if left to nature these will attain a symmetry in form, and a compactness in growth unequalled by any other evergreen. In a hedge, or clipped into any of the grotesque shapes in which they are often seen, they will stand more abuse and live longer than any evergreen we have for a similar purpose. The objection is that they are too slow in growth, and in place of them the Norway Spruce is too often chosen in preference. We admit the objection, but it sometimes pays to wait.

If left to nature, the spruce for the park or lawn will grow more rapidly, but it will

be loose, open and sprawling, and in a few years become more or less disfigured and dirty from the dead and decaying inner branches. The cedar, on the contrary, will grow compact, faultless in shape and will always be clean. If used for a hedge, or trimmed into some unartistic shape as is often the case, the cedar will endure for years and revive its freshness as if ever young, while the spruce will after a few years begin to show its inner dead branches, as mentioned above, and from that its beauty is always more or less marred.

My natural admiration for our native cedar was greatly strengthened by a recent visit to Orillia, and to the home of our Director, Mr. C. L. Stephens, on one of the points projecting into Lake Couchiching. More beautiful cedars, left entirely to nature, I never saw than those growing irregularly on the somewhat extensive grounds about this home, known as "The Hermitage." The views given show the pathway through

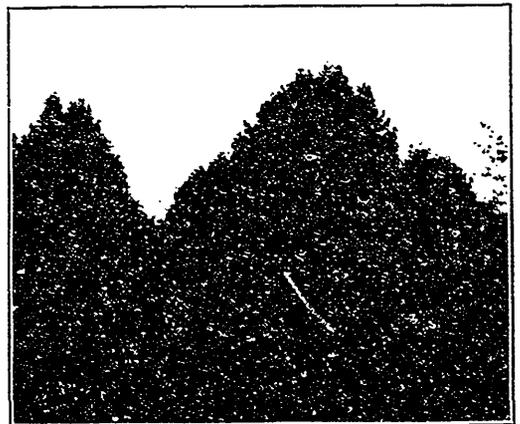


FIG. 2486. AT THE HERMITAGE.

the cedars leading to the home from two different directions. The trees are a uniform height of about thirty feet, and they form a natural grove several acres in extent, through which winding paths run. Through one of these views may be seen a large spreading beech, which stands almost in front of the house and on the edge of the tennis lawn, and under its spreading branches, it is said, one may enjoy almost a cold storage temperature the hottest day in summer, with the healthful aroma of the cedar all about.

Every defect in nature, it is said, has its compensations. A defective summer will sometimes lend an additional charm to the autumn. These cedars furnish an example. Their deep green and autumn freshness was never before so marked. The continuous rains of the past summer which gave our director, Mr. Stephens, cause to deplore the

spotting of his apple crop and the unripening of his grapes, gives him compensation in the added freshness of his cedars, and the additional charm they impart to his whole surroundings. Nature has done much for Orillia in the way of scenic beauty and natural forest growth; and its enterprising citizens are with admirable taste adding to its attractions by a judicious system of tree planting. But nothing within the environments attracted my attention so much as its handsome cedars, growing promiscuously everywhere, but nowhere to such perfection and beauty as on the natural grounds about "The Hermitage." I question if the Crimson Rambler Roses, referred to in the September number, could possess a greater charm for the true lover of nature than those cedars, arrayed, as I saw them, in their autumn dress of living green.

## FRUIT AT SAULT STE. MARIE

A FEW FACTS CONCERNING FRUIT GROWING IN THE NORTH, TAKEN BY AN INTERESTED OBSERVER AT THE FALL SHOW, SAULT STE. MARIE, OCTOBER 6TH.

THE first thing that takes the eye of a stranger on approaching the tables—that is one who is somewhat familiar with fruit exhibits in Eastern Ontario—is the blaze of color. He will say to himself, these apples are much higher colored than ours are. Then the very large will likely catch the eye. These will be found to be Alexanders, an apple particularly adapted to northern climates, and grown here without that objectionable coarseness of flesh common in what is usually considered more favorable localities. Gideon, an apple not much in favor in the east, is a valuable and reliable apple here; tree hardy, fruit not subject to decay at the core as when grown

further south. Charlemoff, our best early fall apple, is past its season at this date, but is perhaps the handsomest apple we grow; its only fault is shortness of season. It is better every way than the Yellow Transparent, the trunk of which, notwithstanding its reputed hardiness, is liable to sunscald. Duchess also is a superior apple as grown in the north. In speaking of this apple, an interesting discussion took place among the exhibitors as to whether there were two distinct varieties of this fruit, one with color, more solid, and which will keep two weeks longer than the other, the color of which is more approaching the St. Lawrence. This apple has been more exten-

sively planted than any other, has proved itself the hardiest of all apples, and brought in more money than any other. At this date it is at its best for eating from hand, but for some reason it is keeping longer than usual this year. It is usually past its best by Oct. 1st. Yellow Transparent makes a good appearance on the tables, but is past its season now. Many other fall varieties are shown, but those mentioned are most in evidence.

In winter apples, and we call it a winter apple here, notwithstanding the decision of the Horticultural Society, Wealthy still stands ahead of all others. It has perhaps the fewest faults of any winter apple we have. It is not quite perfect, has a habit of growing its fruit out at the end of its long, slender branches, and we want an apple of just as good quality and productiveness that will keep just a little longer. Wallbridge is the most highly colored apple we have, a long keeper, but that is about all that can be said in its favor, except that it is quite hardy. Scott's Winter, a pretty little apple, is too small; a great many go to a barrel. Golden Russett is larger, and will average nearly as much to the tree as the former, and is more durable. Ben Davis, as grown here, has nothing to recommend it. The appearance is enough to give one a fit of indigestion. I do not think it will ever amount to anything here. Tallman Sweet is coming to the front, and in its own place promises well. Longfield is being extensively planted, but has little to recommend it except its extreme productiveness and early bearing, but perhaps more of this variety is being shown than any other. What your late president, Mr. Orr, has been pleased to name, Algoma Seedling, has taken first prize for the last three years shown as any other winter variety not specified, is certainly a large and exceptionally fine apple, keeps until April, quality the best, a regular and heavy bearer, with dark green

foliage, its fruit being well distributed along the branches. I will see that a few specimens are forwarded to Walkerton in time for your meeting. If it is a seedling, it should be propagated, for we have no apple that so completely fills the bill for winter. If want of color is not against it, it is absolutely faultless. Some of your best apples are conspicuous by their absence here. Spy, King and Baldwin, I am pretty safe to say, have never produced a single specimen in this part of Algoma, at least I have never seen any and do not know of anyone who has. The dead tree with the tag attached is all that remains of the many dollars that have been sent east for them. Taken altogether, the apple exhibit at Sault Ste. Marie would compare favorably with any of greater size along the lower lakes. The collections, of which there were several, numbered about thirty varieties, and not a scaly apple to be seen, our summer, from June, being very dry and unfavorable for the growth of scab.

Pears I may dispose of at once by saying we were not in it up to this time; failure has been the result of our efforts. A few specimens were on exhibition, but I do not think you would call them XX; still, we hope to do better in the future.

Plums were very good, and although rather past the season, some remarkably good fruit was shown, among which I notice Reine Claude and several of the Japans; in fact the majority were Burbank and Ogon. Several Americans were noticeable, but their appearances were against them.

Of grapes there was a wonderfully good display, not at all to compare with anything south of us, but enough to show that it is quite possible to ripen anything not later than Concord around Sault Ste. Marie.

Crab apples, although not a very desirable fruit to grow in Eastern Ontario, are valuable here. If I may judge from the few barrels sent up to Sault Ste. Marie from the east, the sooner you quit trying to grow

them the better it will be for your own credit. I think the plates of Hyslop and Martha shown here would be rather a revelation to you. On making a careful exami-

nation of all fruit shown, I failed to see any vestage of scab or worm.

Algoma Fruit Station,  
St. Joseph's Island.

C. YOUNG.

## CARE OF BLACK RASPBERRIES

A BERRY CANE WILL BEAR ONLY ONCE.

**T**HE crop of black raspberries depends on the new growth made this year.

It is a surprising fact—one hardly to be believed, but true,—that not one man in five among farmers knows that a berry cane only bears once. I have seen men, otherwise quite intelligent, trimming up the old canes, thinking to get a second crop. Even growers of small fruits only half realize the fact, and leave the canes to grow as they will during the summer without pruning or any care.

The long, overhanging cane sways in the wind and breaks beneath the snow, the grower saying: "I guess we will have to stake and wire them," which is a needless expense if they are properly cared for. Some experiment stations claim to find a diminished vigor where summer pruning is practiced. So the tendency seems to be toward "the survival of the fittest" plan and a "go as you please" policy.

After growing raspberries for twenty years with success, and picking seven consecutive good crops from one field. I do not take any stock in these mentioned plans. I think it possible to keep a field in good heart and make it bear fine crops for many years by careful attention to the growing wood, to the diseased plants, and with plenty of manure. A single handful of high-grade fertilizer per hill only takes two or three hundred pounds, and if applied around the hill in spring is paid for in berries; but

I apply it for the promotion of new growth. It's not too late now. Plowing the soil toward the plants and then harrowing it down level kills weeds and hastens growth. Pinching off the soft green end stops the upward tendency and causes the side buds to start. A pinched back, tree shaped, low bush is well balanced, and neither snow nor wind will affect it; but the main object is to increase the fruit bearing surface. If left alone you have one long cane. Pinched off while soft, green and growing, at two feet high, you probably will have five good laterals, or five times the surface for fruit to grow on.

Cutting back the laterals in spring to eighteen inches will cause them to throw out side shoots, and you have six on each side lateral, or thirty spurs for fruit bearing, as against the one long cane when not pruned. The objection of too much fruit, small in size, is overcome if the land is rich enough. The objection of loss of vigor, by check from pruning, is also overcome by more fertility. It is difficult to see how cutting out the soft first inch or two with thumb and fingers, should shock the plant. Nature prunes with wind, hailstorms and insects which girdle the top, lay an egg and stop all growth above the girdling.

We grow berries for the money, not for fun; and to make them profitable we must have "quarts of 'em" per acre, and a place for them to hang. Our method is to cut

out and burn the old wood as soon as possible after the crop is harvested. Then the plant food obtained by the roots can all be applied to new growth, and none of it goes to mature the old wood and leaves. By removing the old wood we prevent further maturing of blight, parasites, and also get rid of insect foes of all kinds. Much more can be done by preventing the spread of disease than by applying remedies to cure it. The old wood out of the way, the new has a chance to grow without being crowded out of shape, and is not pushed over into the row. The new growth at this time does not take the room it does later, and the horse and cultivator can be run closer to the row. Immediately after cutting out the old canes—in August in this section—we usually have

hot weather, and the cultivation will kill most of the weeds without much hand labor, and one day then will accomplish more than three in the spring.

When set in rows both ways, even at three feet, the narrow way, one can get through with horse and cultivator at this time, reducing the time required to work out the weeds to a minimum, because the new growth is small. The rapid growth resulting from the cultivation given usually brings the side branches to the ground, and the tips can be set in for plants. The sale of these will sometimes pay the whole expense of caring for the patch. If no plants are wanted, after the leaves drop trim back to the bend, which will leave them stiff and unbreakable.—*N. Y. Tribune Farmer.*

## AGE OF THE ORANGE TREE.

Major D. F. Allan, Grimsby, kindly sends us the following which may interest some of the the Canadian Horticulturist readers :

In the orangery at Versailles is an orange tree raised from seed sown in 1421.

There is another in the yard of the convent of St. Salvina, at Rome, said to have been

planted by St. Dominic in 1200.

In the neighborhood of Finale is an orange tree which bears nearly 8,000 oranges in a single year.

There are in Holland many orange trees which have been in the family 200 and 300 years; one at Versailles has on it this inscription, "Serre en 1421."

## THE WEALTHY APPLE.

Sir,—The Wealthy is a good deal grown here for local use and is only an October apple. It will keep in a sort of way till Christmas but gets very soft and tasteless, and is really past its best by the first part of November. The McIntosh seems to take better than the Fameuse and keeps a little better, keeping all right till March, while the

Fameuse loses flavor after January; but the Pewaukee will keep till the new crop, and is good from 1st December. It is not quite up to McIntosh or Fameuse but is not far behind as a dessert apple. I have kept it in first class shape with just ordinary care in a dry cellar, till the middle of June.

A. HARKNESS.



## EDITORIAL NOTES

### THE PARK IDEAL.

JUST now when our American cousins are waking up high ideals of landscape beauty, and when nearly every city is planning on a park system which shall give their people the pleasure of country drives almost in the very centres of commercial life, it becomes us in Canada to shake off our lethargy and see to it that we are not behind in this splendid movement.

We have already referred to the work undertaken by the Hamilton Horticultural Society in connection with the League of Civic Improvement, but it is time the city fathers began to plan greater things. Dundurn

Park and the Gore Park, for example, have long been a credit to that city; but these are too limited for a growing city; and it would be a happy movement if a more extended area could be secured along the water ways to the west, which could in time be laid out in beautiful drives, and possibly connected with Dundurn by an avenue which would afford a beautiful outing for the citizens. Too often, in the use of water, beauty is sacrificed to utility, which in a park is a wrong ideal. For example, figure 2487 shows a cheap and unattractive iron bridge, which from the utilitarian point of view would be most desirable, but in a park would be entirely out of keeping with its surroundings.



FIG. 2487. UTILITARIAN, BUT NOT ARTISTIC.



FIG. 2488. A COMBINATION OF USE AND BEAUTY.



FIG. 2489. VIEW IN DUNDURN PARK, HAMILTON.

To one familiar with the beautiful and artistic Suspension Bridge over the Niagara river, what a feeling of depression comes in viewing the present clumsy structure, which is entirely devoid of beauty; however, in this case beauty is secondary to utility, and we must submit without criticism; but in the park it is entirely different, for here the highest ideal is that which most conforms to beauty and harmony. How much better for example, such a bridge as that represented in figure 2488 for crossing a stream in a park; a structure that combines beauty with durability, and will never offend the eye of the most artistic visitor.

#### THE VALUE OF PARKS.

**E**VEN from a financial point of view, the citizens of Canadian towns and cities

can no longer afford to overlook the public park. Not only is the town itself made more attractive to a wealthy class of buyers, and to people of cultivated taste, but the value of real estate will also be advanced by attention to the beautiful in landscape surroundings. Kelsey in *American Gardening* says on the subject:

“Few persons, outside of those having given these subjects special attention, appreciate to what extent the development of a park system accentuates the æsthetic and material growth of an urban community, or how, in order to secure the best results, the improvements should be carried forward under a comprehensive plan and fixed purpose until the end is attained and the system well established.”

The experience of almost every growing



FIG. 2490. THE ARCHWAY, DENISON PARK, HAMILTON.

city, both in this country and in Europe, vindicates the correctness of this statement. While the work of creating a park system is going on and the costly improvements are under way there is invariably criticism and honest difference in conviction as to the plans and the advisability of the expenditures. But when the work is once accomplished and the people have before them the object lesson of a continuous park and parkway development, uniting the varied attractions and benefits into a harmonious whole, doubts and misgivings give way to civic pride, complaints to compliments, and the fear of unreasonable cost changes to gratification at the result. The time has passed

when public funds well spent in a park system can be considered other than advantageously invested, any more than county or municipal expenditure for roads, schools, hospitals and city buildings can be deemed extravagances.

In all metropolitan or suburban districts, park attractions for residential and industrial sections are now great factors and constantly growing features of the times. They are necessities, not luxuries, not for any class or privileged few, but are priceless possessions for all the people and the one

place where neither social, financial, intellectual nor political distinctions give any one citizen rights, prerogatives or privileges over another.

#### BEAUTIFY THE SCHOOL GROUNDS

TO a Canadian whose taste for landscape gardening has been cultivated by travelling, it is very disappointing to observe

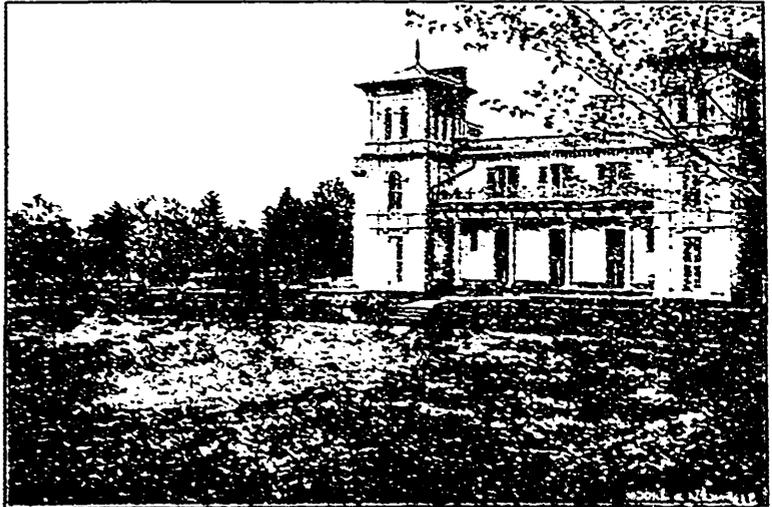


FIG. 2491. A BIT OF THE GARDEN AND LAWN, DENISON PARK, HAMILTON.

the extreme neglect that characterizes the trustees of our town and country school yards. Here is the place where the ideals of the children are formed; every day they visit these yards and they become as familiar with them as with those of their homes; the period is the formative one of their tastes, and in maturer years these ideals of garden and lawn, formed in childhood, will be realized in their own home surroundings.

It is well that Mr. Gilchrist, in his address to Horticultural Societies, has been emphasizing the necessity

of an improvement in school surroundings, and we shall be pleased to give hints from

time to time in this journal for such work. The cuts on opposite page will impress the reader with the change that may be wrought by a little care in laying out and planting the grounds about even the humblest school building in the country; Fig. 2495, showing a neglected school yard, which, we regret to say, is only too often true to



FIG. 2492. MAHE TERRACE, DUNSTURN PARK, HAMILTON.



FIG. 2495. LANDLOVNE PARK, HAMILTON.

the conditions that prevail at present in rural school sections; while Fig. 2496 shows what a desirable change a little taste in planning and planting will produce.

BOYS' AND GIRLS' GARDENS.

THERE is a wide-spread movement to develop a taste for gardening in children. In Dayton, Ohio, forty boys' gardens were established in 1900, and the number was increased in 1901 to seventy-four, each 10 x 130 feet. A course of two years' garden-



FIG. 2494. WOODLAND PARK, HAMILTON.

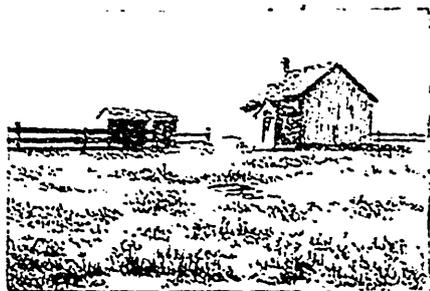


FIG. 2495. A COUNTRY SCHOOL HOUSE WITH NEGLECTED SURROUNDINGS.

ing is mapped out, and each boy completing the course gets a certificate. Clapp, chairman of a committee of the Massachusetts Horticultural Society, says, "The result of this garden work at Dayton has been most extraordinary. Slidertown

was one of the worst parts of the city, now it is one of the very best, and its change of name to South Park is indicative of the change wrought in every condition. Three of the worst boys were got rid of, and the rest were formed into clubs and brigades, and were given gardens and taught to respect themselves and the rights of others. Then the land rose from \$300 a lot to three times that amount; and the \$3,500 put into garden work carried on by the boys is said



FIG. 2496. THE SAME IMPROVED.

to be the best investment for the money that the N. C. R. Company ever made.”

The land, tools, seeds and instructor were furnished by the Company. Most of the boys supplied their families with vegetables during the summer months, and many earned enough money by the sale of vegetables not needed at home to pay for their school books.

The boys were given a supper, ten money

prizes amounting to \$35, five prizes each in the form of the Youth's Companion for a year, bronze medals and a stereopticon lecture by the president, Mr. Patterson.

Such an example is most worthy of imitation by other companies and associations having in view the uplifting and proper training of boys.



FIG. 2497. CENTRAL SCHOOL, HAMILTON.

## NEPHROLEPSIS PIERSONII.

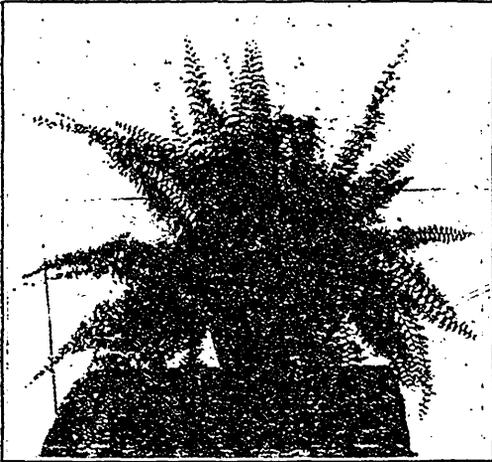


FIG. 2498. NEPHROLEPSIS PIERSONII.  
THE NEW VARIETY OF BOSTON SWORD FERN.

**T**HIS new and distinct type of this already popular fern promises to eclipse all of the older varieties in beauty and popular favor. Several of these plants,

as shown in the accompanying cut, were exhibited at the recent Horticultural exhibit held at Hamilton in connection with the Fifth Convention of the Canadian Horticultural Association, of which an account appeared in the last issue of the journal. It is needless for me to say the plants were much admired, the beautiful feathery appearance of the pinnace on either side of the main stem giving it a most attractive appearance. Mr. Pierson, who was present at the exhibit above mentioned, is to be congratulated on the introduction of this decidedly pretty and novel addition to these already popular and highly decorative class of ferns. Mr. Pierson informed me that he was not certain whether this new variety was a seedling or only a distinct variation of type, as its discovery was purely accidental. I am indebted to Mr. Jas. Gadsby, of Hamilton, for the accompanying photo of his fern.

W. HUNT, O. A. C., Guelph, Ont.

## THE CARE OF PLANTS IN THE WINDOW.

**I**N order to grow plants well in the house they must have plenty of light. Unless this can be given, they will be spindling and weak, and there will be few, if any, flowers, and these will be inferior.

The best exposure is a southern one; the next best an eastern one. A south window is the one in which to grow geraniums, lantanas, heliotropes, and all plants fond of much sunshine, while the eastern one is better for begonias, fuschias, and such plants as care more for the sun in the early part of the day than they do for it after its rays become more intense. A west window gives too much heat unless shaded considerably, but it is better than no window at all, and if

you have no other to give your plants, don't go without them. A curtain of thin muslin will temper the heat greatly, and vines can be trained over the glass in such a way as to break the fierceness of the sun's rays. A north window is not suited to the needs of flowering plants, but some which are grown solely for foliage can be kept there. Ferns, palms, aspidistra, ficus and lycopodiums will do quite as well there as in a window exposed to the sun. English Ivy can be trained about it. Tradescantia, in baskets, can be hung up in it, and thus it can be made beautiful without flowers if you have a love for "green things growing."—*Vick's Magazine*.



FIG. 2499. CHRYSANTHEMUMS AT THE O. A. C., GUELPH.

# CHRYSANTHEMUMS

BY

WM. HUNT,

SUPP. GREENHOUSES, O. A. C., GUELPH, ONT.

THESE glorious autumn flowers have probably, during the past, season been more resplendent in their gorgeous colors and beautifully formed blossoms than for many years past. The comparatively low summer temperature and moist atmospheric conditions that have prevailed during the usually hot months of July and August have doubtless been responsible, in a very large measure, for the success that has been attained in chrysanthemum culture during the season of 1902, wherever these popular autumn favorites have been grown. Very little is heard of that "bane" of the chrysanthemum, viz., the "rust"; a fact that goes to prove that a moderate temperature, a moist atmospheric condition, as well as good culture, are conditions that best suit the chrysanthemum to resist the development of this destructive disease.

Although the season is nearly over, a few notes and comments on some of the varieties suitable more particularly for window plants may perhaps be acceptable, as it is a matter of great difficulty even for the professional grower to select from among the host of beautiful varieties available those that are best suited for growing for window and house decorative purposes.

The chief points to be considered in this respect are not only the size, form, and color of the flowers; but habit of growth and a robust constitution, as well as early or late flowering propensities, are points that must be considered when selecting varieties for the purpose before mentioned.

The keeping qualities of the flower has also to be taken into consideration. Sub-

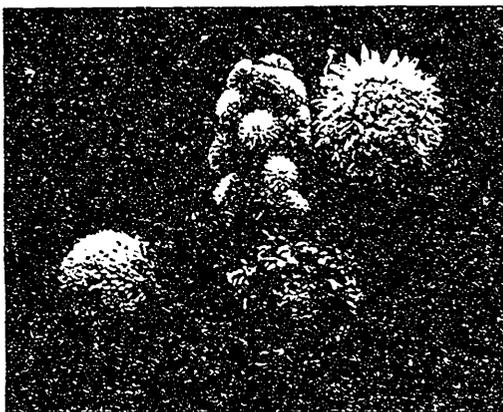


FIG. 2500. ROSE TREVENA.  
MRS. ROBT. CRAIG. MILE. MARIE H.  
JUDGE HEIT.

stance and form of the flower are important factors in this respect. The short petalled and compact flowering types are, as a rule, the best varieties to resist premature fading and decay. The small flowering pompon varieties are usually varieties that hold their blossoms for a long time in good condition. The pompon variety, Rose Trevena, Fig. 2500, shows a spike of these miniature chrysanthemums—that are such favorites with many flower lovers—taken from a plant that had been in flower for over three weeks, and as seen in the photo the flowers are still fresh and perfect in form on the spike. The plant that this spike was taken from has been greatly admired, covered as its several branches were with its dainty little pink blossoms, nearly the whole length of the stems, which are only about 18 inches high. If only one pompon be grown let it



FIG. 2501. MRS. L. CANNING.

be the variety shown, *Rose Trevena*, as it is a good grower and is so profuse in flowering. Other desirable pompon varieties are *Golden Fleece* and *Snowdrop*.

The Chinese Anemone flowered varieties are, from the peculiar formation of their flowers, great favorites with many admirers of the chrysanthemum. In most of these the outer florets are long and regularly arranged, whilst the centre florets are short, resembling quills, and are thickly set.

The Japanese Anemone flowered varieties are very showy and attractive, but as a rule are tall-growing plants. *Judge Hoitt* and *Surprise* are two good varieties of this type, a fair specimen of the flower of the former is shown underneath the pompon variety in Fig. 2500. In color it is a shell pink, whilst *Surprise* is paler in color, fading almost to a creamy white. Both are good varieties of this type, and early flowering.

The incurve form of flower is probably the

most popular type of chrysanthemum. A perfect incurve flower should be nearly globular in form, and as its name indicates, the floret should all curve inwards towards the centre or apex of the flower. Amongst the many varieties of incurves, *Major Bonaffon* (bright yellow), *Ivory* (white), *Mrs. Robert Craig* (white, see Fig. 2500), and *Mrs. Col. Goodman* (blush pink), see Fig. 2502, are good Chinese and Japanese incurve varieties that will give a good variety of color as well as plants of a dwarf growing habit, giving good flowering results usually under ordinary conditions and treatment. *Ada Spaulding* is also a good variety of dwarf habit, and has pretty cream colored flowers.

Amongst what are known as Japanese varieties, of irregular form, both in florets and outline, are the following varieties given as nearly as possible in rotation according to the time of flowering; 1st, *Glory of Pacific*

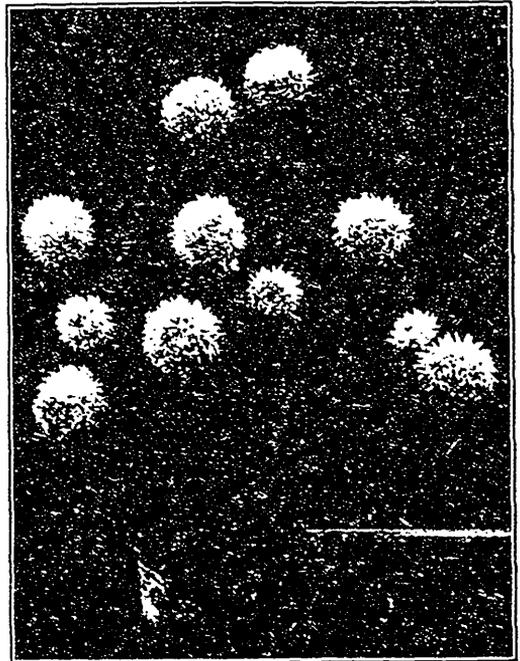


FIG. 2502. MRS. COL. GOODMAN.

(pink), Midge (white), Fred. Walz (pale pink), Golden Gate (bright yellow), Mutual Friend (white), W. H. Chadwick (yellow), Defender (dark crimson), Mlle. Marie Hoste (white), Fig. 2500, and W. H. Lincoln (bright yellow). The latter is an old variety, but still one of the best and latest, and is of specially good habit of growth and flowering character for a window or conservatory.

Amongst reflexed varieties for the window, Mrs. L. Canning (white), Fig. 2501, and Miss Elma O'Farrell will give good satisfaction. The latter is a late, large flowering variety of a peculiar shade of salmon rose, very odd and pretty.

In writing this article on these popular autumn flowers, many perhaps equally good varieties both new and old, have of necessity in so short a list to be omitted. But those that are mentioned have proved to be varieties that have invariably, from year to year, shown good and attractive points, under conditions that many other varieties perhaps more attractive in many ways, have proved under test to be partial failures.

In a future paper I hope to have something to say on the culture and treatment of the chrysanthemum from the time the old plants are out of flower until flowering time again.

## HELIANTHUS MULTIFLORUS.

OUR engraving is a good representation, minus the color, of the *Helianthus multiflorus*, as grown this summer at Maplehurst. We have for some years past been charmed with the Golden Glow *Rudbeckia*, but this comes a little later in the season, and when grown in clumps has a most charming effect, quite equal, if not superior to the former. It is not quite so tall, grows more compact, and its aster-like flowers are more double and striking in effect.

The sunflower family to which it belongs contains, in addition to the common annual sunflower, about fifteen hardy herbaceous perennial plants, and to one of these our subject belongs, viz., *H. decapetalus*, a species which is found in most soils from Quebec to Georgia. Under cultivation several beautiful garden varieties have been produced, some of them with quilled florets, like a cactus dahlia, and, altogether, the multiflorus varieties are the most popular of all perennial sunflowers. They are quite dwarf compared with the annual sunflowers, reaching only a height of from two to five feet. In our opinion, no collection of hardy perennials should omit *Helianthus multiflorus* flore pleno, and, to get the best effect, we

would advise the planting of them in clumps of a half dozen in the perennial border.



FIG. 2503. *HELIANTHUS MULTIFLORUS*.

# THE HARDY PERENNIAL BORDER

PAPER READ BEFORE THE C. H. A. CONVENTION BY

MR. A. ALEXANDER,

PRESIDENT OF THE HAMILTON HORTICULTURAL SOCIETY.



FIG. 2504. SAMUEL AYLETT,  
Supt. of Trade Exhibit, C. H. A.

**T**HE subject of hardy herbaceous plants and their use in the ornamentation of private grounds and public parks has received a good deal of attention during the past few years, and the numbers of new species and varieties of these plants suitable for the hardy perennial border are being multiplied at a rapid rate.

When your Vice-President, Mr. C. M. Webster, asked me to prepare something to read before this convention I felt it would be presumptuous in an amateur to stand up before a number of practical and intelligent horticulturists and tell them anything they did not already know about hardy plants. However, as he told me something brief,

just to introduce the subject for discussion would do, I agreed. I was the more willing to do this as the earliest and sunniest recollections I have in connections with flowers hover over the borders and beds of my childhood home, which were filled exclusively with old fashioned perennials. There were lilies stately and tall in large groups, great masses of Sweet William, primulas in endless variety, scarlet lychnis, saxifraga, phlox, pæonies, hollyhocks and lots of others too numerous to mention. These were all interesting as they one by one opened their blossoms in the floral procession, but to me there was and is still in the yearly miracle of their re-awakening, in watching the tips pierce-



FIG. 2505. T. LAWSON,  
Secretary Hamilton Gardeners' and Florists' Club.



FIG. 2506. CHAS. M. WEBSTER,  
1st Vice-President, C. H. A.

ing the soil, in their varied modes of unfolding their first leaves with such a variety of color too, from the tenderest green to deep crimson, an added pleasure not derived from ordinary bedding plants. I consider this a strong argument in favor of the cultivation of these hardy flowers that they afford so much joy in watching their yearly appearance as soon as the icy grasp of winter is relaxed.

While I do not say that hardy perennials will ever take the place of ordinary bedding plants for the decoration of public or private parks or grounds, or can be used so as to procure the striking color affects secured by the geranium or coleus and others, still I assert that any one possessed only of a small garden or whose acres are filled with beautiful flowers of the hardy sort, can have from early spring to autumn frosts, a continuous succession of bloom.

We can have them suited to every situation, sunshine or shade and to nearly every kind of soil. Not only so, but when once established in our gardens they stay with us

forever if we are fairly good to them, increasing in bulk and beauty from year to year. We have them gay as the oriental poppy, and showy as the pæonies; while many of them are excellent as cut flowers, as the single and double flowering pyrethrum, so many beautiful hybrids of which are being introduced. Need I name the Iris family with its varied classes all exquisitely beautiful; the aquilegias in infinite variety, from our own native variety to the Rocky Mountain one with its heavenly blue and immaculate white, so blue and so white, as if it had been painted when gazing into the azure from its Rocky Mountain home; the campanulas, all dainty and general favorites; the larkspurs too, giving us color and stately growth from pure white through every gradation of color from blue to red. Many of these hardy plants are very fragrant, such as the sweet valerian and many others quite as hardy.



FIG. 2507. WHITE CAMPANULA, IN MR.  
ALEXANDER'S GARDEN.



FIG. 2508. *DICENTRA CANADENSE* AT MR. ALEXANDER'S.

I have no intention of wearying you with lists of names of these hardy plants. The best and most useful list that I have seen is that issued by the Experimental Farm at Ottawa, consisting of 100 varieties and compiled by Mr. Macoun, the horticulturist there in 1897.

Just a word about the border itself. Hardy perennials I find thrive best in good ground with lots of rotted leaves worked into it. The thrift of the plants in such soil is so marked as to well warrant them getting it.

These plants, many of them at least, increase so fast and spread so much that they require to be lifted, divided and replanted every three or four years. Some of them, such

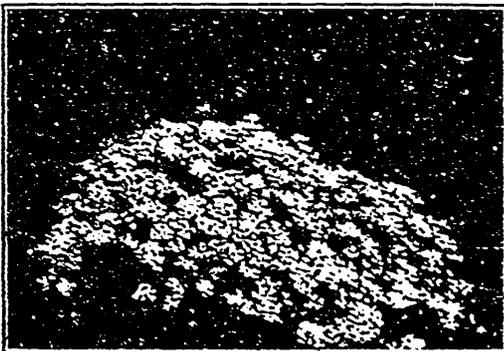


FIG. 2509. *IBERIS GIBLITARICA*, (CANBY ET.)

as the perennial phlox, so exhaust the soil in their immediate neighborhood that they are better if their position is changed every two years. The pæonies and some others are better not to be moved. Every fourth year I trench my perennial borders. I proceed as follows: I take out a trench two spades deep and two spades wide, wheeling the soil to the other end where the operation will finish. I then mark off another space equal in width to the trench made and with my spade I take off about two inches of the top soil and throw it into the bottom of the trench; on this I put a good coating of fresh manure, tree leaves or the product of a rubbish heap of vegetable matter of any



FIG. 2510. HARDY FLOWER BORDER, AT MR. ALEXANDER'S.

kind, then I throw upon this a spade deep of the earth from the second trench, on the top of this I spread some well rotted manure or humus of any kind, then on this I throw up another spade deep of the soil left in the trench; when this is done we have a second trench, the same depth and width as the first, and so I proceed until I reach the end of the border, where I find the earth taken out of the first trench to fill up the last with, its two layers of manure or other enriching material sandwiched twice. You will see that this really means the turning

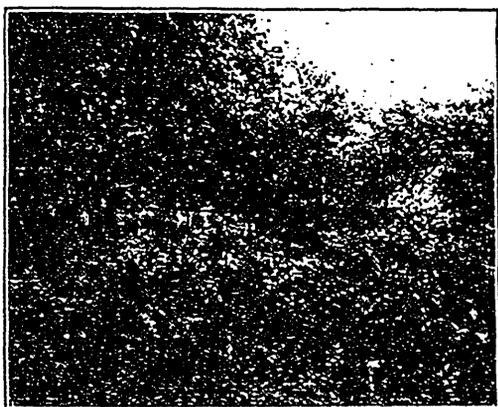


FIG. 2511. HARDY FLOWER BORDER IN GARDEN OF MR. A. ALEXANDER, HAMILTON.

upside down of the whole border to the depth of about 18 inches and enriched with two layers of manure, one near the bottom one and one midway up. The reason of putting the fresh and unrotted manure in the bottom and the other higher up is that the plants when replanted will find out and get the benefit of the higher layer of manure the first year, and by the time the roots get down to the lower it will be so decayed that they can appropriate it to their strengthening and beauty and can bid defiance to hot summers and other adverse surroundings for they are feeding on unseen supplies of food and moisture.

Planting is best done in the early spring. It is better to have good clumps or masses of the best of these perennials than to have little bits of every thing you can lay hands on if the ground is limited in extent. I would recommend a very liberal planting of the hardy bulbs, not lilies only, but the scillas and chionodoxa, the snowdrop and crocus, and the Narcissus family should be fully represented. The scillas, and the Glory of the Snow, are most satisfactory and never fail to cheer the border, for they increase and improve from year to year.

I make a liberal use of many of our native plants. What more satisfactory than the

trilliums, the hepatica and the blood root to brighten the border with their pure white and azure blossoms, and the phlox divaricata makes a fine mass of purple lasting for weeks, and many others. Many species of asters are invaluable in the fall months.

We sometimes hear the complaint that a perennial border is an unkempt and unsightly affair as compared with the trim beds filled with greenhouse plants. It is, if not cared for. Plants needing support should have it early, and all flowers that are done blooming should be removed and the soil between the plants kept stirred from time to time.

I hope to see some of the commercial horticulturists of Canada go into this business and present us with a catalogue of these hardy plants as extensive as those issued on the other side of the line. And it would be well if the commissioners of public parks gave this matter some attention and planted borders of these perennials all labelled so that the public could see for themselves and choose for their own gardens and be instructed as well as interested. Much more might



FIG. 2512. FOXGLOVES.

be said on this subject, but I must close. I therefore urge the more general cultivation of hardy plants: It is interesting to watch their development, because there is a touch of home in the coming of the truly hardy varieties of flowers that seem to defy all kinds of abuse and quickly respond to good care, and we watch for them as eagerly as the seasons come and go; because the first cost of them is less than the tenderer and more aristocratic bedding plants; because of the greater variety and the longer flowering period we can have each year by their use; and they are less trouble than the more tender sorts and increase from year to year.



FIG. 2513. ROCKET, (VERY FRAGRANT), SHOWING THE EFFECT OF MASSES, AS COMPARED WITH SINGLE FLOWERS, AT MR. ALEXANDER'S.

## PROFIT IN THE BAY WINDOW.

**A**N almost indispensable appurtenance to the modern house is the bay window, and yet in the majority of homes it is either a vacant corner, or else is used as a "plant hospital." A few sickly, unsightly plants of no particular variety are considered sufficient furnishing for what might be the most attractive part of the room. Not only may the bay window be made "a thing of beauty and a joy forever" but it may become a source of profit if the owner so desires.

There are greenhouses and several floral companies in the town in which I live, but, nevertheless, a gentleman near me receives an average of nearly \$1 per day from his bay window. He devotes the greater part of the window to carnations, and a beautiful display they make. There is a ready demand for all he can raise, and the care and cultivation of the plants affords him great pleasure, as well as a fair profit. The cultivation of the carnations is very simple. Roots may be obtained from cuttings made at any time during the fall, winter, or early spring months. The roots should be set in

the ground early in the spring, at about the season that lettuce and other early hardy vegetables are put in the ground. They should be set in soil that is well drained—as the carnation does not take kindly to a wet soil—in rows ten inches apart and eight inches apart in the row. The flower shoots, as they appear, should be cut back till the latter part of September, when they should be placed in the boxes or pots they are to occupy through the winter, though they should still be left out as long as the weather is mild.

Although there are many hundreds of varieties, but few have been found adapted to window culture. Among the white varieties the Degraw and Maimie are best adapted to window growing. The La Purite, carmine, and Astoria, yellow, are also hardy varieties and take kindly to cultivation. A temperature of 60 degrees is sufficient for the production of these flowers. The soil should be rich and mellow and the plants kept free from the green fly and other plant insects. — *American Agriculturist*.



## 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 Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution plants and trees.

REMITTANCES by Registered Letter or Post-Office Order addressed The Secretary of the Fruit Growers' Association, Parliament Buildings, Toronto, are at our risk. Receipts will be acknowledged upon the Address Label.

ADVERTISING RATES quoted on application. Circulation, 5,500 copies per month. Copy received up to 25th.

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.

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### MONSTER MAP OF THE UNITED STATES.

SPACE has been allotted the U. S. Department of Agriculture for a great garden map of the United States, of about two acres in extent. The different state laws will be marked by walks of red gravel, so that from the Agricultural Building this map would be like a bird's-eye view of the United States; and a visitor walking on the paths, would, so far as vegetation is concerned, be walking through the country. This will certainly be a novel exhibit.

of this young society, which has now been five years in existence. Among the interesting papers read we noticed one on the "Judging of Vegetables and Roots," which we hope to publish next summer in time to be of use to our societies at the time of their flower and vegetable shows. Mr. Melvin Bartlett, Box 438, Winnipeg, is the Secretary.

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MR. C. M. WEBSTER, of Hamilton, in speaking of the adaptability of our climate for rose-growing, says:

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THE report of the Western Horticultural Society for 1901-2 is to hand, and its enlarged size shows the progress and growth

"There are after all but few who realize the possibilities of rose culture in Canada. We have received glowing accounts of rose growing in the Maritime provinces and from Newfoundland, where by reason of the cool

moist summer and heavy snow protection in the winter, roses of all kinds thrive unusually well. In the northern part of Ontario and Quebec the hardy roses have in many cases given amazing results, the heavy protection of snow often bringing the plants through in better condition than is seen in the more southern sections. Throughout the other portion of Ontario, and particularly in the Niagara Peninsula, the ever-blooming roses give the utmost satisfaction out of doors and can be safely wintered with very little trouble. On the coast of British Columbia the paradise for ever-blooming roses is found, and it is a matter of surprise to many Canadians that one portion of the country yields perfect growing roses often as late as Christmas Day. Perhaps a greater surprise in the matter of plant growth will yet come from the great

Canadian West. It has already been proven that tea roses there grow with most unusual vigor, and constitute one of the very best summer bedding plants. We have many letters from that section that will testify to beds of tender roses enduring the severe winter safely covered by the protecting snow, and breaking into early growth and bloom with scarcely the loss of a single plant. Success in rose growing has attended trials in North Alberta and the province of Saskatchewan, and we heard some years ago from a gentleman stationed at one of the Hudson Bay Company's posts on the shore of Hudson Bay of the wonderful success in the cultivation of some roses brought to him from Great Britain. As the possibilities of the Canadian West are revealed, it is plainly evident that we have still much to learn about that section."

## Question Drawer

### Wheat Wire Worms.

1326. SIR.—I herewith send you some pests called here "yellow wire worms." There are millions of them in the ground, and they devour such seeds as peas, beans, etc., when planted. Those that escape them long enough to become plants, are often killed by having their roots and stalks eaten hollow. Root crops, as potatoes, etc., are ruined by them; also such crops as pumpkins, tomatoes, etc., are filled with them wherever they touch the ground. In one case thirty-five worms were feeding off one tomato berry. Please name the beast and tell me how to exterminate it and you will do a great favor to many.

D. C. CROSBY, Berwick, N. S.

REPLY BY PROF. LOCHHEAD, O. A. C.,  
GUELPH.

In reply to the inquiry regarding "yellow" wire-worms, I beg to say that the specimens sent in are the common Wheat Wire-worm, (*Agriotes mancus*). The adult, or Click beetle, deposits its eggs on the roots of grasses in early spring, and may prove very

troublesome for the two or three years that it remains in the larval stage. The larva, or wire-worm, passes the winter in the earth and is troublesome in spring. They cease feeding in the fall, generally before November 1st, and descend several inches into the ground, where they remain in a torpid condition during the winter. In the spring, they come towards the surface with sharpened appetites after their long rest. When they become full grown, which occurs between two and three years, after the eggs are deposited, about July 1st, these Wheat Wire-worms prepare for pupation (their resting stage), by forming a little earthen cell in the soil, usually less than six inches from the surface of the ground. The worms then turn into the little white pupae. They remain in this condition about three weeks,

when they come to the surface in the form of the Click beetles, already referred to. In this condition, they are harmless. It is only in the larval stage that they are injurious, when they will devour mostly any green vegetation which is in direct contact with the ground, such as tomatoes, etc., which often lie on the surface.

A great many experiments have been conducted in trying to combat the wire-worms, but none have been found very practical. However, much can be done in checking the increase of wire-worms by exposing the

pupæ by fall ploughing. In this way the little earthen cells mentioned above, which contain the pupæ, are broken up and the pupæ perish from exposure to the frost and cold of winter. In connection with this fall ploughing, and subsequent cultivation, we also recommend the method of short rotation of crops to farmers who have land badly infested. It is not wise to keep the ground in sod for more than a year or two. Those farmers, as a rule, who practice this method for at least three or four years, are not troubled much with wire-worms.

## PROTECT YOUR ORCHARDS AGAINST MICE.

THE time of year has now arrived when we should take precautions against injuries from mice during the coming winter. The experience of many fruit growers, particularly in the eastern part of the province, during last winter, proves that it is very much easier to protect our trees from ravages of mice than it is to remedy the evil when done. Last year, I successfully protected about seven hundred young trees, planted from three to four years ago, with ordinary building paper, cut in strips about eleven inches high and long enough to wrap around the tree once or twice, and tied in the middle with binding twine. Out of the above number of trees wrapped, I only had one injured and that was above the paper.

The mice, in working under the snow follow the ground line, very seldom if ever tunnelling into the snow off the ground.

A man can easily wrap from four to five hundred trees a day, and the cost for paper is a mere trifle. A roll of paper costing 45 cents or 50 cents will wrap about eight hundred trees, planted from two to four years.

I wish to particularly warn fruit growers

against using tar paper for wrapping. I have seen in many cases injury from sunscald just above the paper, not under the paper as is generally supposed by some.

In the spring of the year it is not necessary to remove the building paper. All that is required is for a man to walk through the orchard and cut the string, and the papers will blow off during the summer.

Mice in this vicinity do not seem to be as numerous as at this time last year; however, considering the small cost and short time required for wrapping, I advise all fruit growers to protect their trees against possible injury, for if snow should fall early and remain on the ground until late in the season, the mice would be deprived of their supply of weed seeds, which constitutes a large part of their winter food.

I might say that a convenient way to prepare the paper is to cut it with a sharp knife on a smooth board into pieces (11 x 7 or 8 inches) and place in a market basket for carrying in the orchard.

Maitland,

HAROLD JONES.

Nov. 21st, 1902.



Mr. Rood.

Mr. and Mrs. Lane.  
Mrs. Jooste.

W. L. Jooste.

W. W. Moore, Ottawa.  
Mrs. Kirkpatrick.Capt. Kirkpatrick,  
representing the  
Imperial Government.

## A VISIT FROM THE SOUTH AFRICAN DELEGATION.

BY G. C. CREELMAN.

THE war had no sooner closed in Egypt than schools and universities sprang up and a season of prosperity set in around Khartoum such as had never been known in that benighted country.

Immediately after peace negotiations were signed, Lord Milner, now in charge of the South African forces, selected a party of Boers and Burghers together with their wives, and started them on a tour of inspection around the world. They covered practically all Canada from Halifax to Vancouver, inspecting everything of interest from a commercial standpoint.

The writer had the privilege of their company in the Province of Ontario for several days, and it is a pleasure for me to state

that I never enjoyed an outing more than that passed in the company of the delegates from South Africa. The entire party, consisting of ladies and gentlemen, seemed to have but one object in view, namely: the gathering of information which would be useful to them on the farms and at home. Every feature in Canadian agriculture was closely studied, questions were asked incessantly regarding our method of work and handling of machinery, the care and management of farm animals, the method of constructing farm buildings, the planting and care of the orchard, the variety of grains and grasses—all of these things interested them, and each night before retiring the gentlemen wrote a complete digest of the day's work.

They visited the Agricultural machinery shops, where binders and reapers are made, carriage and wagon shops, the Agricultural College and the Experimental Farm, but nowhere did they express themselves as being so well pleased as in the orchards of Ontario. In the Niagara district particularly, they were struck with the sight of mile after mile of orchards cleanly cultiva-

ted and the fences removed, looking like one large farm composed of thousands of acres.

These men who fought against the British have laid down their arms accepting the changed condition, and in a few months will return home, carrying the news of progressive agriculture to their farms and villages.

## EXPORT OF INFERIOR FRUIT A LOSS.

THE government agents at Glasgow and Liverpool again draw attention to the great injury that is being done the apple trade by the shipping of inferior fruit. Here is a typical case; 160 barrels of XX Baldwins shipped by Mr.——, of Brighton, Ont., were sold to-day at prices that cannot yield the seller anything. They were so small as to be quite useless for the trade here, in fact they never should have left

Canada. 128 barrels branded Kings were opened up and two-thirds were of a different variety. 9 barrels of this same lot turned out 6 barrels 20 oz. pippins, 1 barrel Ribston and 1 barrel Kings. This wrong naming, though not as serious a matter as fraudulent packing, is very annoying to the trade, and is another illustration of the care that should be used in these details of the apple trade.

## APPLE SCAB IN YORK STATE

"Apple scab has," says S. D. Willard, writing in Country Gentleman, "developed in Ontario County, N. Y., to an extent rarely before observed in the section. There seems to be little difference in many instances whether trees have been sprayed or not. The fact, however, is clear that not more than one-third to one-half the apples in the immediate vicinity, and particularly Baldwins and Greenings, are fit for barreling. The majority of them are going to the canning

factories. It is a well-known fact that most of the apples raised in the section are made up of Baldwins and Greenings, but this season has demonstrated to the minds of some, at least, that there is a marked difference in varieties as suffering from the pest. My own apples, made up largely of Hubbardston Nonsuch and Boiken, have been almost entirely free from it, particularly the latter variety, which has never shown any disposition to suffer in this way."

## BALDWINS, GREENINGS AND YORK IMPERIALS

WOODALL & CO., of Liverpool, write: "Receipts are 61,926 barrels, which is a further increase on late liberal supplies; there is, however, no signs of falling off in the demand, which has throughout been good. What are now coming forward is largely winter stock, but it has been quite a disappointment that so great a proportion should be poor, unattractive fruit. It may be holders are sending seconds with the view of keeping the best till later on; this may be good policy, as, fortunately, our markets have readily taken everything offered, and paid prices in accordance with the value. The range in quotations is very

wide, as while good to fine ruled high, ordinary and inferior, in consequence of the large quantity, are much lower in proportion. This may be instanced in Baldwins, which sold up to 20/ per barrel, and sound inferior down to 7/ per barrel. Greenings, through the uncertainty of how they may turn out, are hopelessly out of favor, and some which appear to be good, reliable parcels do not realize their value. At yesterday's sales the demand was well maintained and closed at 1/ to 2' decline on ordinary, and about unchanged for good, some Western York Imperials touching 23/ per barrel."

## BOOKS FOR FRUIT GROWERS.

### FRUIT, FLOWERS. ETC.

Apple Culture, Field Notes on. Bailey. . . . .	\$0.75
Bulbs and Tuberous Rooted Plants. C. L. Allen. . . . .	1.50
Bush Fruits Prof. A. Card . . . . .	1.50
Chrysanthemum Culture. Morton. Cloth. . . . .	1.00
Chrysanthemums, How to Grow . . . . .	.25
Cider Makers' Handbook. Trowbridge. . . . .	1.00
Cranberries, Cape Cod. James Webb. Paper . . . . .	.40
Cranberry Culture. White. . . . .	1.00
Crops, Spraying. Clarence M. Weed . . . . .	.25
Dahlia, The. Lawrence K. Peacock . . . . .	.30
Floriculture, Practical. Peter Henderson. . . . .	1.50
Florida Fruits, and How to Raise Them. Harcourt . . . . .	1.25
Flower Garden, Beautiful. Matthews . . . . .	.40
Fruit Culturist, American. Thomas . . . . .	2.50
Fruit Grower, Practical. Maynard. . . . .	.50
Fruit Harvesting, Marketing, etc. F. A. Waugh . . . . .	1.00
Fruit, The. P. Barry. . . . .	1.50
Fumigation Methods. Willis G. Johnson. . . . .	1.50
Fungi and Fungicides. Clarence M. Weed. Cloth \$1.00, paper . . . . .	.50
Garden Making. Prof. L. H. Bailey . . . . .	1.00
Grape Culturist. A. S. Fuller. . . . .	1.50
Grape Grower's Guide. Charlton. . . . .	.75
Grape Growing and Wine Making, American. Prof. George Husmann. . . . .	1.50
Greenhouse Construction Prof. L. R. Taft. . . . .	1.50
Greenhouse Management. Prof. L. R. Taft. . . . .	1.50
Horticulture, Annals of. Prof. L. H. Bailey. . . . .	1.00
Horticulturist's Rule Book. Prof. L. H. Bailey . . . . .	.75
House Plants and How to Succeed with Them. Lizzie Page Hillhouse. . . . .	1.00
Insects Injurious to Fruits. Saunders . . . . .	2.00
Irrigation Farming. L. M. Wilcox. . . . .	2.00
New Horticulture, The. H. A. Stringfellow. . . . .	1.00
Nursery Book. Prof. L. H. Bailey. Cloth. . . . .	1.00
Nut Culturist, The. Andrew S. Fuller. . . . .	1.50
Peach Culture. Fulton. Revised edition. . . . .	1.00
Pear Culture for Profit. Quinn. New and revised edition. . . . .	1.00
Plants, Handbook of. Peter Henderson. . . . .	1.00
New enlarged edition . . . . .	3.00
Plants, Propagation of. A. S. Fuller . . . . .	1.50
Plants, Your. James Sheehan. . . . .	.40
Plums and Plum Culture. F. A. Waugh. . . . .	1.50
Principles of Fruit Growing. Prof. L. H. Bailey. . . . .	1.25
Pruning Book, The. Prof. L. H. Bailey. . . . .	1.50
Quince Culture. W. W. Meech. . . . .	1.00
Rose, The. Its Cultivation, Varieties, etc. H. B. Ellwanger. . . . .	1.25

Rose, Parsons on the. . . . .	1.00
Small Fruit Culturist. A. S. Fuller. . . . .	1.00
Spraying of Plants, The. E. G. Lodeman. . . . .	1.00
Strawberry, The A B C of the. T. B. Terry A. I. Root. . . . .	.50
Strawberry Culturist. A. S. Fuller. Illustrated . . . . .	.25
Vineyard at Lakeview. My. . . . .	.50

A Magazine Thirty Years Old:—The Christmas (December) Number of **THE DELINEATOR** is also the Thirtieth Anniversary Number.

To do justice to this number, which for beauty and utility touches the highest mark, it would be necessary to print the entire list of contents. It is sufficient to state that in it the best modern writers and artists are generously represented. The book contains over 230 pages, with 34 full-page illustrations, of which 20 are in two or more colors. The magnitude of this December number, for which 728 tons of paper and six tons of ink have been used, may be understood from the fact that 91 presses running 14 hours a day, have been required to print it; the binding alone of the edition of 915,000 copies representing over 20,000,000 sections which had to be gathered individually by human hands.

### COMING EVENTS.

- Ontario Fruit Growers' Association, at Walkerton, Dec. 1, 2, 3.
- Agricultural and Experimental Union, at Guelph, Dec. 8, 9.
- Provincial Winter Fair, at Guelph, Dec. 9, 10, 11, and 12.
- Western Dairymen's Association, at Brantford, Jan. 13, 14, 15.
- Eastern Dairymen's Association, at Ottawa.

## Notice to Apple Growers

We are preparing for the use of the Department of Agriculture a list of the apple growers of Ontario. Any grower can have his name placed on the list by sending his address to the Secretary together with the number of trees he has in bearing.

G. C. CREELMAN, Secretary.