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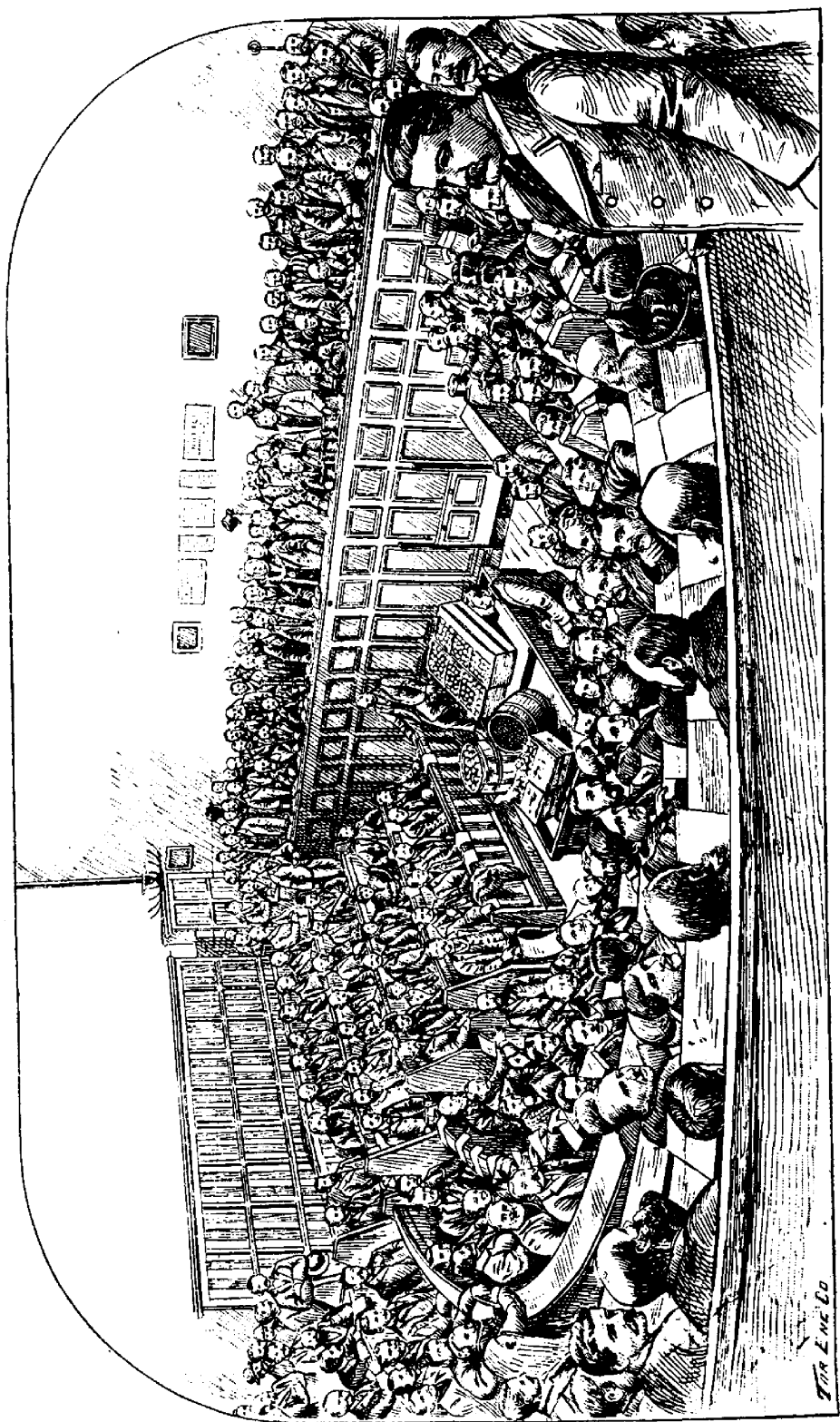


FIG. 1953. THE MANCHESTER FRUIT MARKET.

# THE CANADIAN HORTICULTURIST


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## SUCCESSFUL EXPORT SHIPMENTS OF TENDER FRUITS.

UR frontispiece will be an interesting one to Canadian fruit growers, showing, as it does the Manchester sale room for fruit. Here are collected merchant buyers from various parts, eager to purchase supplies for their special trade. Our goods are separated into lots according to grades and shipper's marks, and samples of each brought into the sale room and opened. If a brand is known as reliable, nothing further is necessary, but if unknown, or known with suspicion, the packages are emptied out on the table for inspection, and if found fraudulent, the whole lot is sold as such. The fact that so much of our barrel fruit has been found unreliable has had a most disastrous effect upon its selling price in Great Britain, and it is only by establishing our trade on a new basis with reliable grades, that we can expect to gain that popularity which our goods so well deserve.

This object has been before the Ontario Fruit Growers' Association for some years past, and the writer, being secretary of this Association and of the fruit experiment

stations of Ontario, has been asked to act in this particular for the extension of our fruit markets. On referring the matter to the Minister of Agriculture for Ontario, he expressed his willingness to aid us in every way possible. The export of peaches, pears and grapes being more vital to Ontario than to any other province, it was natural that our province should now exert herself in her own interests and carry to a successful issue the work so well begun in an experimental way by the Dominion.

Last year the writer was commissioned by the Hon. John Dryden to forward a few hundred cases of Ontario grown grapes to Manchester, to test the English market for our best varieties. The varieties selected were the Red Rodgers. They were packed 5 lb. veneer baskets, four in a case. As reported in our Fruit Experiment Station report, they were received in Manchester with great suspicion, and at first no one would purchase them at any price, but by and by the costers bought them gingerly and began selling them on the streets. Then they came and paid double the price

for the remainder of the stock, and our consignees, Messrs. B. W. Potter & Co., said that if we could have continued the shipments regularly with each succeeding steamer, they could soon work up a trade for Canadian grapes at a probable paying price; this firm offering them by private sale and not by auction.

This season Mr. Dryden extended the experiment to include other fruits, and fitted the "Trader" of the Manchester Line with

Woolverton, W. H. Nelles, C. W. Van Duzer and S. M. Culp. In order to secure the cold storage space of 1,600 feet, it was necessary for us to combine and agree to fill it every time the Trader sailed. The apples were graded to uniform sizes and packed in half bushel cases. They arrived in Manchester in fine condition which proved how complete a success Hanrahan's system of refrigeration is, for the Astracan ripens in ordinary conditions a few days after it is



FIG. 1954. WILDER GRAPES AND KIEFFER PEARS PACKED FOR EXPORT FOR THE ONTARIO DEPARTMENT OF AGRICULTURE.

a cold storage compartment especially adapted for carrying fruits; he also fitted up a refrigerator car, after Hanrahan's patent, for the especial purpose of carrying fruit in perfect condition from the point of shipment to the steamer.

The first Trader shipment made was chiefly Red Astracan and Duchess apples, and was forwarded on the 25th of August. The following fruit growers united in making up the shipment, at their own risk, viz.: L. Woolverton, A. H. Pettit, E. J. Wool-

verton. Owing to the great crop of early apples in Great Britain, these perishable apples sold at 60 cents a case.

There were also some bushel cases of apples which sold for \$1.40 each, and some Wilson cases with fillers which sold for 96 cents each. One Wilson case containing one hundred Hales peaches sold for \$1.46.

The total proceeds of this shipment was \$438.91, a satisfactory amount were it not for the unusually heavy charges, which are considerably advanced this season owing to

the South African war. The following is a detailed list of charges ; Freight paid Manchester Liners, \$327.51 ; Manchester ship canal tolls and wharfage, \$13.96 ; cartage and portorage at docks and re-delivering, \$5.74 ; sampling and taring and clearing, \$2.48 ; marine insurance, \$2.52 ; market portorage, \$11.86 ; brokerage at 5 per cent., \$21.94 ; cable, \$3.90 ; amounting in all to \$290.01. This left only \$148.90 net, or a little less than we could have got for the same goods at home. However, we had the satisfaction of having our fruit reach the market in the very best condition, and of establishing a reputation for our fruit that will be worth millions to our fruit growers in the immediate future.

The following extracts from letters from the consignees, Messrs. B. W. Potter & Co., Manchester, regarding this shipment will be of general interest :

“ Manchester, 12th Sept., 1900.

“ Sir,— The shipment ex-Trader landed in capital condition and, if it had not been an extraordinary year, you would have had a very good return ; as it is we have been getting good prices compared to English fruit, which has been almost given away. We have not completed sales yet, but hope to wire you directly with the net result. Now we have pleasure to report on packing. Apples will do very well indeed with wax paper only, no moss or shavings, and packed only in bushel cases—half bushel cases will not pay you so well. Pears in paper and shavings and packed in halves are best. They took much better than the apples and we could have disposed of more. The case of peaches arrived in splendid condition but would not keep and was sold at once realizing \$1.46. Buyers do not like packages which they have to return. Some of the cases were packed too tightly and the fruit accordingly bruised. This is a mistake which we think might be avoided.

“ The marking on the cases leaves room for improvement. Everything is done in such a hurry in our market that it is a distinct disadvantage having to examine a case carefully to find out the variety and grade of contents. We would suggest that you use the plain end of the case for mark, variety and grade, simply putting in bold type say

**L. W. KING**  
**87 A NO. 1**

leaving off all other lettering. You might use different colored ink for pears and apples.”

“ Manchester, 17th Sept., 1900.

“ Sir,— We cabled you to-day as follows :— Thirty-six net. Pears 97c., bushels \$1.46, halves

61c.; Wilson's \$9.74, average gross proceeds, which we meant you to understand as thirty-six pounds net balance, the pears bringing 97c., bushel boxes apples \$1.46, half bushel apples 61c., and Wilson's patent cases 97c., with box \$1.22, average price. It is a very disappointing return we must admit, but considering the state of the market, the price is a good one. We send you the Shipping Gazette of the 15th inst., and draw your attention to page 10, from which you will see American apples have been fetching from \$1.22 to \$2.44 per barrel.

“ The writer was present whilst the steamer Trader unloaded, and entered the cold chamber, finding it perfectly dry, and he considers that the fruit could not have been carried better, the new arrangement of the brine pipes being a splendid improvement.

“ In nine years out of ten the return for fruit would have been splendid, and it is most unfortunate that you should have fallen across the tenth year.

“ Your own fruit, on the whole, carried best, and we think you must have picked it in better condition, especially the pears.”

The second shipment was made by the steamer Commerce, leaving Montreal September 15th, just in the nick of time for Bartlett pears, but too early for Elberta peaches. The fruit was kept in cold storage while the carload was being made up, and carried by the Hanrahan automatic refrigerator car to Montreal, and thence transferred to the cold storage chamber of the Commerce. There were in all 882 packages, and the total net returns were \$487.67.

The following is a detailed account sales of this shipment, showing the shipments of each shipper, and the selling price of the same :

Z. W.		
1 case tomatoes	.....	61
496 cases Bartlett pears, averaging 74c.,		
\$1.95	.....	\$464 13
56 cases apples, averaging 97c.,	\$1.25..	62 82
5 “ peaches	.....	13 39
A. H. P.		
65 cases pears	.....	59 13
25 “ apples	.....	14 32
11 “ peaches	.....	22 40
E. J. W.		
118 cases pears	.....	122 74
B. B.		
110 cases pears	.....	93 50
		<hr/>
Charges	.....	\$853 04
		<hr/>
Net proceeds	.....	487 65

Mr. Peter Byrne, Ontario Government Agent at Liverpool, writes concerning this shipment, October 5th, 1900 :

" Sir —The Hon. John Dryden having informed me that you would like to hear from me regarding the condition of your shipment of fruit on the S. S. Commerce, I am glad to inform you that I found it very good indeed. The fruit was very cold, and some of it very 'sweaty' when opened, but otherwise it was all right, every case inspected being sound.

" The Elberta peaches were rather green and

Those shipped by D. J. McK. were to a considerable extent damaged, having, perhaps, been packed over ripe. Messrs. Pettit & Son's lot (two grades) were in about the same condition, a good many in some of the cases being bad, and others being all right. Part were packed with wool and paper, and part with paper and shavings. I am inclined to think the wool packing is of doubtful benefit

" I find that some experienced fruit dealers here have no fault to find with the present modes of packing, and would suggest no alteration whatever.

" Mr. Potter secured the temporary use of a fine

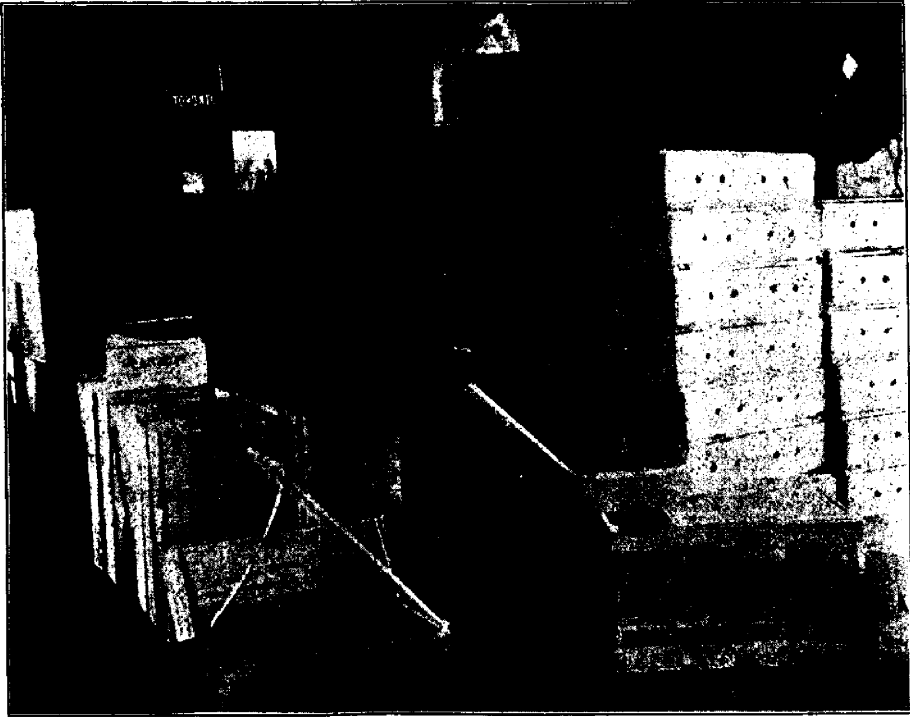


FIG. 1955. BUSHEL BOXES OF APPLES, HALF BUSHEL BOXES OF PEARS, AND PACKAGES OF GRAPES, PACKED FOR EXPORT FOR ONTARIO DEPARTMENT OF AGRICULTURE.

immature looking, and consequently less attractive than the Crawfords sent by Messrs. Pettit & Son. Some of these had probably been a little too ripe when picked, as a good many of them were in various stages of decay when opened. Whether the wool used in packing had anything to do with it I could not say. But the majority of the Crawfords were in perfect condition, and have been much admired for their beautiful and attractive color.

" Your case of tomatoes turned out sound but very tender in the skin, and soft. It is well you did not send any considerable quantity, as the market is glutted with foreigners.

" The pears sent by E. J. W. all turned out well.

show window in Manchester for a display of the fruit; and I have done the same here. I brought from Manchester a Wilson case with a careful selection of pears, apples and peaches, but, finding these were too few to be effective, I got four half-cases from Mr. Shuttleworth, in Liverpool, who is the consignee of the other shipment ex-Commerce, and with their aid got a good and effective exhibit for the show window of the C. P. R. offices. It is attracting an immense deal of attention. I invited all the Press of the city to come and inspect and taste the peaches, which, being a great novelty here, form the most attractive part of the display. The great mass of the people here actually think that they are grown

under glass, and are astonished, if not incredulous, when they learn that they grow in the open air like pears, apples, etc.

"One of the wholesale salesmen in Manchester entrusted with the disposal of your fruit, told me that he had sold 20 cases of pears in an hour, and every one of them was opened and found in prime condition. The price was \$1.22 per half bushel case.

"This is a very abundant fruit year in this country, and glutted markets have kept the prices low. I will send you papers containing press notices of our exhibit. If you are sending any grapes with the next shipment, I intend to make a public display of them also, and will urge Potter to do the same in Manchester."

The following letter from Messrs. Potter & Co., the consignees, is also of interest. It is dated Manchester, October 6th, 1900 :

"Sir,—The major portion of your Commerce shipment has been sold, the Bartlett pears fetching from 97c. to \$1.22 a case, with some wasty ones at 49c., and a few absolutely worthless. These latter we think must have been against the brine pipes and the temperature has been too cold.

"Tomatoes will not pay for sending; they are too cheap here. Your box fetched 61c. The sixteen cases of peaches have sold for \$1.46 to \$3.17 a case, but a very large proportion of the fruit was bad. Details of all marks to follow. The bushel cases of pears were too large and don't sell well.

"Peat moss will not do for packing. It does not keep the fruit well and certainly looks badly when cases are opened. Keep to the fine shavings and paper. We enclose sample of paper the Californian pears are wrapped in and they carry splendidly. The wax paper also does well and is good looking.

"The peaches seem best packed without wadding. The Elbertas are soundest but the Crawfords take much better; they are so showy. Some fruit has been picked too green to ripen.

"The apples of course came splendidly. Please send in future full details of marks, grade, variety and size of package. We had great difficulty in sorting out en quay. A good consignment arriving a couple of weeks before Xmas would do splendidly we feel sure."

Under date of October 10th, Messrs. Potter & Co. write :

"Sir,—We cabled you to-day 'Net 105.' This is the approximate net proceeds of the 882 packages landed. The charges have not all come in yet, but we do not think the actual result will vary much from this figure.

"We are sorry the result does not equal the 97c. you wanted to make the shipments pay, but you have certainly made more by this fruit than any other people in the market. More than this, you have given the fruit a good standing and the public like it and will ask for it again, so that the result cannot be measured merely by the cash return."

The following is an extract from the "Journal of Commerce," Liverpool, dated October 8, 1900,—

"The enterprise of our Canadian cousins has for many years been a factor of considerable importance in regard to the trade of this country, for Canada has year by year been sending supplies of various kinds in ever-increasing quantities. For some years past attempts have been made by Canadian fruit growers to find a market for their surplus produce on this side of the Atlantic, their efforts meeting with varying success, but at last there is reason to think the time has come when Canadian grown fruit will compete on exceedingly favorable terms with the home grown article, and this not only in the hardier class, but also in fruits of the most delicate description. When the earlier shipments of fruit were made a few years ago the result was almost sufficient to give the project a death-blow, for the conditions under which the produce was carried were not at all such as to improve the fruit during its passage across the Atlantic. The butter man of Montreal required a temperature of 22 degrees for his produce, the beef exporter wanted 28 degrees, the fruit could not do with anything under 36 degrees nor much above 40 degrees. Consequently when all these classes of goods were placed in the same cold chamber on board the steamer, some portion of the consignments had to suffer, and the fruit, fared the worst of the lot, for when it was opened on this side and exposed to the warm air of this country, the tissues of the fruit burst and it wasted away within 24 hours, the experiment thus ending in failure. The matter was reported to the Canadian authorities, and after some further experiments, through the efforts of Hon. Sydney Fisher, the Dominion Minister of Agriculture, shipments were made in steamers which provided the temperature requisite for the proper carrying of fruit, the produce being carried in a special chamber cooled by the Linde system. The improvements have, of course, been gradual, and success came very slowly, but it is thought now that the general principles under which fruit can be carried to the best advantage are pretty well known, and that only in minor details can the system be improved. One of the important points connected with the carriage of this class of produce is the necessity for keeping it at a temperature which, while sufficiently low, is not allowed to vary to any extent. Considerable difficulty has been experienced on this point, for the best-meaning engineer may temporarily neglect this portion of his charge, and the mischief is done, in most cases beyond repair. A thermograph, or self-registering thermometer, is now provided for each chamber fitted for the carriage of fruit, and this provided a record of the actual changes of temperature during the voyage; thus it can be seen at a glance whether the fruit has been carried under proper conditions or not.

"A recent shipment of fruit by the Manchester Commerce arrived in this country in the pink of condition, and samples have for the past week been exhibited at the office of Canadian Pacific Railway, James street. There passers-by were

astonished to read that all the fruit exhibited, which included some of the finest peaches imaginable, was grown in the open air. One fancies the Canadian climate to be more or less like a severe Christmas in this country, but during the summer season the land is a veritable garden, where flowers and fruits, which it is only possible to produce in hothouses in this country, are to be found in every garden. The fruit sent by the Manchester Commerce is grown at Grimsby, Niagara District, Ontario, a place famous for its orchards and vineyards; and here every description of fruit, including the finest Williams and other varieties of pears, and many kind of peaches, are grown in the open air. Those on view at the offices of the C. P. R. on James street were a continual source of attraction to passers-by, and some were so carried away by the exceptional appearance of the fruit as to be induced to enter and attempt to purchase what was only exhibited as samples. In Canada the fruit is carefully picked, the peaches when almost ripe, the pears and apples somewhat earlier, and as carefully packed, being forwarded by rail to the port of shipment in refrigerator cars. These cars are specially fitted for the purpose, and, being properly attended to, the fruit is carried through to the steamer in excellent condition. Of late owing to the splendid arrangements on most of the newer boats crossing the Atlantic, the carriage to this country has been perfectly satisfactory, and the result is that the Canadian growers have been able to put their fruit on the English market in perfect condition. It has been well in demand wherever offered, and has been sold at prices which equal, when they do not exceed those paid for the more hardy, but less juicy and delicious, fruits from California. Orders have already been received for large quantities of Canadian fruit, which is only being shipped. This includes some consignments of Canadian grapes, which will be put on the market in the course of the next two or three weeks."

Shipment No. 3 was by the steamer Trader again, sailing October 5th, but this was too late a date for peaches or Bartlett pears, both of which were in season for the previous shipment of September 15. Added to this the ice at the Grimsby storage gave out, and the weather came on exceedingly warm while we were packing. Under these unfavorable conditions we thought best to send forward only about sixty cases of peaches, which arrived in Manchester quite over ripe, and the same was the case with the few cases of Bartlett pears, but the principal part of the shipment consisted of fall apples, such as Ribston, Fall Pippin, Blenheim and King, which sold at from \$1.50 to \$1.75 per bushel box; and of such pears as Duchess, Louise, Anjou and Sheldon, which

also arrived in fine condition and sold well.

There were also some red and black Rogers grapes, about two tons, sent forward in the storage chamber. These arrived in fine condition, but, as usual, failed to bring paying prices.

Mr. P. Byrne, Ontario Government Agent, writes to the Department of Agriculture at Toronto, on the 24th of October, as follows:

"The grapes, speaking generally, were in very good condition. An occasional sample was slightly wet or mouldy, but, on the whole, they looked attractive and sound.

"The pears were generally good also; some Louise Bonnes from 'Bonnie Brae' had several bad fruits in each 'sample.' The Bartletts were also soaky, but the other varieties were in excellent condition; especially the Duchess pears, which were all good without exception.

"I assisted in preparing and arranging an exhibit of the fruit at Manchester, and brought with me selected samples for a display in Liverpool similar to the one which was so successful in connection with the shipment brought by the Manchester Commerce. The samples I am showing consist of a tray of twenty-five very fine Elberta peaches—all that was fairly sound in two entire cases! Also two cases of red and black Rogers' grapes, two cases of pears and one case of apples. They make a very handsome and effective display and constitute a most valuable object lesson as to what our province is capable of producing. I sent notices to the press announcing the exhibit, and the consequence is continuous crowds as before inspecting and admiring the fruit."

Messrs. B. W. Potter & Co., the consignees, write on the 27th of October as follows concerning the second "Trader" shipment:

"We have now the pleasure to report upon the shipment per Manchester Trader of grapes, pears, apples and peaches. The latter were nearly all spoiled and we should say that they were packed too ripe. Besides this we see the Wilson cases are not ventilated at all. Kindly examine them and you will see that this is correct. It must have a serious effect upon the fruit.

"The Duchess pears have carried splendidly and taken much the best with buyers, prices varying from 73c. to \$1.40 per case. The Louise turned out very wasty, but the White Doyenne and Anjou were mostly sound. The Bartletts were almost wholly rotten, and we should judge had been picked at the wrong time, or stood before being placed in store. The prices will give you a good idea of the public taste.

"All the apples were in excellent condition, the Ribston's fetching the best prices—\$1.71 per bushel case, with Blenheims and Kings \$1.58, and Fall Pippins \$1.46. We could have disposed of any quantity of these fruits.

"The grapes arrived in very much better con-



dition than last year, their being hardly a bad case. We think the boxes with 4 baskets of 5 lbs. each is the better package, and, as we have said before, the Black Rogers will always sell the best. With a little perseverance, these grapes should be a success, but we want a steady supply for the few weeks the season lasts."

Whether our grapes will ever become popular enough in England to make it profitable to export them seems a question. At first the dealers would not buy them at all, and our consignees had to persuade the costers to take them out on the streets for sale, but bye-and-bye they commanded a small price, which is slowly creeping upwards. But, even yet, the price is not equal to the value of these grapes in Ottawa or Montreal. Here is a report of the sale of 3,360 four pound baskets of Red and Black Rogers carried over in a ventilated compartment and sold in Manchester the 23rd of October :

Import mark or brand.—S. M. Culp, Fruit Grower, Beamsville.

Lot		Baskets,	
1	Red Rogers.....	60	6c
2	".....(12)	60	6c
3	Black Rogers.....(12)	36	8c

Import mark or brand.—D. T. Mackinnon & Son, Bonnie Braes Farm, Grimsby.

Lot		Baskets.	
4	No. 9 Rogers.....	60	7c
5	".....	60	6c
6	".....(12)	60	6c
7	No. 15 Red Rogers.....(12)	60	9c
8	" 4 Black Rogers.....	48	6c
9	Virgennes.....	60	5c
10	".....	60	5c
11	".....	60	5c

Import mark or brand.—E. J. Woolverton E. J. W. Grimsby.

Lot		Baskets.	
12	No. 15 Red Rogers.....	60	5c
13	".....	60	5c
14	".....(12)	60	5c
15	No. 9.....	60	6c
16	".....(12)	72	6c
17	No. 44 Rogers.....(12)	60	8c
18	Salem.....(12)	48	4c

Import mark or brand.—M. Pettit, Mountain Valley Orchard, Winona.

Lot		Baskets.	
19	Lindley.....	60	6c
20	".....	60	6c
21	".....	60	6c
22	".....(12)	96	6c
23	Wilder.....	60	8c
24	".....	60	8c
25	".....(12)	48	8c
26	Agawam.....(12)	36	7c

Import mark or brand.—Isaac Geddes, Winona.

Lot		Baskets.	
27	No. 9 Red Rogers.....	60	7c
28	".....	60	7c
29	".....	60	7c
30	".....	60	7c
31	".....(12)	72	7c

Import mark or brand.—N. Keep, Winona, Finest Quality Fruit.

Lot		Baskets.	
32	Red Rogers.....	60	6c
33	".....	60	6c
34	".....	60	6c
35	".....	60	6c
36	".....	60	6c
37	".....	60	6c
38	".....	60	6c
39	".....(24)	60	6c

Import mark or brand.—J. W. Smith, Fruit Grower, Winona.

Lot		Baskets.	
40	Red Rogers.....	60	6c
41	".....	60	6c
41a	".....	60	6c
42	".....(12)	84	6c
42a	Black Rogers.....	204	6c

Import mark or brand.—E. D. Smith, Winona.

Lot		Baskets.	
43	Black Rogers.....	60	5c
44	".....	60	5c
45	".....	60	5c
46	".....	60	5c
46a	".....	60	5c
47	".....(12 Red) (12)	72	5c
48	".....On Shew	104	5c

These prices amount to about five and six cents for a 4lb. package, beautiful little bas-

kets with covers and wire handles, costing without the fruit about three cents each; the price, therefore, leaves only about one cent per pound for our very best Rogers grapes, which are worth from two to three cents a pound in our own vineyards!

We would think from this shipment that we would never be able to export our grapes with profit. A shipment, however, of thirty-nine 50lb. crates, each containing twelve little four pound baskets of Rogers, either red or black, and ninety-four 20lb. cases, each containing four 5lb. baskets, as shown in our illustration,

7 cases at	44½	\$ 3 12
54 " "	48½	26 30
11 " "	54½	6 02
9 " "	79	7 12
13 " "	79	10 29
24 crates "	1.22	29 22
13 " "	1.34	17 41
2 " "	2.43½	4 87
		<hr/>
		\$ 104 35

CHARGES

Freight	72 10
Manchester canal tolls and quay charges	3 33
Cartage, portage, warehousing, sampling, sampling and taring, clearing and forwarding, warehouse rent, fire insurance	10 00
Brokerage at 5 per cent	5 21
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	\$ 90 64
	<hr/>
	\$ 13 71

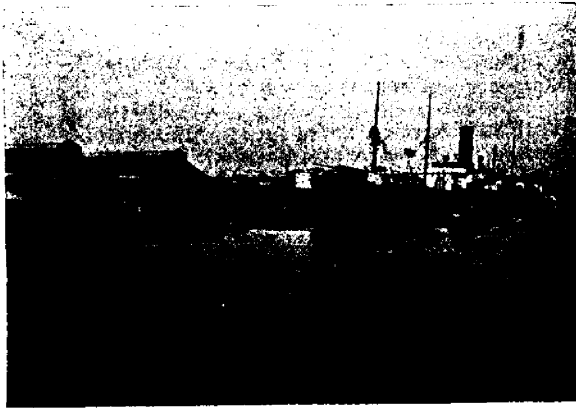


FIG. 1956. MANCHESTER SHIP CANAL.

and forwarded October, 5th, in Mr. Dryden's compartment on the "Trader" to Messrs. B. W. Potter & Co., Manchester, brought much more encouraging results, and our consignees write that, if we could continue regular shipments weekly and not too many at one time time, they think they could gradually work up the price to a paying basis.

The following is our account sales of grapes in our third shipment, the second on the Trader. The varieties were mostly Lindley and Wilder, and were grown by N. Keep, Winona, J. A. Pettit and L. Woolverton, Grimsby.

The graded apples sold remarkably well, Ribston Pippins bringing \$1.71, King and Blenheims \$1.58, and Fall Pippins \$1.46.

The pears also did splendidly, except Bartletts, which were a little out of season for shipment. Duchess sold at from 97c. to \$1.40; Bartlett, at from 36c. to \$1.22; Louise Borne, at from 24c. to 91c.; White Doyenne, at from 85c. to 97c.; Anjou, at from 73c. to \$1.15; Howell, at 85c.; Sheldon, at from 61c. to 85c.; Beurre Clairgeau, at from 73c. to 85c.; Lawrence, at 97c.; Fearless at from 85c. to \$1.09.

The peaches were past season on October 5th, and had to be kept in ice storage a couple of weeks before sailing. Consequently they did not carry as well as those sent in the previous shipment. The varieties were Late Crawford, Smock, Willett, Elberta, and they did not pay freight charges. We have confidence, however, in peaches that, if picked firm and sent forward immediately, we can land them in perfect condition, and realize long prices; and the same is true with regard to our tender Bartlett pears.

The following is a general summary of gross sales and charges for the whole cargo, the latter of which are altogether too

high and must be reduced in future, if the trade is to prosper :

757 cases pears .....	\$ 718 69	
44 " apples .....	68 20	
133 cases and crates grapes...	104 77	
52 cases peaches.....	24 00	\$ 915 66

CHARGES.

Freight .....	\$ 351 73	
Manchester canal tolls, quay charges .....	15 50	
Cartage and portorage at docks and Warehousing.....	12 97	
Clearing and forwarding, sampling and taring.....	3 81	
Warehouse rent.....	5 66	
Fire insurance, marine .....	7 51	
Portage at market .....	11 51	
Printing .....	6 02	
Brokerage at 5 per cent.....	45 80	
Cable .....	73	461 24
		\$ 454 42

Messrs. B. W. Potter & Co., writing on the 3rd of November regarding the second "Trader" say :

"The grapes have not realized much, but the apples and pears should satisfy you we think. It is unfortunate we had nothing from you by the 'Manchester City' in this week, as prices have been still better and all our friends were anxious for further supplies. The quantity of French pears on the market was much smaller during the week and this helped prices. You will find it to the advantage of all concerned to send regular shipments and not one occasionally.

"The Duchess pears have been quite the most successful of any variety. They have carried exceedingly well and stood up afterwards. This is a great advantage and gives buyers confidence to take a quantity. We do not know whether the Bartletts could be picked at the right moment to keep better, but it certainly is their weak point. You will notice the number spoiled this time.

"Would it be possible to send a consignment of fruit in cases to land here about ten days before Xmas? We are confident good prices would be realized. The cases would be handy for presents."

A shipment of pears and apples made on Manchester City by some of our neighbors was sold in three different markets. Those sold in London brought higher prices than those sold in Manchester. The highest price per bushel box of apples got in Manchester was \$1.58 for Spys from A. H. Pettit. The highest in London was \$2.68 for Blenheims, from W. J. Andrews. In Glasgow, Anjou pears from C. P. Carpenter & Sons, brought \$2.44 for half bushel box,

and Kieffer \$1.58. Duchess pears from M. Pettit also brought \$2.44.

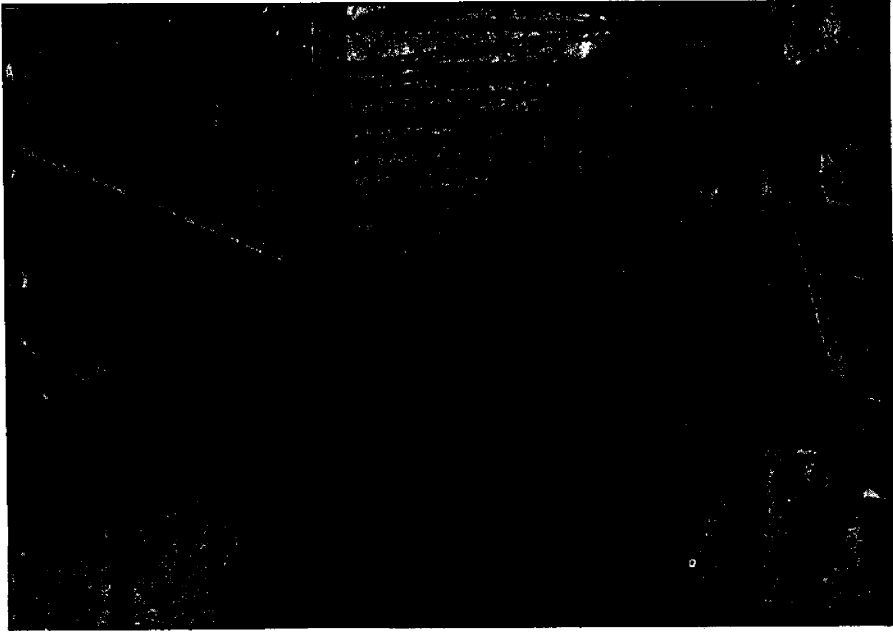
A fourth shipment, the third by the Trader, sailed from Montreal on the 18th of November, made up chiefly of bushel boxes of apples, half bushel boxes pears, 48 lb. crates of Roger's grapes in 4 lb. baskets; 24 lb. cases of Kieffer pears, and half bushel cases of orange quinces. A part of the grapes were packed about the 1st of November, and kept in ordinary storage, counting upon cool weather, but the temperature was higher than usual for the season, and in consequence the grapes first packed showed signs of mould before the 18th, and some had to be withdrawn entirely from shipment. The same difficulty was had with the Kieffer pear, which ripened so fast in November without cold storage at Grimsby that the half had to be sold in home markets, and out of 500 baskets intended for export, only about half were in condition to forward.

At the time of writing the report of this shipment is not yet to hand.

CONCLUSIONS.—On the whole we conclude from this season's experience that, with certain limits of temperature guaranteed to us on shipboard, as has been arranged for us this season by the Hon. Sydney Fisher, and with Hanrahan's system of circulation of air, we may export pears, summer apples and even peaches in perfect condition, and with perfect confidence. We have already established a fine reputation for our goods in Manchester, and if this trade can be pushed forward, there is no question that a new day of better things will dawn for Canadian fruit growers.

Our pears are especially admired and appreciated in England, and we may send forward as many as we like if only properly graded and packed. In evidence of this we quote the following from the "Fruit Grower," of London, England, under date October 4th :

"The samples of pears are unusually large and



VESSEL IN AQUEDUCT OVER THE MANCHESTER SHIP CANAL.

FIG. 1957.

fine. The Williams were grand, and it is clear that no competitor on the market from any outside centre can touch them, for as far as quality, size, flavor and color are concerned they are as perfect as a market Williams can be. The other varieties are also of prime quality. It is thus evident that at last the whole export business has been put upon a proper basis, and that Canadian growers and shippers may rest satisfied with the situation as far as methods of transit are concerned."

And again under date of October 11th :

"It is worth noting that best pears have met a fairly good sale through the week and that the supplies have, thanks to the Canadian shippers, been well up to the mark. The Canadian Williams has attracted a good deal of attention in fruit trade circles. Some large specimens have been put on sale, and as the skins of the fruit were clean and delicate, they met a good reception from buyers in the best fruit shops. We learn that a large quantity of pears are to come across, and that in future years the competition in this branch of trade will be very keen. As a matter of fact the pear trade from October till February is excellent, and good samples put upon our markets during the former months can always be depended upon to secure good prices. The one difficulty as far as Canada is concerned has been overcome. Now they are in a position to put their fruit on our markets in perfect condition, and this is a consideration. So long as the fruit sent is large, of good quality and well graded, it

will pay. It has taken the colony time to master the initial difficulties that beset its path at the start, and it is to be hoped now that it will be able to develop a profitable business with this country."

The following extract is from the "Liverpool Mercury" in October :

"Since mechanical refrigeration was inaugurated on steamers running from Canada to British ports in 1897, many improvements have been made in the grading and packing of fruit, until to-day Canadian-grown peaches, pears and apples can be landed in this country and placed on the market in as perfect condition as if picked a day or two ago instead of a month. This has been illustrated by a consignment recently received in Manchester. The Hon John Dryden, Minister of Agriculture for the Province of Ontario, is co-operating with the growers in the matter, and the Canadian Government are now providing for each chamber fitted for the carriage of fruit a thermograph, or self-registering thermometer, which shows whether the fruit has been carried under proper conditions or not."

Now since the Province of Ontario is more deeply interested than any other Province in the development of this fruit export trade, we think our Association should urge upon our Provincial Government the great importance of vigorously prosecuting this en-

terprise until we see public confidence in it established ; until the days of glutted home markets for fruit are passed away forever, at least for fruit of the higher grades, and until the prices of these goods at home are established by their advanced export value, instead of their being sacrificed as now on overloaded home markets. Why should our pears, that are worth from 75c. a basket for export, and our peaches that are worth from \$1.00 to \$1.50 for that purpose, be sold here at 15 to 30 cents? Why, with such possibilities just within our reach should the

thing be dropped, and our growers left to struggle along in an industry that, though once profitable, is now becoming unprofitable?

The Dominion Government has kindly opened the door for us, and the Provincial Government has begun to take an interest in us ; let us now strongly petition our own province to help us still further to pursue this enterprise, and not to drop it until it is as firmly established as any of our other industries.



AQUEDUCT BEING SWUNG ASIDE TO ALLOW VESSEL TO PASS ON SHIP CANAL BENEATH

FIG. 1958.



FIG. 1959.

## EXPERIMENTAL FARM NOTES.—XI.



MONTH ago it was thought that our fine, mild weather must be nearly over, as there had been a continuous spell of it since early in September, but it was not till October 17th that a severe enough frost occurred to kill such tender plants as cannas and dahlias, the temperature that day being 27.8° Fahr. After that time there was much fine weather and no really hard frosts occurred until Nov. 13th, when the temperature fell to 15.5° Fahr. On Nov. 14th four inches of snow fell, and at this date, Nov. 19th, it looks as if winter had set in, although there is little frost in the ground yet.

As the grapes were not injured by frost until October 17th, a much larger number of varieties ripened than was anticipated, 81 in all which fully matured. The following mentioned in about the average order of their time of ripening are some of the va-

rieties that may almost always be counted on to ripen here: Champion, Moore's Early, Peabody, Moyer, Canada, Merrimac, Wilder, Brant, Rogers 17, Delaware, Brighton, Moore's Diamond, Worden, Lindley and Vergennes, while not always certain to ripen thoroughly are such good keepers that they should be planted where more than the earliest kinds succeed. Champion is of such inferior quality that it is not recommended where any of the others mentioned will ripen.

The work of renewing the vines and old arms which was begun two years ago was continued this year. In this part of Ontario, where the vines have to be covered every winter, it is not a good plan to let the arms get large and stiff, as they are much more difficult to bend, and more soil is required to cover them. Furthermore, the buds are not as reliable on the old arms, and there

are often misses. Good crops may be relied on from young wood if it grows from old roots. It is not, however, a wise practice with the amateur, if the two arm or horizontal system is adopted, to renew the vines every year, as, if they are broken when being bent to be covered, the crop will be lost. As long as the arms are pliable and the buds all show vitality they may be left.

Now that the flowers have gone, the leaves fallen, and the deciduous trees and shrubs become bare, there is nothing which brightens up a landscape so much as something with red or scarlet fruit. The following hardy trees and shrubs are among the best for this purpose, as the fruit is very attractive :

**HIGH-BUSH CRANBERRY** (*Viburnum Opulus*). This is a well-known native shrub from six to nine feet in height, which is attractive almost the whole year round. It is a free bloomer, and the flowers, while not showy individually, when massed together on the bush produce a fine effect; the leaves also, which are a bright green color and of good form, render it a pleasing object throughout the summer. But it is in the autumn and nearly all through the winter when this shrub shows its most desirable characteristics. Being a profuse bloomer, it is a heavy fruiter, and the clusters of scarlet berries hang in great masses from the branches. The fruit keeps its color well, which makes it particularly useful where pleasing effects in winter are desired.

**CLIMBING BITTERSWEET**, (*Celastrus scandens*) : There are few hardy climbers which have as many good points as this one. It is a rapid grower, with smooth, green leaves. It is not subject to disease, nor is it affected by insects. After the first severe frost in autumn the orange colored berries burst open and the inner part, which is brighter in color, revealed. In addition to its value as a climber, it may be kept in a

bush-like form on the grounds by pruning back the young growth, and a plant of this kind is very attractive in winter when covered with fruit. In procuring this shrub, care should be taken to get plants with both male and female flowers, as the flowers on some are all males and no fruit is formed. There is a Japanese variety, *Celastrus articulatus*, which has smaller berries, in which there is more contrast in color. It is also very desirable.

**THUNBERG'S BARBERRY** (*Berberis Thunbergi*): The barberries are all highly ornamental shrubs, both on account of their attractive foliage and highly colored fruit. Thunberg's Barberry is, however, one of the best. It is a highly ornamental shrub at almost any time of the year. The small leaves are bright-green, and as the shrub is of compact, neat habit, not growing more than four feet in height, they are shown to advantage. The small yellow, flowers, while not showy, are pretty and are a pleasing contrast to the leaves. While an extremely desirable shrub for ornamental purposes in the summer, it is very attractive in winter, as the fruit is bright scarlet and quite abundant.

**EUROPEAN MOUNTAIN ASH**, (*Pyrus Aucuparia*) : The Mountain Ash is a well known tree, which need only be referred to as among the best of the trees whose bright fruit remains during most of the winter. If the Mountain Ash is grown as a lawn tree, the branches should start from near the ground. A tree of this kind becomes very shapely and is always attractive. The Mountain Ash is much troubled with borers, but these may be prevented by washing the trees with soft soap reduced to the consistency of thick paint by adding a saturated solution of washing soda, or by destroying the borers when their work is noticed.

There are many other shrubs which are quite ornamental in winter, and which brighten up the grounds very much. Among these may be mentioned the Chinese Matri-

many vine (*Lycium chinense*), with its large fruited variety, (*macrocarpum*), and the various species of *Euonymus*, which are all good, the leaves of many of which becoming highly colored in autumn. There are several species of *Cotoneaster*, the fruit of which is very ornamental in late autumn and early in winter, and which should not be omitted. Several species of roses also fruit heavily, and are quite attractive for some time. Among climbers, some of the honeysuckles are worthy of a place, as besides, being attractive in summer about the

verandah or porch, they furnish an abundance of fruit, which is quite conspicuous in winter.

By a little judicious selection of trees and shrubs it would be no difficult matter to obtain those which would be ornamental in summer, and which would help to enliven an otherwise rather dull landscape in winter.

W. T. MACOUN,  
Horticulturist.

Cent. Exp. Farm, Ottawa.

## COLD STORAGE EXPERIMENTS.

COLD STORAGE EXPERIMENTS at the Kansas station have resulted in the following table showing the temperature for preserving the different products, as well as the packages in which they should be stored, and the time they may be expected to keep, as follows :

TEMPERATURE FOR PRESERVING DIFFERENT PRODUCTS.

Product.	Temperature.	Package.	Time.
Apples, summer .....	38 to 42 °F. ....	Barrels or boxes. ....	2 to 4 months.
Apples, winter .....	32 to 35 .....	" " .....	5 to 8 months.
Pears .....	33 to 38 .....	" " .....	2 to 3 months.
Peaches .....	36 to 38 .....	Crates .....	2 to 4 weeks.
Grapes .....	38 to 40 .....	In sawdust in boxes. ....	6 to 8 weeks.
Plums .....	38 to 40 .....	Crates .....	2 to 4 weeks.
Berries and cherries. ....	40 .....	Quart boxes. ....	1 to 3 weeks.
Bananas .....	40 .....	Crates .....	8 to 12 weeks.
Lemons, oranges .....	40 .....	" .....	8 to 12 weeks.
Figs, raisins .....	40 .....	Boxes .....	8 to 12 weeks.
Watermelons .....	40 .....	" .....	3 to 6 weeks.
Muskmelons .....	40 .....	" .....	2 to 3 weeks.
Tomatoes .....	38 to 42 .....	Crates .....	2 to 4 weeks.
Cucumbers .....	38 to 40 .....	" .....	2 to 3 weeks.
Celery .....	35 .....	Boxes .....	
Cranberries .....	34 to 38 .....	Barrels .....	
Onions .....	34 to 40 .....	" .....	
Potatoes .....	36 to 40 .....	" .....	
Asparagus, cabbage .....	34 .....	Boxes .....	



## KEEPING QUALITIES OF APPLES.

IT is a matter of common knowledge that varieties of apples, as of other fruits, differ greatly in their keeping qualities. Not all varieties are adapted to the same conditions. In general a juicy fruit or one that matures earlier in the season, does not keep as well as a drier, firmer fruit, or one that matures later.

The Canada Experimental Farms made a test of the relative keeping quality of 23 varieties of apples as stored in a cellar. The temperature ranged from 35° to 40° F. for three months, with the exception of one very cold snap when it fell to 26°. The apples were undoubtedly frozen, but were in the dark and thawed out gradually. April 15, the thermometer rose to 45° F., and in May a little higher. The fruit was not ripe. It was examined May 28, with the following results :

*Relative keeping qualities of twenty-three varieties of apples.*

Variety.	Sound.	Partly de- cayed.	Rotten.
	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>
Ben Davis.....	100		
Newell.....	93	7	
Wagner.....	88		12
Rawles Genet.....	82	6	12
Winesap.....	82	4	14
Walbridge.....	73	13	13
Green Sweet.....	72	11	16
Crimean.....	62	15	23
Lawyer.....	49	11	40
Bombarger.....	44	36	20
Duke of Connaught.....	42	16	42
Hardy.....	34	33	33
Swayzie Pomme Grise.....	31	6	63
Pewaukee.....	20	47	33
Watterson No. 3.....	20	40	40
Salome.....	20	40	40
Fameuse.....	12	18	70
Quaker Beauty.....	4		96
Hardisty.....		25	75
Haas.....			100
Gideon.....			100
McIntosh.....			100
Anisovka.....			100

Grapes in sawdust gave better results than those in baskets or open trays.

The berries seemed to hold to the stem better than in either of the other cases. They were also slower to show mildew, owing to the fact that the sawdust absorbed

the moisture that evaporated from the grapes and kept them dry. A difficulty with sawdust packing is that it adheres to the fruit and stem so that in shaking it off the berries are detached. Cut cork was suggested as better packing material than sawdust. Next after packing in sawdust the method of storing in trays gave best results, as it kept the fruit drier than the baskets.

Dryness is essential to the successful preservation of grapes. Moisture causes the growth of mold, which at once ruins the fruit. With the present moist storage rooms some good absorbent such as sawdust must protect the fruit. Better success with grapes would be attained in a room cooled by dry, cold air currents than by the present systems of refrigeration. Such storage rooms are already being planned in some warehouses. \* \* \*

Grapes held up in good condition from six to eight weeks. The results of other seasons agree in fixing this as the limit for grapes grown in our section. The length of time varies considerably with the different varieties. Delaware, Agawam, Brighton, Duchess, Centennial, Concord, Worden and Hays, ranking in the order named, have kept the best. It is noticeable that the red grapes head the list, the first three being red. The fourth and fifth of the list are white, while the black grapes represented by Concord and Worden rank in sixth and seventh places. The varieties that kept best are those that rank as early grapes. However, no extremely late varieties were tried. Had they been tried the results might be different. The climate in which the grapes grow modifies their keeping qualities. A grape that matures slowly in a climate of moderately cool, regular temperature will keep longer than one whose ripening it hastened by excessive heat.

Plums differ much in their behavior in cold storage. Robinson and Weaver, very juicy varieties, were kept from three to four weeks. With such varieties decay proceeds very rapidly when once it has begun. Less watery sorts, as Golden Beauty and Moreman, were kept in the station cooling room, which had an irregular temperature averaging about 50° F. for more than a month.

Weizerka, a meaty, prune-like variety, kept for a still longer time.

Tomatoes, picked when just beginning to redden, wrapped separately in tissue paper and placed in a crate packed on the bottom and top with excelsior, were kept about two months. Green tomatoes may be held in storage for several months, but when removed instead of ripening, they simply rot.

Tests were made with cucumbers, but, contrary to expectation, they did not keep well. "With our present knowledge," says the Kansas Station, "we can not regard the cucumber as a success in cold storage."

In recent experiments in England, according to the Journal of the Board of Agriculture, the storage chambers were fitted with tiers of galvanized wire shelves around the sides and the fruit was placed on cotton wool.

It was found that strawberries could be kept for at least three weeks in a temperature of 30°, but it was necessary to sur-

round the fruit with cotton wool, or, in the case of fruit in sieves, to place a pad of that material over the top. When this precaution was not taken, the fruit, though sound, became dull and lost the fresh inviting appearance which is so important when it is offered for sale. Black currants kept well for ten days, after which they began to shrivel, but plumped and freshened on exposure to the air so as to be marketable. This was especially the case with black currants that had been stored in market sieves covered with a wad of cotton wool. After a fortnight's storage, the temperature was raised from 30° to 32° F., and this seemed to give the best results. The experiments with red currants were an unqualified success, the fruit remaining perfectly sound for six weeks, and maintaining its freshness when exposed to a normal temperature for sixteen hours. Cherries covered with wool kept for a month at a temperature of 30°, and at 36° were not only sound, sweet and juicy, but fresh and clear. After the fourth week the fruit began to wrinkle. \* \* \*

Green gages were kept in excellent condition for ten weeks and Victoria plums kept for nine weeks, but the cooking varieties of plums, with that exception, did not lend themselves satisfactory to cold storage.—*Kansas Expt. Sta. Bul.*

## PACKING APPLES FOR EXPORT.

**S**O much has been said and written about the importance of packing apples carefully and honestly that it might seem almost like a useless repetition to refer to the subject again. Yet the conditions this year are somewhat unusual and it is therefore worth while to study them with unusual care. The facts are about as follows—The world's crop of apples is an exceptionally large one, perhaps the largest in the history of the industry,

and this in spite of the large quantities that were blown from the trees during the recent high winds. On the other hand the crop of Nova Scotia is probably *not* so large as last year and certainly not of as high quality. The black spot has been unusually prevalent the past season and apples are spotted and cracked as they have not been for some years, and everyone who has ever had the least experience in packing such fruit knows that it is well nigh impossible, even with the best

of intentions, to exclude all unsound fruit. As a result of all this our Nova Scotian growers will have more rivals against whom they must compete in the English markets, yet their goods which they offer will not be up to the usual standard in quality.

In view of this fact it behooves every orchardist to sort and pack his apples with unusual care and to send forward only the best. It is quite probable that he will receive as much money for his crop if he ships only those that are sound and unblemished, packing them as No. 1s and 2s (it is a mistake to send unsound fruit or "drops" as No. 2s or or any other number), and disposes of the less desirable grades in local markets and at canning establishments. And it is *undoubtedly* true that by so doing the reputation of Nova Scotia fruit will be kept at its present high standard, and the future prospects of the trade thereby improved. Indeed some growers, whose opinion is entitled to great respect, have gone so far as to say that it would in the end be better for the apple growers if the present crop could be destroyed altogether. This may be taking a somewhat pessimistic view of the situation, yet it undoubtedly rests with the growers themselves to determine how much ground there is for this opinion.

Another feature of the question is worthy of careful thought. The large crop and comparatively low price of apples will mean that they will find their way into parts of England and other European countries which have not heretofore received any Canadian fruit. If these trial shipments shall open in attractive condition there will be a demand for more, and this demand will continue another season even though prices may be somewhat higher. But if these first shipments of our fruit shall prove poor, dishonestly packed and generally unsatisfactory, the result will be that we shall have no further demand from that quarter either this year or future years, at least till this first impression has been removed.

What is to be the result of this year's sales? Fair prices for our fruit, an enlarging of our markets, and bright prospects for the future? Or a demoralized market this year and a prejudice against our fruit which it will take years to overcome? It is the fruit growers themselves who must answer this question!

F. C. SEARS,

School of Horticulture.

Wolfville, Nova Scotia.

APPLE BUTTER.—The following receipt for making apple butter is given by the Rural New Yorker :

Apple butter should be made from new cider, fresh from the press, and not yet fermented. Fill a porcelain-lined kettle with cider and boil until reduced one-half. Then boil another kettle full in the same way, and so continue until you have sufficient quantity. To every four gallons of boiled cider allow a half-bushel of nice juicy apples, pared, cored and quartered. The cider should be boiled the day before you make the apple butter. Fill a very large kettle

with the boiled cider and add as many apples as can be kept moist. Stir frequently, and when the apples are soft beat with a wooden stick until they are reduced to a pulp. Cook and stir continuously until the consistency is that of soft marmalade and the color is a very dark brown. Have boiled cider at hand in case it becomes too thick, and apples if too thin. Twenty minutes before you take it from the fire add ground cinnamon and nutmeg' to taste. It requires no sugar. When cold, put into stone jars and cover closely.

## LOYALTY COMMEMORATED.



FIG. 1960. MEMORIAL COLUMN.

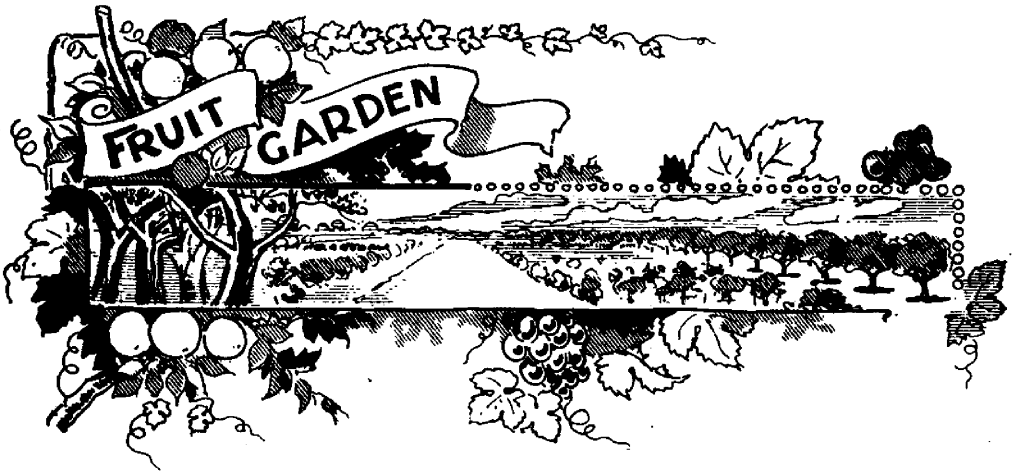
**T**HE loyalty of the Canadian soldiers to the Empire has been proved on many a battlefield in South Africa, but the Canadians who have staid at home have been no less interested and sympathetic and loyal. These sentiments have been shown in a hundred different ways, one of which is shown by the accompanying illustration. It is a "broken column" composed of living plants erected in the Public Gardens at Halifax, Nova Scotia, to commemorate the brave defence of Kimberly and in honor of the first Canadian to sacrifice his life there.

The circular bed on which the column stands and the base of the column are composed principally of *Ledum glaucum* and *echeveria*, with a single row of golden *crasula* near the outer edge of the bed and

"H Co." in the same plants, the "H" being on one side of the column and the "Co." on the other. At the back of the column in the circular bed is the word "Africa," and in front "Heroes." The upper part of the column and the conger section in the centre are each composed of *alterianthera*, while the division in which the word "Wood" appears is made up of *Cerastian tomentosa*, and the lower division which includes the word "Kimberly," consists of a species of *herniaria*. Altogether it is a most interesting and artistic bit of work and one which is a credit to Mr. Power, the Superintendent of the Gardens, who was instrumental in having it erected.

J. C. SEARS.

School of Horticulture,  
Wolfville, Nova Scotia.



## THE EFFECT OF POLLINATION.

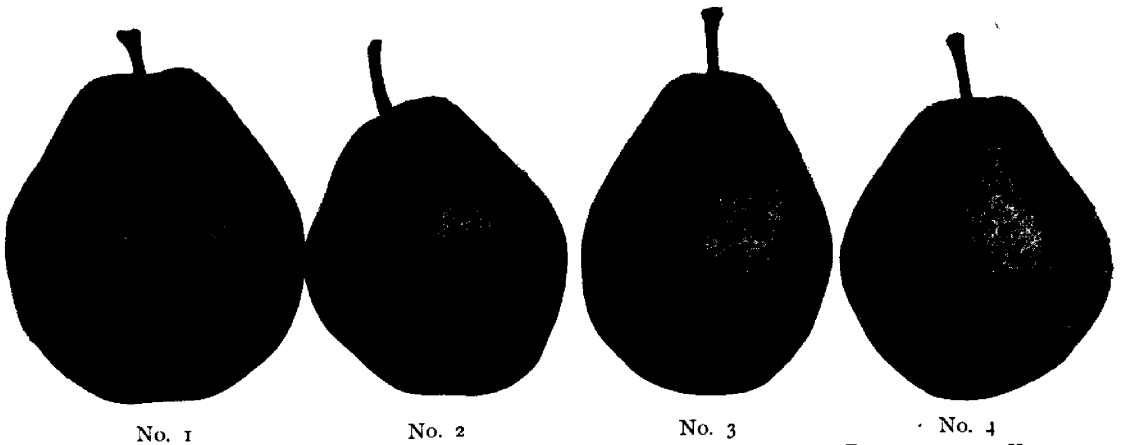
OF late much has been said and written in regard to the effects of different pollen regulating the size of fruits. In several back numbers of the *Canadian Horticulturist*, this subject has been fully treated, and again in an excellent Pamphlet, No. 181, by S. W. Fletcher of the Cornell University Agricultural Experiment Station, in which the author draws attention to the following facts proven by experiment in regard to pears. Seckel pollinated with Keiffer pears are much improved, whilst Lawrence pollen has not much effect. Clapp's Favorite, when pollinated with Keiffer, was much larger than when pollinated with Lawrence. Louise Bonne and Howell, when pollinated with Clapp's were twice the size of those pollinated by Bartlett, and turning to stone fruit, Coe's Golden, when crossed with French prune was much improved, and Green Gage crossed with Italian prune was improved, and Satsuma crossed with Abundance was also improved.

But to come to results obtained near home, the writer, in 1894 planted a pear orchard of 1200 trees, and, amongst other varieties planted, put Duchess and

Keiffer in each alternate row; the fruit last year was not very plentiful, but the effect about to be stated was noticeable. This year the trees were well loaded, being clean and smooth, and there the effect of beneficial pollination was very much shown. In the illustrations, Nos. 1, 2, 3 and 4, No. 1 shows a Keiffer pear pollinated with Duchess, No. 2 a Duchess pollinated with Keiffer, Nos. 3 and 4 show an average sized Keiffer and Duchess respectively.

Now here in picture No. 1 we see the good effect of Duchess pollen in the Keiffer pear. Observe the characteristic enlargement of the blossom end, common in the Duchess; the skin, too, was of the rough speckled Duchess type, whilst the flavor was much improved. Placed side by side with a Duchess, not one prominent fruit-grower could tell the difference when shown both.

No. 2 shows a Duchess pollinated by Keiffer pollen; here it makes the Duchess smaller; note the tendency to grow smaller at each end, and especially the familiar ring or bulge half way down the pear, so common in the Keiffer pear. The flesh, too, was coarse and more gritty; it lacked, too,

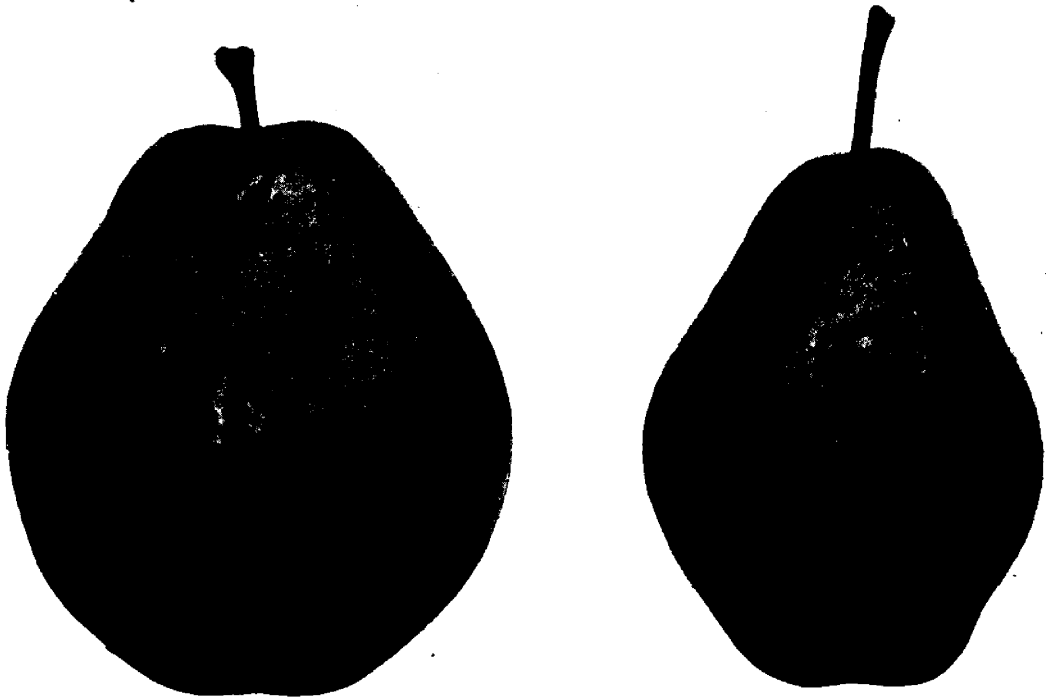


No. 1                      No. 2                      No. 3                      No. 4  
 FIG. 1961. POLLINATION. (1) KEIFFER POLLINIZED BY DUCHESS. (2) DUCHESS POLLENIZED BY KEIFFER.  
 (3) AVERAGE FORM OF KEIFFER. (4) AVERAGE FORM OF DUCHESS.

that russet yellow color. Both specimens were very carefully taken off the tree, wrapped and labeled by the writer, so no confusion could arise to doubt the effect of the pollens.

Now compare Nos. 1 and 2 with 3 and 4,

fair samples of a Keiffer and Duchess, and the effect is clearly shown. The effect was noticeable throughout the orchard, and what can we sum up from this? In planting Keiffer and Duchess near each other we evidently impair the quality of the Duchess



No. 1. KEIFFER DUCHESS.

No. 2. KEIFFER.

FIG. 1962. KEIFFER DUCHESS AND KEIFFER COMPARED.

unless it has a better keeping habit, whilst the Keiffer is very much improved in quality, color, and most especially in style. Certainly the Duchess was much cleaner and smoother, with a tougher skin. Following along these lines we can so plant our orchards so as to materially alter the form and texture of our fruits, and if so we are

only beginning a process the result and end of which is hard to see. Surely it is an error the old notion that the effect of cross pollination was only shown in our fruit grown from the seedlings of the parent fruit thus pollinated and not in the fruit itself.

Winona.

N. KEEP.

## A MODEL ACRE OF STRAWBERRIES.

**I** SEND you a statement of my method of growing fancy berries for market. The varieties used are Marshall, Wm. Belt and Brandywine, principally Marshall. The plot herewith described contains two acres.

The land of clay-sand loam containing more or less stone, in good condition, was plowed and thoroughly fitted, finished up by rolling.

It was then marked very accurately 30x36 inches by markers made of  $\frac{3}{8}$ x10 inch strips with runners on the under side and a pair of handles like thills. A line was stretched along one side and across one end as a guide for the marker, after that one runner of the marker was run in the last mark made. With a little care almost perfect marking is the result.

The plants, 5800 per acre, were set with spades, the spademan carrying the plants, straightened and very wet in a basket strapped upon his back, the setter, generally a boy, taking a few plants from the basket at a time in his hand while the spademan with a moveable wooden sole or sandal upon his shoes thrusts the spade well down into the soil, then forward when the setter with a quick snapping movement snaps the plant behind the spade, being sure to have the roots straight down and well spread. The spademan then removes the spade in such a manner that the earth falls back upon the

roots, he stepping close beside the plant thus firming it.

When setting was finished, the Breed Horse Weeder was used, and continued until the crowns became so large that it began to break them off, when the 13 tooth Iron Age cultivator going both ways was substituted. By the frequent use of the above tools and a very little hand hoeing the field was kept free from weeds and showed great vigor.

Up to August 1st all runners were kept off, then are allowed to make plants for about ten days when they were bedded in as follows: two runners or plants from each side of the old plant were stretched out in the 36 inch way covered in or fastened down with earth or stones, all other runners pinched off. When finished the beds consisted of rows  $2\frac{1}{2}$  feet apart in the rows, the hills of old plants 36 inches apart with two clumps of two new plants each, twelve inches from each other and also twelve inches from parent hill or plant. Afterward all runners were kept off. The final result is the bed now contains per acre 5800 hills of from 4 to 10 crowns each and 23000 immensely strong new plants capable of producing strictly fancy fruit in large quantities.

The fertilizer applications were as follows within ten days after planting, 5000 pounds high grade compost per acre which was at the rate of an ordinary handful about each

plant. Just previous to bedding 250 pounds fine ground bone and 100 pounds muriate potash was spread where the plants were to be bedded and thoroughly cultivated in. A third application of 400 pounds ground bone and 250 pounds sulphate of potash was made broadcast between the rows in October.

The field is now covered with straw at the rate of three tons per acre spread between the rows, care being taken to keep it off the plants. We believe in early mulching.

As has been the custom for many years, the fruit will be carefully picked stems on, avoiding all bruising, careless handling, etc., thoroughly sorted by the pickers, who place all small, mis-shapen, over or under ripe or otherwise objectional fruit in separate baskets to be sold as culls to peddlers for local consumption, while the perfect fruit packed in new baskets in either new or

well painted crates will be shipped to various markets or sold to buyers here as circumstances shall dictate.

Herewith I append cost of growing block of two acres described :

Plowing and fitting .....	\$18 00
Plants.....	23 20
Setting.....	6 00
Filling in.....	1 00
Fertilizer.....	18 00
Applying fertilizer.....	1 00
Fertilizer (500 ground bone, 200 muriate potash).....	11 00
Application.....	1 60
Cultivating and hoeing .....	28 20
Bedding runners.....	18 20
Cutting runners.....	20 60
Fertilizer (800 ground bone, 500 sulph. potash).....	23 00
Mixing and applying .....	2 00
Straw, 6 tons (@ \$5.00).....	30 00
Spreading.....	5 00
Total .....	\$206 50

—*The Strawberry Culturist.*

## FOOD VALUE OF FRUIT.

**I**N recent years the growing of fruits has assumed great commercial importance in many regions of the United States, especially in the South and on the Pacific coast. The amount of fruit consumed in the average household has undoubtedly increased with the greater production and facilities for shipping and marketing.

Many stations have reported analyses of fruits and made extended studies of the different methods of growing fruit trees, their soil requirements, enemies, etc.


The stone fruits constitute an important group, and have been studied for a number of years by the California and Oregon stations. Fresh peaches, apricots, cherries, prunes and plums are general favorites, while enormous quantities of these fruits are canned, dried or preserved in some way. It is interesting to compare the composition of

these fruits, fresh and dried, with each other and with some of the staple articles of diet.

It must not be forgotten, however, that fruits are valuable for other reasons than the nutrients which they furnish. They contain acids and other bodies which are believed by physiologists to have a beneficial effect on the system and, doubtless, very often stimulate the appetite for other food. They are also useful in counteracting a tendency to constipation. Another point—and one entirely apart from food value—should not be overlooked. That is, fruits add very materially to the attractiveness of the diet. It is not easy to estimate their value from this standpoint, since often the appearance of food has a value which cannot be measured in dollars and cents.—*The Farmer.*



## THE WILLETT PEACH.

ALLACE P. WILLETT, writing to the Country Gentleman, notes the fact that the Willett Peach is one of the seven varieties that did well in a trial of 225 varieties at the Michigan Experiment Station. He says that the original seedling tree was grown in the yard of his city home, 110 W. 48th St., New York city, from a peach stone brought from South America. He exhibited specimens at the American Institute fair in 1874 and received a diploma. He writes :

A nurseryman who saw the peaches there, begged of me some cuttings the following year, which I sent him, and from those cuttings he propagated the Willett Peach. I also sent him fruit from the original tree, which fruit he placed before the Pomological Society of the state of New York, who named it the "Willett Seedling," and pronounced it "the finest late peach grown," as he wrote me. I have never taken the trouble to look up that record, and don't know if it exists to-day.

I have never been without the Willett peach, and never failed in any year to have specimens measuring at least 9 inches in circumference and weighing at least 9 ounces each, always having received my fresh supply from said nurseryman until his death.


His successors have not been as careful of the propagation, and quite shamed me with my friends, among whom I have been accustomed to distribute trees, by sending me for the Willett an entirely different and inferior peach ; in fact a white clingstone, which decayed on the trees before ripening. Fortunately, I had several true Willets on my place, and now produce my own trees, true to name. I find the Willett is entered in my catalogues South and North, and now West.

Sitting on my piazza two autumns ago, a tree agent came along soliciting orders. Looking over his catalogue, I was confronted with a fine picture of the "Willett Seedling" peach, with letter-press copy of myself as its producer, with all particulars. I took the gentleman to my peach garden, and showed him the perfected originals of his drawings.

Now, after 25 years' test, if the testimony of those who see and taste and raise the Willett peach from trees that I have distributed is worth anything, it is not too much to say, as said the Pomological Society, the first years of its introduction, "The Willett Seedling is the finest late peach grown," and I may perhaps congratulate myself on having given to the world a peach of beauty and a joy forever.

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## THE CHAIRS PEACH.

HE wonderful peach crop of this year is teaching us some useful lessons about varieties. Some of the old ones hold their own remarkably well, and others are being outclassed by better ones of the same character. The demand for yellow peaches seems to be on the increase, and whatever color is fashionable is the one to grow. The Crawford, Foster, Reeves,

Smock and lately Elberta have largely been the cause of this popular notion, because they are all peaches of good quality, except it be Smock, which has been mainly popular with the canners. Many varieties have been brought forward of the season and character of Late Crawford, but none that seems to be superior in all respects except Chairs. Having just made a trip of investigation through

the peach orchards of Delaware, which are almost universally loaded with fruit, it has been a rare opportunity to see what the varieties have done, and there seems to be no

It is also a trifle longer in ripening its fruit, which is sometimes very convenient when a large quantity requires marketing. The fruit hangs on remarkably well.

The variety originated on the premises of Franklin Chairs, of Anne Arundel County, Md., about 1880, and has been grown more or less in many sections ever since. At first it was called Chairs Choice, but the name is now cut down to the single word Chairs. Many orchards of it have been in bearing for years past, and thousands of baskets and boxes of the fruit have gone to market and been handled on the reputation of Late Crawford, because the old name would be an advantage in the sale, the dealer and buyer both thinking they had rarely seen such fine Crawfords, when it was really the Chairs. Those who contemplate planting a medium late yellow freestone will do well to plant Chairs, except where varieties of the Crawford type do not succeed. The drawing reproduced in Fig. 1963 was made from a good average specimen from a tree that was well laden, on the farm of Charles Wright, of Seaford, Del.

H. E. VAN DEMAN,  
in R. N. Y.

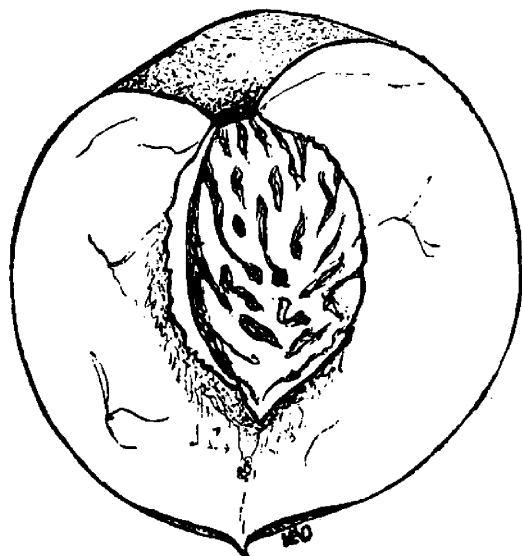


FIG. 1963. THE CHAIRS PEACH.

variety of that season that equals it, although there are plenty of competitors. It is just like a very large Late Crawford, but excels it in size and seems to be less subject to rot.

**JAPAN PLUMS.**—Prof. Waugh, of the Vermont Experimental Station, says: "Undoubtedly the hybrid varieties most widely known are Wickson and Golden (often called Gold); and if we were to add a third to the list, it would certainly be Juicy—all three the productions of one man, and that man Luther Burbank. The two varieties first mentioned have been planted all over the United States, and have been fruited this year in hundreds of orchards. The experience thus gained may be fairly summarized, I think, by saying that while both varieties are beautiful in fruit and possess many desirable

qualities, neither one has shown any mentionable promise of taking rank with our well-known market plums, nor even of becoming a pre-eminently desirable house-use plum in any part of the United States or Canada. Both promise to be grown for years to come, but neither one has yet secured first rank either in the market or the amateur list, and neither seems likely to do so. The experience of a few individuals may not accord with this view; but taking the country as a whole, I am confident this is the result."

## FAVORITE APPLES AND PEARS IN ENGLAND.

**F**OLLOWING its usual system of making a numerical analysis of the exhibits at the great exhibitions, the "Gardeners' Magazine" presents figures relating to the recent great show of hardy fruit in London. There were 2,069 dishes of apples alone in 299 varieties. Of pears there were 1,099 dishes in 122 varieties.

The leading apple in this gigantic display was Cox's Orange, shown 85 times. This apple is pre-eminently the finest flavored winter apple grown in the United Kingdom and is becoming more and more popular. It realizes top prices in the market, and around the holiday season reaches sometimes to fancy figures. Others in order are Ribston, 73; Peasgood's, Nonsuch, 72; Warner King, 71; Worcester Pearmain, 61; Alexander, 47; King of the Pippins, 44; Lane's Prince Albert, 44; Blenheim, 39; Gascoyne Scarlet, 38.

Bismark is thirteenth with 32; Mother, 27; Washington and Wealthy each score 18; Gloria Mundi and Tompkins King, 15

each; Sturmer, 11; Oldenburg, 10; Gravenstein, 7; Nanny and Reinette du Canada, 6; Twenty ounce, 3; Astrachan Red, 2; Baldwin, Beittigheimer Red, Early Harvest, Grime's Golden, Spy, 1 each. It is noticed, too, that several of the Russian type appear at the tail end of the list.

In pears the leader is Pitmaston Duchess, 82; with Doyenne du Comice, Louise Bonne de Jersey, Marie Louise, Souvenir de Congress, Durondeau, Diel, Beurree Superfin, Williams (Bartlett), Boussock, Angouleme and Hardy following in order, the last named having 25 points to count. Conference, 20; Bosc, 17; Nelis, 13; Anjou, 12; Seckel, 10; are other varieties well known here.

One remarkable feature is the comparative importance of the more modern varieties. It is evident that the British fruit grower is not slow to try a novelty and the resulting appearance at such exhibitions may convey a false impression of the actual merits of the variety.—*American Garden.*

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## FALL WORK FOR SAN JOSE SCALE.

**T**HE rapid and unusual development of the San Jose scale the past hot summer in some sections calls for vigorous work on the part of the fruit grower. The following is recommended by Prof. W. G. Johnson, the Md state entomologist, who has done more work against the scale than probably any other eastern man. All badly infested trees, of whatever variety, should be grubbed out without delay. Pile the brush and wood where the tree stood, but do not burn it until next May or June. This is done to preserve the little parasites that feed upon the scale.

The scale cannot leave a branch or twig to which it is attached, while the parasites escape and fly to other trees. Spray all suspicious trees with a 10 per cent. mixture of kerosene and water before the leaves fall, and while the pest is still active and breeding. The scale will continue to breed until checked by cold weather. Select a calm, sunny day for the spraying if possible.

Late this fall, after the foliage is off, whale oil soap at the rate of 2 lbs in 1 gal. of water can be used on pear and apple trees, but it is not recommended for peach and plum trees. It can be used, however,

to wash the trunk and larger branches of peach and plum, but must not come in contact with the fruit buds, as it will kill them. The main object of fall spraying is to break up the scattering of late broods. This having been accomplished, the spray can be

repeated again next spring, just before the buds swell, with a 20 per cent. mixture of kerosene and water. This stronger mixture must not be applied in the fall, winter or on a misty or damp day.—*American Agriculturist.*

CANADIAN VS. FRENCH PEARS.—A remarkable testimony to the excellence of Canadian Bartlett pears comes from the London (England) Daily Mail :

Many varieties of magnificent pears, 1,000 cases in all, and numerous cases of famous Crawford and Elberta peaches have just been landed and sold at Manchester. The fruit came from London, Ontario, and created quite a stir in trade circles. Many of the pears are quite what are termed giant fruit. In color, flavor and juiciness they are far superior to French pears, and met a ready sale. The fruit was packed in chambers regulated by mechanical refrigerators.

That Canadian pears should surpass the French pears when tested by the educated taste of the fastidious Englishmen is quite worthy of general congratulation among Canadian fruit growers. France is famous for the excellence and variety of her pears, as is shown by the long list of French names of pears, and her exports of this fruit to Great Britain are enormous in quantity. But Ontario bids fair to win her laurels

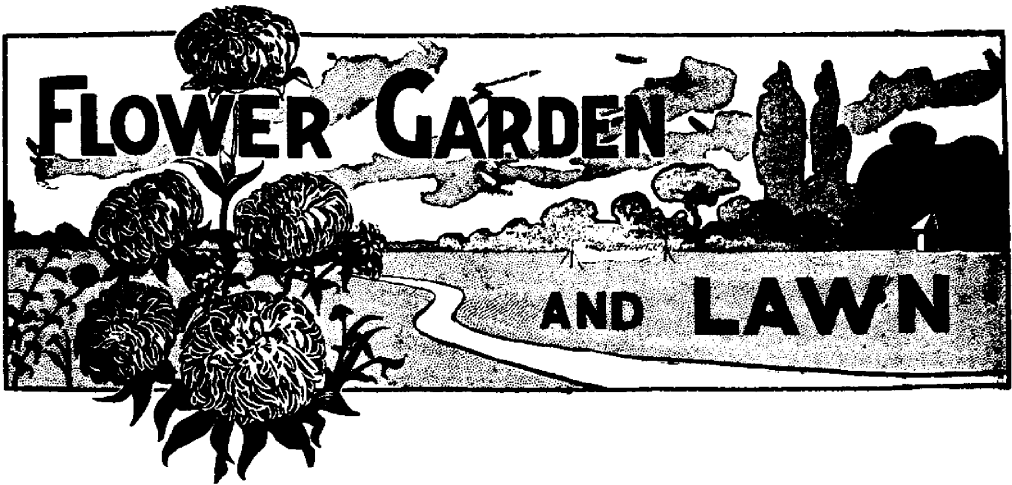
away from her, and, if we mistake not, her pears will soon be more famous in the great markets of the world than were Californias.

The Bartlett, strange to say, succeeds far better here than in England, the place of its origin. Berkshire is its home. About 1770 it was introduced to the public by a nurseryman in Middlesex, named Williams, and has ever since been known in England by his name. In 1797 Enoch Bartlett, of Boston, introduced it into America, and there his name was substituted for Williams.

This pear has such a tendency to mature quickly and soften, that to land it in a firm condition in the Manchester market a month after it was gathered in our Canadian orchards was indeed a triumph for Mr. Hanrahan's system of ventilated cold storage, which is being adopted for the carrying of our fruits.

AN UNPROFITABLE PEACH CROP is reported from Delaware and Maryland owing to the enormous quantity of small sized fruit on the trees. Growers are bitterly disappointed, because this was the first big crop in four years, and they expected to reap rich returns. Instead of this, their fruit has not been worth picking and thousands of bushels have rotted on the ground. The cause of the small size is due in part to the overloaded state of the trees, and in part to the

very dry summer. They have learned one lesson by a costly experience, that thinning must be done in order to grow profitable grades of peaches. Low grade peaches were not worth over 5 or 10 cents for half bushel baskets, medium grade 15 to 20 cents, while strictly fancy fruit brought from 60 to 90 cents a basket. Where no grading was attempted buyers usually bought the whole at the value of the poorest grade in the package.



## TIMELY TOPICS FOR THE AMATEUR.—X.

[We have pleasure in again showing our readers the face of our most valued correspondent on Floriculture, Mr. W. Hunt, of Hamilton, who writes for us so regularly under the *nom de plume* of "Hortus." Long life to one who is making himself so useful to our readers.]



FIG. 1964. WM. HUNT.

**D**ECEMBER, 1900! The present number of the Horticulturist completes the last volume for the 19th century. The next issue, January, 1901, will indicate the launching forth into 20th century horticulture!

A glance backwards into the records of horticulture of the fast closing pages of the present century, reveals the fact that great progress has been made during that period in all parts of the civilized world.

Floriculture more especially has become much more popular and universal, particularly during the latter half of the century. The improved social conditions prevailing, and a better and more general system of education than before existed, have favorably influenced the growth of floriculture to a considerable extent. The opening up of new countries to commerce, with increased facilities of communication, have also been the means of adding considerably to the somewhat meagre list of foreign and exotic plants that had been introduced to horticulture prior to the advent of the 19th century.

A glance through the catalogues of our nurserymen and florists of the present day, or a stroll through our principal markets when the flower season is at its height, are convincing proofs of the great advance made in floriculture of recent years.

Plants that are indigenous only to tropical and sub-tropical climates, and that half a century ago were seen only in the gardens of the wealthy are now within the reach of almost every one, at reasonable prices. The

more general dissemination of horticultural literature in the shape of magazines, illustrated catalogues, etc., have also been of great benefit in creating a desire for an improved and more varied selection of plants and flowers.

Very few varieties of plants that even forty years ago were thought to be the acme of perfection can be found under cultivation at the present time. The old fashioned single geraniums of that date, such as *Stella*, *Pink Cristine*, *Madame Vanchre*, or even the first introductions of the double varieties a few years later, such as *Madame Lemoine*, *Gloire d'Nancy* and others of a similar type, are entirely superseded by the improved and semi-double varieties of these plants so popular with the flower-loving public of to-day.

The older types of the canna, coleus, fuchsias, etc., of half a century ago cannot be seen in our gardens or greenhouses at the present time. One exception, amongst others, may be noticed in this respect, viz.: that of the *Verschafeltii* variety of coleus that still stands in the front rank as a bedding Coleus, after being under cultivation nearly or quite half a century. A few descendants of the original varieties of Persian lilacs, *Philadelphus* (mock orange), etc., still hold a deservedly popular place amongst the newer species and varieties of these useful plants that have been introduced more recently. Some varieties of the lilac have been cultivated in European gardens for over two centuries.

So far as we are concerned here in Canada, floriculture has made very rapid progress, more especially during the last thirty years. Prior to that time there were very few plants, except a few of the commonest geraniums, fuchsias, pansies, etc., offered for sale in our markets. The growth of floriculture, and the demand for a better and more varied selection of plants and flowers during that time has been very noticeable.

The beautiful specimens of plants such as palms, exotic ferns, begonias and even Orchids, natives of far-away lands, exhibited by amateurs at the numerous floral exhibits held under the auspices of our affiliated horticultural societies, is ample evidence of the growing taste of Canadians for all that is rich and beautiful in the floral world.

There are, however, several methods that would probably assist the more general adoption of floriculture than now exists, one of which is to try and induce our young people, even the school children, to interest themselves more in the culture of plants and flowers. A step in this direction has already been taken in several places, with very favorable results. The executive of the Hamilton Horticultural Society made a commencement in this direction during the past season. About 300 geranium plants were distributed in May to the scholars attending the public and separate schools.

In October an exhibit of the plants was given in the Queen Victoria School, and premiums, consisting of plants, awarded for the best plants grown by scholars individually, as well as similar premiums for the collective exhibits from each school. A great deal of interest was taken by the scholars and their parents in the exhibit, and the directors were well satisfied at this, their first attempt to encourage the love of horticulture amongst the young folks.

Photography might also be made useful as a feature, not only of our public exhibits of plants and flowers, but also at the winter meetings of our societies.

A description of an exhibit of this nature was given in a recent number of the "Agricultural Economist," a London, England, publication, edited by E. Owen Greening, Esq., who was the originator of the Society under whose auspices the exhibit was held. The title of the Society is a decidedly appropriate and suggestive one, viz.: the "One and All" Society. The exhibit of photo-

graphs proved almost as interesting to the crowds of sight seers as did the magnificent display of the products of greenhouse, window and garden, many of the exhibits in both classes coming from people living in the centre of the busy, bustling metropolis of London itself.

The use of the camera, more especially for recreative and pleasure purposes, has become so general, that I feel certain the directors of our Societies would receive the

people, is too little thought of in these days of commercial activity, and sometimes undue enterprise.

The coming century will, I trust, see an immense development in the more universal culture of plants and flowers by our people. It is a well recognized fact that where there is a community or nation, where the love of floriculture is general, there you will usually find an intelligent, law-abiding, God-fearing people. I am afraid I have gone somewhat



FIG. 1965. "AN AMATEUR'S GREENHOUSE."  
Owned and Photographed by T. Glover, Hamilton.

hearty support of not only members, but of all classes of the community, more particularly that of our young people, if this feature were added to our exhibitions and meetings. Premiums could be given for deserving pictures exhibited, consisting of articles used in photography, or plants or bulbs could be given in the same way as for floral exhibits. The social and even national importance of encouraging these and similar projects, more especially amongst our young

out of the usual beaten track in writing this article, but I hope to be excused for my transgression in this respect, as it is the last opportunity of the nineteenth century. I wish everyone, and especially readers of the *Horticulturist*, a happy Christmas for the closing one of this century, and a glad, prosperous and peaceful New Year as a commencement for the coming 20th century of the Christian era.

Hamilton.

HORTUS.

## GREENHOUSE AND WINDOW PLANTS.

**R**OUTINE work amongst the plants and flowers will be the principal features in connection with horticulturist work from now until the first days of spring, unless exceptionally fine weather should prevail during the coming winter season.



FIG. 1966. SPIRAEA.

Chrysanthemums are a comparative failure in this section this fall, owing to the prevalence of the destructive fungous disease known as "rust." Very few of the fine specimens of these lovely flowers we usually see—that seem sent specially to brighten up windows and conservatories, during the usually dull days of November—can be seen this autumn. In fact their absence this season from windows is very noticeable, as a plant or two of chrysanthemums are generally such prominent features in window

gardening during the autumn season. Plants grown out of doors during summer have suffered most; those grown on benches under glass seem to have almost entirely escaped this comparatively new enemy of the gardener.

The old saying "that no person has as many enemies as a gardener" seems to be as true to-day as it ever was. At any rate, no sooner do our entomologists and scientists diagnose and find a remedy for existing insect pests and diseases that of recent years seem so common to plant life, than some new claimant enters the field and requires attention. This last disease to attack the chrysanthemum is certainly very destructive in its effect on these autumn favorites, and no certain cure seems to be known for it except to destroy the plants entirely. Successful batches of winter flowering bulbs should be brought out from where they were placed to make root and brought on into flower. These must have plenty of water when once growth is started.

Roses should be syringed as often as possible early in the day with tepid water. Syringe and water plants on warm sunny days if possible. Seedling cinerarias, calceolarias and cyclamen will require repotting as soon as the pots they are in are fairly full of root. Spireas must have plenty of water to keep them growing properly.

Plants of hydrangeas, agapanthus, clivias, etc., should be removed to their winter quarters. This class of plants that are dormant or semi-dormant in winter require very little if any water. The extent of the dampness surrounding them, wherever they are stored, must determine whether they require any water or not. If the situation is cool, and not too dry, these plants will be better without any water until spring.

Hybrid perpetual roses grown in pots



should be brought in, pruned back and repotted.

Fuchsias for summer blooming will require very little water. A cool cellar, free from frost, suits the fuchsia very well whilst in a dormant state. Cuttings of geraniums that are rooted should be potted in to rather light sandy soil, in small pots, and remain in these until well established.

Keep the atmosphere of the greenhouse, or any situation where plants are growing, as moist as possible. This will keep down insect pests and less fumigating and syringing will be necessary.

Fuchsias will require plenty of water at the roots now and during the flowering season. A cool, slightly shaded position suits these plants best when in flower.

Keep the temperature of the greenhouse or conservatory about 50° to 55° at night, and 60° to 70° in the daytime. Plants require rest during the night. It is unnatural and hurtful to give them a higher temperature at night than in the day time. This is often done, especially during severe cold weather and on dull days.

HORTUS.

Hamilton.

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## BULBS FOR SPRING BLOSSOMING.

**E**VERYONE longs for spring to come when winter is here. The sight of budding trees and bursting flower buds is a glorious change from the barren fields of winter. This is why the earliest flowers of spring give the most pleasure to every one. Aside from the earliest of the wild flowers, none are more valued than Dutch bulbs, and none are more beautiful. Coming into bloom as they do just as lawns and trees are putting on their early green, they are simply enchanting.

October and November are the months for planting bulbs, but those who have not done so before these months expire need not fear to do so later, even should it be in open weather succeeding a freezing time. I have planted them at New Year and have had fine bloom. Indeed there is no reason why one should not, as all that is required is to have them in the ground two or three months before blooming, so that there will be ample time for them to make root. From the early part of January to the beginning of April, which is the time bulbs flower here, there is

ample time for the formation of roots, if but a little aid is given.

This assistance can easily be given by mulching, to keep the frost out. But it should be said first that late planting will be the better if the bulbs are set an inch or two deeper than common, to be out of the reach of frost. Hyacinths, for instance, which usually are set with their tops two inches under ground, should be four inches. After they are planted, cover the beds with leaves, manure, hay or straw. Perhaps the best covering is loose, well-rotted manure, because it need not be removed when winter is over. Forest leaves make a warm, excellent covering, but a few inches in depth, keeping out the severest frost. In this protected way, late ones will do as well as early-planted ones.

The mistake is sometimes made of planting bulbs in sheltered nooks close to a dwelling, where it is too warm for them. Flowers are developed so early that late frosts catch them. Some years ago I set some hyacinths and crocuses close to the wall or

the south side of my dwelling. I rarely get full satisfaction from them. Besides the sun heat, there is a furnace in the cellar, which warms the wall so much that for a foot or so from the wall the soil does not freeze. The result is the flowers usually appear in February or March. Should it be an open spell, all goes well, and even if it freezes at night, I get some satisfaction from them by covering at night, but in later plantings I see to it that the position is not too sheltered.

Hyacinths and tulips are first thought of for the bulb beds. In arranging these, do not forget that the hyacinth flowers first. Tulips come later and last longer; therefore the hyacinth bed can be used sooner in spring for the planting of summer-blooming plants, should it be desired to use it for such a purpose. I have known spring planting delayed considerably because of tulips occupying beds intended for the plants.

For indoor blooming in pots, the treatment of bulbs should be on the same principle as for the outside bulbs. After being potted, if the convenience of a frame is at command, the pots should be plunged, or else covered over with soil or some other material such as moss or leaves, so as to keep the bulbs moist and dark. The damp-

ness and darkness produce a nice growth, which is the foundation of good flowers. Florists, who force these bulbs largely, use spent hops for covering, and place it on thick enough to keep out all light and frost. In this way they are safe outside until such times as they are needed for forcing. When the bulbs have filled the pots with roots and the tops are pushing up above the soil, the plants may be given a place in a window, as the flowering time is close at hand.

On a small scale, where but a dozen or so of pots are used, the cellar will answer the purpose very well. The bulbs in this case should be well below the surface of the soil. Set the pots in a box deep enough to admit of their being covered over several inches with sand or soil, which must be kept damp all the time. As soon as the tops show themselves, the pots can be taken to the light.

Freshly imported bulbs of tulips and hyacinths bloom better than those left in the ground all the time, but crocuses are an exception, as they seem to increase in vigor year by year, old clumps making a grand display in the early days of spring.

JOSEPH MEEHAN,  
*in Country Gentleman.*

## HOLLYHOCKS.

**T**HESE handsome perennials will be known to all the older gardening fraternity, but I doubt if the majority of amateurs are acquainted with them. About a quarter of a century ago they were regarded as one of the principal florists' flowers, receiving great attention. The named varieties were legion, and there can be no doubt they were really grand. We possessed some of the finest collections in

the country here in Hertfordshire. Alas! where are they gone? Gone! but I trust not forever. The Hollyhock disease, known as *Puccinia malvacearum*—as ugly a name as the dreadful parasite itself is—appeared in this country in 1873, sweeping away whole collections, and practically clearing the country. Since that period the plants have not been very much cultivated, until the last two or three years, when an enter-

prising florist exhibited some boxes of cut blooms in London. I venture to say they will soon become objects in our gardens again.

There is no denying the fact that Hollyhocks, when planted in a group, form noble objects. The accompanying engraving will give a clear idea of the value of such clumps in the borders of our gardens or on the edges of shrubberies. The bold flower stem frequently grows 6 feet high, clothed nearly to the top with massive flowers, which are very varied in color, comprising pure white, pink, rose, amber, yellow, crimson, maroon, and purple; so there is no lack of variety. I will now add a few words on their future. A good rich soil is essential, which must be well drained, for if stagnant they will perish during the winter. I prefer planting young vigorous plants out of 5 or 6-inch pots early in April, pressing them firmly, and mulching with decayed manure soon after they start growing. I do not like them planted in lines, but in clumps, when they are far more effective. Each plant will require a stout stake as the flower stem advances. It should be placed so that it is hidden by the foliage, and each stem secured to it—not tied too closely, or they will resemble a bundle of faggots, but as naturally as possible. Plants can be obtained from a nurseyman either in named varieties, distinct colors, or mixed seedlings. I prefer those that are kept in distinct colors, for then they may be planted accordingly.

If seed is sown it should be placed in a gentle hotbed in May, and the seedlings pricked off in pans or boxes, afterwards transferring them to 5-inch pots. Many people keep them in the pots till the following spring, but I plant them out in a bed about 1 foot apart, covering them in winter with a little bracken or ashes, and transferring them to their proper stations in the spring. On light soil this plan answers well, but where the soil is heavy I should keep them in the pots.—*Garden Work*



FIG. 1967. A GROUP OF HOLLYHOCKS.

## INDOOR WINDOW BOXES.

**W**INTER flowering plants may be grown better in boxes than in small pots. Window boxes used outside in summer may be brought in the house in winter if the precaution is taken to make them water-tight with zinc or galvanized iron. Leave a hole in the bottom of the lining to draw off the surplus water. The boxes may be placed on brackets or hung with wires screwed into the window frame, or placed on the sill.

Any of the plants commonly grown in the house can be planted in the box. Geraniums of any sort, heliotropes, fuchsias and begonias make a good variety, while a fern or two gives a dainty, tasty effect different from other plants. Or the box may be filled with annuals grown from seed. Petunias, phlox, sweet alyssum, nasturtiums and a sprig of mignonette will give a variety of bloom all winter.

At the ends may be planted morning glories and trained up each side of the window. English ivy is also a good vine to use, but is without flowers. In a cool room carnations, violets and pansies may be grown, while roses could be handled successfully in a kitchen where there were heat and moisture. Tradescantia or Wandering Jew can be planted along the edge to hang over the sides, or the box may be covered with pretty colored paper or drapery.

Shelves fill up a window so much that the men do not like plants in the house. In brick or stone houses with the deep window

casings, an arrangement as shown in the illustration may be adopted. If there is not room in the casing, a series of brackets might be fastened along the side, and the plants receive nearly the full benefit of sun without obstructing the light.

—*American Agriculturist.*

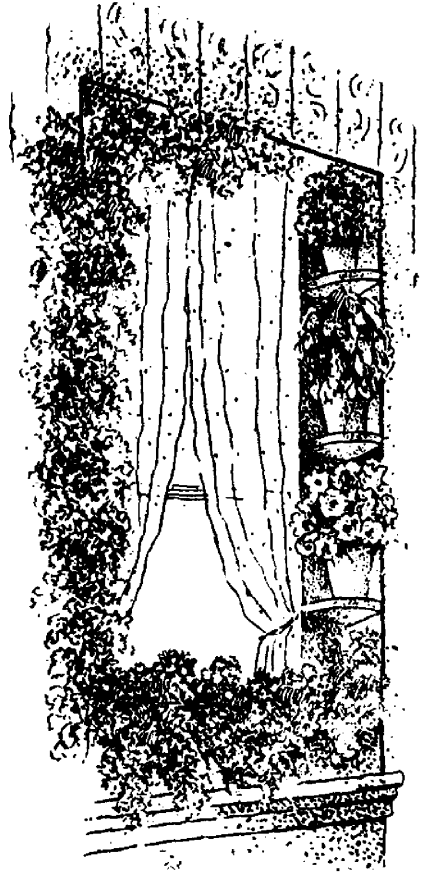


FIG. 1968. AN ATTRACTIVE WINDOW GARDEN.

**JAPANESE KOKWA.**—Among our handsomest and cleanest foliaged climbers are the Japanese Actinidias, of which we have two, more or less common, *A. polygama* and *A. arguta*. In habit of growth and general external appearances when grown, these

vines resemble with some degree of closeness, our native bittersweet. They are exceedingly vigorous, bearing healthy and glossy foliage. These flowers are rather small and somewhat inconspicuous; but to offset this, the plant is almost completely

immune from insect attack and fungous diseases.

*A. polygama* differs from its near relative in producing about mid-summer many variegated leaves. Usually the upper part of the leaf only is whitened, while the lower part retains its original dark green color. When variegation is abundant the effect is quite striking.

*A. arguta* has large green elliptical leaves, the flowers are small and greenish white. These climbers have often been rated as half-hardy, but at Abbotsford, P. Que., so far as I know, they have never been injured, and at this time, entirely screen one side of a veranda 30 feet long and 15 feet high.

The Japanese *Kokwa* should be much more

widely grown than it is. The above is a very brief sketch of some of the more interesting of the plant forms to be seen at Gibbland Farm, Abbotsford. On the death of Charles Gibb in 1890, the estate was purchased by Wm. Craig & Son, and named Gibbland Farm, to commemorate the name of one who was loved and respected by his neighbors, and whose labors were for the uplifting of the race. It is most gratifying to know that the owners of Gibbland take not only a deep personal interest in horticultural work in general, but are particularly concerned in preserving specimens of trees and shrubs, valued economically and laden with sentiment warm and rich.

J. CRAIG.

THE SCARLET WINDFLOWER.—*Anemone Fulgens*, the Scarlet Windflower, shown in the engraving, is one of the most brilliant flowers in cultivation. The large blooms, which appear in masses in early spring, are of showy, rich scarlet, with centre of dark stamens, and a bed of the plants in full bloom in the sunshine is dazzling to the eye, surpassing in brilliant effect that of any other hardy perennial.

The Scarlet Windflower does well either in pots in the window or conservatory, or in a shady spot out-doors. It has tuberous roots which spread, and the plants are readily propagated by division. They like a partial shade, and a moist but well-drained soil. They appear well as a border, or as the front row for a bed of shrubbery, and always elicit great admiration. The tubers or plants should be set-out in spring, or at least before autumn, to become established so as to endure the winter. If obtained in autumn they should be kept in pots till spring then bedded out. Avoid wet, undrained soil; it will cause the tubers to rot. In well-drained soil they are perfectly hardy when

once established. The plant is a native of southern Europe, being found in a limited area south of France.—*Park's Floral Mag.*



FIG. 1969. SCARLET WINDFLOWER.

## AVENUES.

**P**ROBABLY the most important points in an avenue next to the condition of the trees, are length and breadth. The former determines its ability either to add to the attractions of an approach, when of suitable length, or to convert it into a monotonous and apparently never-ending drive when too long. Its breadth, again, may almost be said to determine its existence as an avenue at all, for we have all of us seen the distance between the two rows of trees so great, as to entirely destroy the effect they were meant to produce, and while retaining its formality, destroying the grandeur with which the height of the trees invests it, and which relatively decreases the further the latter recede from the observer's eye.

As far as its length is concerned, this will depend to some extent on the distance between the two points it is supposed to connect. But, considered as a feature in itself, we think that half-a-mile is long enough for any avenue, if we wish to avoid making the journey along it tedious and tiresome. As already pointed out, after once an avenue has been entered, the view presented to the eye remains much about the same, and it is only when one or other of the ends is approached, that the scene changes to any great extent. When the line runs through an extensive park, which can be seen between or beneath the trees of the avenue, a change of scene is afforded on either side; but the main or front view remains the same, and after a few minutes' ride or walk, the eye becomes satiated with its familiarity, and gradually becomes bored with what at first sight may have pleased. As a long avenue familiar to many, the Long Walk in Windsor Park may be instanced. The size of its trees, and the historic castle at one end, and the colossal statue at the other,

render it an imposing and striking feature of the royal domain; but to tramp along its whole length merely for pleasure is a feat few would care to repeat who are able to appreciate natural scenery.

Had the hill, with its Copper Horse, been as near again to the Castle, this avenue, in my opinion, would have been a much grander sight than it is at present. This may, perhaps, be a matter of opinion, but in a world where size is only relative, it must be allowed that a disproportionate length only tends to dwarf the accompanying height and breadth of any object, and proportion is an essential feature in matters connected with taste.

The most attractive and successful avenues are frequently those of only a few hundred yards in length, such as may be found connecting some old Elizabethan manor-house standing in a few acres of ground, with the adjoining village or public road. In such a position, it invests the approach to the house with a dignity it would not otherwise possess, and the house itself with additional importance by hiding from view out-buildings, and boundary-fences, which would reveal the actual extent of the property. Usually planted with Elms or Limes, these avenues in many instances still remain entire and in good health, although the houses to which they owe their origin have either disappeared, or have been turned into farm-houses, or even more humble uses.

In the same way, where the mansion stands close to the entrance gates, no better connection between the two can be found than a short avenue of this kind. The distance is too short to enable the visitor to be decoyed into a winding and circuitous road through the grounds, while a piece of straight road through ordinary park land or shrubbery rarely looks well. But when bordered by a stately avenue, it does away with that

villa-like aspect which short drives of this kind often convey, and carries with it a greater idea of importance. Of course, much depends upon the style of the building to which it leads, but we must leave this question to those more competent to discuss it.

Much the same thing may be said about breadth as has been said about length. Proportion, again, should be strictly observed, and the longer the avenue the wider (in moderation) it should be. A great deal, however, depends here upon the style of the approach. In many places a wide sweep of closely-cut lawn borders the the drive on either side, and the avenue in this case merely becomes the background to the turf, and fulfils much the same function as a tall hedge, and loses its more characteristic appearance. But in avenues of the usual kind,

a distance between the two rows of more than 40 yards in long, or 20 to 30 yards in short avenues, tends to dwarf the trees and reduce the desired effect.

With too narrow a margin, the trees, if at all of a spreading character, are apt to meet overhead, and the effect, though pleasing enough in its way, is not exactly what is looked for in an avenue. No hard-and-fast rule seems to have been observed in the past as to either the length or width of avenues, for we find the latter varying to as great an extent as the former; but much of this is probably due to the fact that in avenues, as in many other things, the real object in view is not very clear to those engaged in carrying out the work.

A. C. FORBES,  
in *Gardeners' Chronicle*.

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## PRUNING VINES IN THE FALL.

The rampant, straggling growth of vines, which so many porches and other places display at this season of the year, is often left untouched until spring, detracting from the neat appearance which is so desirable. There is no necessity to leave the work of pruning till spring as most every one does. The work done late in the fall or in early winter would make the premises much prettier.

In my own case I do not prune the honeysuckle nor the akebia at this time, as both are very nearly evergreen here, and it does please me so to see the green foliage about the house in the winter season. But many of the shoots are brought into position, to keep up a nice appearance through the winter. These two vines are pruned in spring. I have read that the akebia should not be pruned in spring, as it would bleed to death. My vine on my porch has been pruned every

spring since planted several years ago now, and it could not be in better shape than it is.

Deciduous vines of all kinds are as well pruned now, besides for the reasons mentioned as in the early spring. It will permit of a little digression to say here that the early flowering jasmine should be planted on the northern side of a dwelling, or the flowers come so early that they are nearly always caught in a late frost.

The new vine from Japan, *Vitis coignetia*, said to be of brilliant colored foliage in autumn in its native country, is being much planted here now. So far the foliage is but little better than that of a Concord grape, which it much resembles in other respects, minus the fruit, of which none has yet appeared. But I have hopes that as it gets age and makes strong canes, color may come to the leaves.

JOSEPH MEEHAN.  
in *Country Gentleman*.



## The Canadian Horticulturist

COPY for journal should reach the editor as early in the month as possible, never later than the 15th.

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

REMITTANCES by Registered Letter or Post-Office Order 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 20th.

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.

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### NOTES AND COMMENTS.

ERRATA.—The word “unreasonable” on page 478 and the word “reasonable” on page 479, November issue, should read unseasonable and seasonable, respectively.

GEORGE SHERMAN is reported to have taken several subscriptions for this Journal at Kingsville, and at Walkerville; but he has forwarded no money to us, and is not authorized to take subscriptions.

THE AGRICULTURAL ECONOMIST is the name of the paper from which we quoted on page 111, and we gladly correct the error referred to by our worthy contemporary in the following quotation:

The Canadian Horticulturist reprints the biographical article which I wrote in a recent number of the Agricultural Economist on our friend and fellow member, Dean Hole, of Rochester. The portrait is also reproduced. I am gratified at the compliment paid by my excellent Canadian confrère to myself; to the eminent Dean, the rose

grower, and to the Agricultural Economist by this reproduction. But my gratification is somewhat alloyed by finding the title of our paper given as the “Agricultural Epitomist”! Will my friend of the Canadian Horticulturist please do us the justice to correct the error and give us our lawful title?—E. O. G.

DEATH OF JAROSLAV NIEMETZ.—We have received a letter from Mr. Waclaw Niemetz, of Winnitza, Podolie, Russia, announcing the death of his uncle, Mr. Jaroslav Niemetz, the eminent Russian Pomologist, who has so often contributed to these pages, and who, a few years ago, made a tour of Canada and the United States in the interests of Russian horticulture. The letter is dated 1st October, 1900. He says, “My aunt has just returned from abroad, bringing news that must shock the heart of every fruit-grower, of the decease of my uncle. He died at Prague, in his fatherland, and is buried beside his mother, Bogina Neimetz,



an eminent Bohemian authoress. Before long I hope to send you a biographical sketch of my uncle.

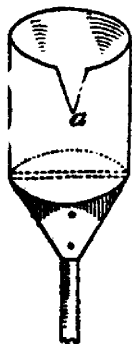


FIG. 1970.

A CONVENIENT and cheaply made fruit picker is illustrated in the *Farm and Home*, which we copy. It consists of a tomato can at the end of a stick, described as follows :—

“ A slit is cut in the bottom, which is turned down, and two nails driven through it into end of pole. A notch is cut as at *a*, to catch the stem of the fruit in. With a turn of the handle, the stem is wrenched from the tree and the fruit drops into the can.

EDUCATED GARDENERS.—The following clipping from *Meehan's Monthly* may interest our gardening readers :

Since the old system of garden apprenticeship has been abrogated, some horticultural schools and other institutions have examinations and give certificates to those who successfully pass them. The London Royal Horticultural Society is doing good work in this line. In April, in each year, they have examinations open to all. The questions are such that any first-class gardener should be able to answer promptly and on the spot. At the last examination, there were 236 candidates. Three hundred were taken as high water mark, and only those who received 200 points and upwards received first-class certificates. Of these, 141 were successful. Only one candidate secured the full 300. This was a lady—Miss E. W. Winlo, from the Horticultural College at Swanley, in Kent. It may be noted here that women are becoming numerous in the horticultural field in the Old World. Of the 141 who received certificates that they were experts in horticultural knowledge, no less than 38 were women.

A VALUABLE WINTER WASH recommended in the *Chronicle* for cleansing the trunks and branches of all of fruit trees from parasites, scale or eggs, is as follows :

For a small quantity, dissolve half a pound of caustic soda in a gallon of water, then add half a pound of commercial potash (pearlash), stir well, then mix both to make five gallons of solution for use. Apply to large stems with a brush, to small branches and branchlets in the form of a spray either with a knapsack pump, or other appliance, when the trees are dormant. The formula was given to Mr. J. Wright a few years ago by Mr. Leonard Coates, a large peach grower and nurseryman in California, and published in the “*Journal*

of Horticulture.” This led to experimental trials on different kinds of fruit trees in this country, and these proving completely satisfactory, the wash became extensively and systematically used by those fruit growers who had thus proved its efficacy. It was, and is still, regularly used in Californian peach orchards as the best of all applications for destroying scale, which is there much more persistent in its attacks than in Britain; indeed, Mr. Coates remarked that he should find it extremely difficult to grow peaches with any approach to satisfaction without spraying the trees with this caustic solution every year as regularly as they are pruned.

INSPECTION OF FOREIGN FRUIT is being agreed to by importers and buyers in New York. A cargo of lemons from Sicily was honestly opened out and inspected. This is agreed upon as the only means of keeping up the trade with that country, for if the mean, undesirable rubbish that has been sent to the market late in the season cannot be kept at home and better fruit selected, Sicily will have to give up entirely in favor of California. The success of the latter country is not so much that she grows the best fruit, as that she ships only the best fruit she grows.

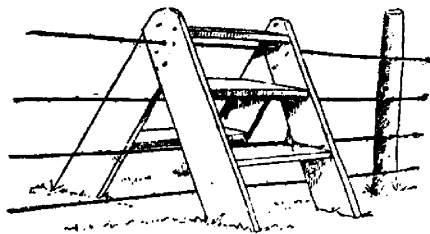


FIG. 1971.

STILE FOR WIRE FENCE.—Wire fences are now common all over our country, and are very awkward to climb. We clip from the accompanying illustration from the *American Agriculturist*, as showing a very convenient stile for climbing such a fence, and one that may easily be put up by an amateur workman.

WHEN an apple orchard is being planted, different varieties ought to be mixed together in adjacent rows to insure cross fer-

tilization of the blossoms by bees. The Vermont experiment station is just publishing the results of experiments which go to show that a majority of varieties of apples do not bear good crops unless mixed in this way. Northern Spy, for example, seldom or never gives a full crop when its blossoms are not pollinated from trees of some other variety.

APPLES AS STOCK FOOD.—There seems to be a wide spread prejudice among farmers against apples for horses or cows. They seem to think them more injurious than useful, and even try to prevent them from having them for that reason. Now we have always noticed that the appetite, either in man or beast, is a fairly good guide as to what is best for them, and one cannot go far astray taking it as a guide. We all know how agreeable to man is the apple, how it tones up the system, helps the appetite, improves the digestion, if eaten ripe; and it is natural to expect the same results with horses and cows. They are ravenous in their appetite for apples, and horses never look in better trim, or take more good of their oats, than when allowed plenty of them. The Sun (Toronto), in dealing with the question, quotes as follows:

Apples for stock food, says the American Agriculturist, should first be sorted, and those most badly bruised set aside for feeding first. The whole should be stored in a cool, dry place—an open shed or barn floor serving for the purpose. These apples, says the Agriculturist, may be fed to any kind of stock, and with proper handling will furnish an excellent fodder. In chemical composition they are equal to roots, and almost equal to corn silage. They have less of muscle forming material than mangles, but have over twice the heating value of these roots. The stock will eat the apples whole, but as there is danger of choking on these, chopping is advised. Even apple pomace, which is now refuse material in many factories, may, says the Agriculturist, be fed to cattle with advantage. Begin, it says, with about one pound to the feed, putting meal with it to get the cows started. This may be gradually increased to about five or ten pounds per day. A test at the Vermont Experimental station shows, according to the Agriculturist, that this pomace has about the same feeding value, pound for pound, as corn silage. The

Agriculturist mentions one case in particular where a Massachusetts farmer who had an enormous quantity of low grade apples, began feeding a large cow which was nearly dry. He fed her in connection with pasture two pecks of hard Greenings and Baldwins, night and morning. The amount was gradually increased until the cow was eating one bushel per day. With this increase in apple feeding the cow's milk flow increased from four to six quarts per day.

CALIFORNIA CHERRIES.—These cherries are sold at auction, and the prices received run from 50 cents to \$1.75 per package, holding about eight pounds. The great variation in price is caused in part by the variety, but mainly by the condition in which the fruit arrives. What is at all decayed spoils very quickly, and sells for whatever it will bring. The most common package is a box about 9x18 inches and three inches deep. Some are packed in small, round boxes holding a pound each. The retail price on the street at present is 25 cents per pound. Some of them have been picked greener than necessary, and are a little off in flavor, but others that I have tried, especially the Black Tartarian, are nearly as good as though fresh from the tree. It is evident that, when carefully packed and properly handled in transportation, cherries may be left until nearly dead ripe and still shipped a great distance in safety. Like all other California fruit, these cherries are packed so that they show up finely when opened. The boxes are not "stuffed" with rubbish either. While these on top are usually the largest, the difference is scarcely noticeable. These Western fruit men seem to have taken a firm grip on the idea of neat and uniform packages, honest goods and artistic labels. Of course it costs something to put up fruit in this shape, but it pays, and some of these methods might well be copied by those Eastern growers who have used all sorts of packages, labeled them with a blue pencil or marking brush, and mixed inferior fruit that should have been thrown to the pigs.—*Rural New Yorker*.

THE ILLUSTRATIONS representing the Manchester Ship Canal are kindly loaned us by Mr. R. Dawson Harling, agent for the Manchester liners, who has given so much attention to the mutual interests of fruit growers and the Company he represents. He hopes to be the means of securing for us just such cold storage accommodation as we require during the year 1901.

SPRING PRUNING OF PEACH TREES.—In the Report of the University of California for 1898, we notice some illustrations of the method of pruning peach trees. Every tree is carefully and thoroughly shortened in during either the winter or spring. In a comparative test it was found that trees shortened in after the fruit was set produced the best fruit. This is a result well worth our knowing, for it is a great saving of labor to be able to accomplish the pruning and the thinning of the fruit at one time.

CANADIAN PEARS IN ENGLAND.—The year 1900, the first of the new century, will open up to Canadians magnificent possibilities in wider markets, especially for fancy pears, packed in boxes and graded to uniform sizes. Given weekly cold storage service on ship-board and local fruit storage at the shipping points, and a magnificent trade will open up. The enclosed clipping is from the Fruit Grower, of London, England, and refers to pears in Covent Garden market :

The pear trade has been fair. The French senders have been busier lately, and they have marketed some pretty good parcels. Glouts, with 32, 36 and 48 pears in a half-crate, sold from 3s. 6d. to 5s. 6d. each. In boxes the 40 and 48 went

out from 6s to 7s 6d. each. Bon Cures have been plentiful; they came in crates of various counts, ranging from 84 to 135 fruits each, and they sold from 4s. 6d. to 5s. 6d. each. Beurre Magnifiques, in half crates, with 48, 56 and 60 fruits each, sold from 12s. to 14s. each. Crates, with larger counts, with from 84, 96, 108 and 120 pears, sold from 4s. 6d. to 5s. 6d. each. Catillacs, with 60 to 120 fruits each, made from 5s to 6s. California Glout Morceau, in cases of 108 fruits, sold from 14s. to 15s. per case. The Canadian pears sold from 10s. to 20s. per case. The quality of these fruits was excellent in every respect. We should like to see more of them on sale in this country, they are the finest pears that are sent us from outside sources of supply, and must seriously affect the Californian pear trade presently.

GRAPES IN ENGLAND.—When grapes in England bring such prices as shewn in the following quotation, we cannot understand why our Canadian grapes bring such a low price. Of course these prices are in London market, and our fruit has been sold in Manchester. Perhaps the former market is the best. The quotation is from the Fruit Grower, London, of Nov. 15th :

The grape supplies continue good, both as regards quality and quantity too. Hamburgs have been particularly fine, and they have sold at very reasonable and low prices according to quality. Values ran from 6d. to 1s. per pound. Best parcels sold readily from 9d. to 1s., and were freely enquired for. Alicantes made from 7d. to 1s. 3d., but the sample had to be good to make 1s. 3d. In fact, few sold at over 1s. Colmars made from 8d. to 1s. 9d., but the best demand was for samples worth from 1s. 3d. to 1s. 6d.; good quantities changed hands at these prices. Gros Maroc have been cheaper. They went out from 6d. to 1s per pound, though here and there an extra sample did better. Muscats have sold well. The best made from 2s 6d. to 3s. Choicest went up to 3s. 6d. in a few instances. Seconds sold from 1s. to 2s. The supply of Almerias has been plentiful, nevertheless good samples made fair prices. Values ran from 12. to 16s. per barrel. Keepers were in demand and were much sought for, and there is no doubt that they will, later on, bring in good prices to those who stock them in sufficient quantity.



THE ANNUAL WINTER MEETING OF THE ONTARIO FRUIT GROWERS' ASSOCIATION,

To be held in the City Council Chamber, Brantford, beginning Dec. 19th, 1900.

Directors' Meeting on Tuesday evening, Dec. 18th, at the Kirby House, Brantford.

*Wednesday Morning, Dec. 19.*

9.30—Arrangement of fruit tables.

Correspondence.

Reports of Committees—"New Fruits," Prof. Hutt; "Transportation," W. H. Bunting; "Codling Moth," J. Tweedle.

Appointment of Committees—"Fruit Exhibit," "New Fruits," "Resolutions," "Nomination."

"Experiments in Fruit Growing at the Central Experimental Farm"—Prof. W. T. Macoun, Ottawa.

*Wednesday Afternoon.*

2 o'clock—Report on Provincial Shipments of Fruit to Manchester in Cold Storage—L. Woolverton.

Address by the Hon. John Dryden, Minister of Agriculture.

"Canadian Fruits at the Paris Exposition and in the British Markets"—Dr. Wm. Saunders, Ottawa.

"New Markets for Our Fruits—England, Hamburg, South America, Australia, the Northwest."

*Wednesday Evening.*

8 o'clock—Address of Welcome, etc., by Mayor and others.

President's Annual Address—W. M. Orr, Fruitland.

"Notes on Horticulture in France"—Dr. Saunders.

"Cold Storage for Fruits and other products"—Hon. F. R. Latchford.

*Thursday Morning, Dec. 20.*

9.30—Annual Business—Minutes.

Reports—Treasurer, Auditors, Finance Committee.

Report of Nominating Committee and Election.

"Fruit Packages for Export and other purposes."

"The Apple Barrel."

"The Export Fruit Trade"—J. W. Shuttleworth, Brantford.

*Thursday Afternoon.*

2 o'clock—"Windbreaks"—A. M. Smith, St. Catharines.

Address by Prof. H. F. VanDeman, formerly Pomologist of the Department of Agriculture, Washington, D. C.

"Forestry for Fruit Growers and Farmers"—Prof. H. L. Hutt, Guelph.

"Forestry for Farmers"—L. B. Rice, Port Huron, Mich.

"Co-operation in Fruit Shipping"—E. Heaton, Toronto.

*Thursday Evening.*

8 o'clock—"Our Friends, the Flowers"—Miss A. Hollingworth, Beatrice.

"Fruit and Flower Culture in England and Canada"—Mrs. A. Hoodless, Eastcourt, Hamilton.

"Garden Favorites"—Prof. W. T. Macoun.

Addresses by local gentlemen. Music at intervals.

*Friday Morning.*

9.30—Question Drawer.

Greetings from Representatives of Sister or Affiliated Societies.

Our Affiliated Horticultural Societies—Thos. Beall.

The Pan-American Exposition—Prof. H. E. Van Deman.

Report of Committee on San Jose Scale—M. Pettit, Winona.

Prof. Lochhead, of Ontario Agricultural College, Guelph; D. Fletcher, of the Central Experimental Farm, Ottawa; and Geo. E. Fisher, Inspector, have been invited to be present and address the meeting.

THE PRINCIPAL HOTELS are: Kirby House, \$2.00; Belmont, \$1.50; American, \$1; Commercial, \$1. A FRUIT TABLE will be provided, to which the public are requested to contribute specimens of interest, to be noticed by our Fruit Committee.

ANYONE may send in questions to the Question Drawer, which is in charge of the Secretary.

ANYONE may join the Association on payment of the annual fee of \$1.00, for which he will also receive the Canadian Horticulturist free of charge, and a present of either a flower or a fruit plant.

W. M. ORR, *President.*

L. WOOLVERTON, *Secretary.*

## QUESTION DRAWER.

### Winter Apple from Strathroy.

1193. SIR.—I am sending you by mail an apple from a tree which was bearing when I bought this property sixteen years ago. No one has been able to name the apple. Last autumn Mr. Gott, late of Arkona, told me he thought it was a natural, and asked me to send you a sample. By spraying and cultivating I have nearly doubled the size of the fruit. It is an excellent winter apple of fine flavor, and matures in February or March. If it is not a standard variety I would like to know it.

J. E. WETHERELL.

This is a fine large apple, measuring about  $3\frac{1}{2}$  inches in diameter, with the markings of the Cayuga Red Streak, and we are inclined to think it is that variety. However, it is not safe to decide from a single sample, and we have asked our correspondent to send more specimens to our meeting at Brantford, when we will perhaps be able to express a more decided opinion. If it is really a new variety, it is worthy of further notice.

### Apples for Name.

1194. SIR.—I send you a box of fruit for name—one variety of pear and three of apples. No. 1 has grown in my orchard for thirty years and I have never had a name for it; No. 2 was sent me for Haas and No. 3 for Baxter.

Hyde Park.

GEO. H. NIXON.

The pear sent by our correspondent is Howell. Of the apples No. 1 is Baxter, No. 2 Haas and No. 3 probably Jonathan.

### Lice on House Plants.

1195. Can you give me a recipe to destroy lice on house plants. I have just destroyed some good chrysanthemum plants on account of them being covered with black lice. I have tried tobacco smoke, but although it causes them to drop from the plant I notice they recover. I have also tried a solution of tobacco soap, but that seems to injure the plants without destroying the vermin.

G. W.

Erasmus, Ont.

A good way to apply tobacco is by making an effusion in water, and spraying the plants.

Kerosene emulsion is an excellent remedy for the aphids, made as follows:

Soft soap, 1 quart; 2 quarts hot water; 1 pint kerosene, dilute for use to  $\frac{1}{4}$  strength.

Apply with Mitchell's hand sprayer, or atomizer.

### Boxes of Apples.

1196. SIR.—Would you be able to give us information on using boxes for packing apples in place of barrels. We have a large cider mill and steam boiling of apple-butter, apple preserve, jelly and syrup. Now, after this season is over, we should use our power for some other work. We are carpenters. We would propose to make a half barrel box, say 16 inches square, same size every way; use basswood, poplar, soft elm, etc.; cut the timber in short bolts, and saw on the heading or shingle saw. We think the boxes can be made as cheap as the barrel.

REINHART BROS.

There is doubt that boxes are all right for a fancy grade of fruit, but it is a great mistake to use them for the stock usually put in barrels, for the result would be certain loss.

It is most important that only uniform sizes and shapes of fruit packages be adopted for shipping fancy fruit to the British markets, and now at the outset, when this enterprise in its infancy, is the time to settle upon the size and shape of the packages. For some years we have been experimenting in this line, and have come to the conclusion that the best apple box is one to hold a *bushel of apples*, or about 48 pounds net; while the best form is one that may be piled in any way without waste of storage in either car or boat. Now, speaking generally, two cubic feet will equal one bushel of apples, so by having a box 1 x 1 x 2 feet, we have an ideal form. But for economic storage, we have to modify this form somewhat; and by making our boxes 22 x 11 x  $10\frac{1}{2}$ , *inside measure*, we get a bushel box which will store on the railway to the very best advantage. These boxes are made with inch ends, and  $\frac{3}{8}$  sides, if nailed, or  $\frac{1}{2}$  inch sides if dovetailed. The word "top" is printed on the end for opening, and the packing is done from the bottom.

The apples are sized before packing, and

the fruit going in a box should not vary more than  $\frac{1}{4}$  of an inch in diameter. Thus a box such as proposed by our correspondent would not be advisable. It would be an undesirable shape for the British market.

#### Apple Tree Borers.

1197. SIR,—I have a young apple tree on which I noticed the bark was getting dark and dead-looking. On cutting into it I found numerous borers from  $\frac{1}{4}$  to  $\frac{1}{2}$  inch long; they appear to be working in the bark, and I fear are seriously injuring the tree. I also think other trees are affected. The trees have thrived very well up till now. There is no sign of the mischief going on except this discoloration of the bark. Is there any remedy or preventive?  
Erasmus.

GEORGE WOOD.

This is one of the most common enemies of the apple grower, and is particularly troublesome in the case of trees which are not growing vigorously. It is known as the flat-headed apple tree borer, (*chryso-*

*bothris femorata*), a native of America, and in its native state is a typical Buprestis beetle. It is a brassy looking beetle, with under side of body and legs like burnished copper. The beetle is active during the months of July and August, when it deposits its eggs either singly or in groups in cracks of the bark, from which the young larva hatch out, and soon make their way under the bark where it feeds on the sap wood, sometimes completely girdling a tree.

When its presence is discovered, by the the discolorations and castings, no time should be lost in digging it out with a sharp knife and killing the larva; and as a preventive measure, the trees should be washed once or twice in summer with a solution of soft soap and washing soda, applied in about the consistency of a thick paint.

## Open Letters.

### Doyenne du Comice Pear.

SIR,—I send you to-day a fair sample of Doyenne du Comice pear. I never see it catalogued, and I never see nor hear anything about this excellent pear in any of our journals on fruit. I only know of but one tree of this pear in the province. If this is the case, the variety should not be lost sight of, and I send you the samples of fruit so that you can speak of them as you find them—description as follows: Fruit large, obovate, eye small and open in a deep basin, skin greenish yellow and russet, with a flushed cheek to the sun, flesh white, fine grained, buttery, melting and juicy, highly flavored; season, November. Tree a vigorous grower, always clean and healthy; it is also a good bearing variety, and should be in every collection; it was first raised at Angers. I would also like to draw your attention to two other varieties of pears that are very scarce. I know of one tree of each variety, namely, Marie Louise and Napoleon, both are first-class quality and of medium to large size. Are any of the above growing at your fruit stations?

RODERICK CAMERON.

Niagara Falls South.

### Is Our Climate Changing?

This is a question often asked but never satisfactorily answered, because, probably, of the continual fluctuations of the climate throughout the different parts of this vast country. In the study of and in the attempt to determine this question in future years, the wonderfully high temperature of October, 1900, may be used as an important factor.

The highest mean temperature registered here for October during the previous twenty years was 48°.75 (1894) which was about four degrees above the average mean temperature of this locality. This year (1900) it was 53°.97, or 5°.22 higher than in 1894.

The average mean temperature for October for the twelve years, 1880 to 1891 both inclusive, was 44°.04; and for the following eight years, 1892 to 1899, both inclusive, it was 45°.98, or 1°.94 higher than the average of the preceding twelve year period. For the two periods combined, viz., from 1880 to 1899, the average was 44°.81. The mean for October, 1900, being 53°.97 shows the extraordinary increase of 0°.16 of mean or daily temperature over the average October for the past twenty years.

Lindsay, Nov. 1st, 1900.

THOS. BEALL.

### Pruning Raspberries.

SIR,—On reading the directions for pruning and training raspberries given in your article on Fruit Culture in the October number of the Horticulturist, it would appear a very easy matter to keep raspberries in proper shape; but if one summer's experience counts anything it is not such an easy matter as would at first sight appear. Perhaps a brief statement of my experience with raspberries would be in order before asking for advice. I have grown a few raspberries in the garden for the past six years, but never paid much attention to their pruning and training. Seeing that they promised to pay well, last spring I set out several rows in the strawberry field. Of the five rows set out, two are

Conrath, two Golden Queen, and the fifth about evenly divided between Cuthbert, Marlboro, Miller, Shaffer and Loudon, with a half dozen Kansas. The rows are eight feet apart, and the Conrath and Shaffer about three feet apart in the row, while the other are about a foot apart, as it is my intention to grow them in a hedgerow about two feet wide, keeping down weeds by a heavy mulch of short seaweed or cut straw. I planted a row of strawberries between each row of raspberries, which is now about four feet wide, but I will narrow down the row to two feet next spring by taking up plants for my spring planting. I pinched the black-caps when about 18 inches high. They sent out laterals very vigorously, and when these were about 2½ feet long I pinched them also. These laterals have in turn sent out from three to five laterals or branches each, which are now from a foot to three feet long. Instead of standing upright like the plant illustrated in Fig. 97, they are sprawling over the ground, forming a solid hedge-

row about two feet high and about five feet wide. Some plants that did not receive the second pinching have laterals 8 feet long, trailing like a Dewberry.

Now the question arises, how am I going to prune the plants so as to get them into shape for the trellis illustrated in Fig. 89? As these plants will be covered with three or four feet of snow will not the laterals be stripped off the main stem?

The Golden Queen and Cuthbert are about five feet high, with an occasional plant six feet high.

What is the usual yield per acre for Blackcaps and Cuthberts or other Raspberries?

How does the Lucretia Dewberry compare with Taylor's Prolific Blackberry in flavor?

What do you consider the best early Strawberry? Also the best late. Soil is a sandy loam. I have over forty varieties under test to fruit next year, but this is no guide for next spring's planting.

Aitkens' Ferry, P. E. I. D. J. STEWART.

## Our Affiliated Societies.

PORT DOVER. — The regular autumn exhibition of fruits, plants and flowers of the Port Dover Fruit Growers' Association took place in the Town Hall on Thursday evening week. There was quite a large attendance and much interest was manifested in the beautiful display of fine fruits and flowers. The latter was especially good and the interest and care displayed by the ladies is deserving of great credit. The plants and flowers were banded along the whole front of the stage and were most tastefully and beautifully displayed. The fruits were also well arranged on tables, apples predominating.

Good music was furnished by the orchestra. President Symington occupied the chair, and after some suitable remarks called on Secretary Carpenter to read the annual report, which shows the society in a flourishing condition. Pleasing addresses were then delivered in turn by Mr. L. G. Morgan, P. Lawson, Esq., and Rev. Mr. Robertson. Mr. Morgan especially urged the members to endeavor to still further extend its usefulness, as apart altogether from its value to the town and surrounding country in a moral and aesthetic point of view, a most tangible result of its organization was the building of the evaporator, which now employed a large number of hands and put considerable money in circulation among the fruit growers and townspeople. But for the formation of the society it is probable the evaporator would not have been built. Mr. Robertson thought that while we could not grow peaches or grapes as well as some other localities, our apples, pears, etc., were equal to any grown elsewhere, and he advocated our banding together to capture the British market and that societies as such should make special displays in these markets. Mr. Lawson advocated the holding of meetings monthly and moved that the next meeting be held on the second Thursday in November. On motion of Mr. Morgan, seconded by Mr. John Waddee, a hearty vote of thanks was tendered the ladies for their valuable assistance. The meeting closed with the national anthem.

The following is the Secretary's report: "It is needless for me to say that we have a horticultural society established in Port Dover. This is well known to some, since the 7th day of February, 1896, when some seventeen gentlemen met in the Town Hall to take into consideration the advisability of establishing such an institution. We have, as some of you well know, had an existence since that time. By the 1st day of Sept., 1896, we had sent in to Mr. L. Woolverton 39 names for the Horticulturist. In the evening of Jan. 1st, 1897, as per statute governing horticultural societies, the officers were elected and the society received the name of "The Port Dover Horticultural Society" in affiliation with the Provincial Society. By the 1st day of Sept., 1897, we had a membership of seventy, and received a grant of \$39, which grant was based upon the membership of the previous year. At the present time our membership is eighty-one. Included in that number we have six lady members. We hope for the year 1901 that that number may be doubled.

All who have attended the meetings during the past three years cannot but realize that this institution has been a great educator in the management of fruit trees and flowers. During the year 1898 this society gave to its members (who saw fit to avail themselves of the gift) a present of 50 cents worth of trees, flowers, shrubs, etc., which came from the following sources: trees from Grimsby Nursery, gladioli and cannas from H. H. Groff, Simcoe. The society gave that year through its secretary, apple, peach, plum, pear, cherry, grape, etc., running through the whole catalogue of fruits, representing a cash value of \$67.55. This year we have given 39 apple, 105 pear trees, 30 cherry, 74 plum, 66 peaches, 25 grape, 1,084 strawberry, 108 raspberry, 65 currants, 110 gooseberry, 25 blackberry, ornamentals, 2 althea, 2 weigelia, 3 crimson rambler roses, 1 spiria, 1 white fringi, 2 clematis, 4 English walnut, 30 cannas, 8 gladioli, at a cost of \$94.15. This year our government grant is \$47.00. In conclusion I wish to thank the members

for the interest taken to further the prosperity of their society. Everything goes off harmoniously and I desire to thank the string band, who have always been on hand to assist in the evening's entertainment; also those who have given us recitations and essays during the past year; also the glee club, for I think without music our meetings would have lost some of their charm. I consider the society in a very flourishing condition at present. Its membership is composed of the very best in town and country and as long as this is the case the society is bound to succeed. All of which is submitted.

THE SECRETARY.

London.—The London Horticultural Society made their fall distribution of bulbs to members in October; each member receiving the following bulbs;

Sixteen (16) Tulips in four (4) named varieties.

Sixteen (16) Iris Hispanica.

Four (4) Narcissus Poeticus ornatus.

Four (4) Narcissus Princess, in all forty (40) bulbs to each member. In all five thousand bulbs were distributed to members.

R. W. RENNIE, Secy.

## OUR APPLE MARKETS.

Mr. J. M. Shutteworth, Brantford, gives us the following notes on the English markets for apples:

Messrs. Simons, Jacobs & Co., Glasgow, cable: "Our apple market is stronger to-day at the following prices for strictly first-class sound fruit: Baldwins, Spitz, Seeks, 12s. to 14s.; Spys, Greenings, 13s to 15s.; Kings, 18s. to 22s.; Golden and Rox Russets, 10s. to 12s.; Cranberry Pippins, 14s. to 16s.; common grades and lower conditions 2s. to 3s. less than above quotations."

Messrs. Garcia, Jacobs & Co., London, cable: "Our market is steady for good sound fruit. The following are the ruling prices for the best grades: Greenings, Spys, Spits and Seeks, 12s. to 14s.; Baldwins, 11s. to 13s.; Golden and Rox Russets, 10s. to 12s.; wasty fruit 2s. to 3s. less."

Messrs. J. H. Lutten & Son, Hamburg, cable: "Good sound red apples rule from 12s. to 15s."

Messrs. Simons, Shuttleworth & Co., Liverpool, cable: "A large number Canadians landing in bad order. Quality and condition are in strong demand, but lower grades and conditions are difficult to move. Only finest fruit wanted. Seeks, Baldwins, Can. Reds, Phoenix, 10s. to 12s. Spys, Greenings, Golden Russets, 11s. to 13s.; Snows, 15s. to 18s.; Kings, 17s. to 19s.; T. Sweets, 8s. to 10s.; lower grades and conditions 2s. to 3s. less."

Messrs. James Adam, Son & Co., write under date of November 10th from Liverpool: "Canadian arrivals still leave much to be desired, as not only are they irregular, but in some instances disappointing. Of course we know that the best stock is kept back until the commencement of re-packing, and believing this to be the case this season we look for better things in the near future. At the same time it is not a little surprising that much of the fruit auctioned this week should ever have been shipped at all, as so far is it from being No.

1, which is what is wanted this season, that we doubt even with light supplies whether good prices could have been obtained. Greenings, perhaps, were worse than the other varieties, though there were also some poor lots of Baldwins, in addition to which we are sorry to say results, generally, have been very much prejudiced by the large number of mixed lots, i. e., two or three barrels of each variety, which are only salable at comparatively low prices. Newtown Pippins are not doing as well as we should like to see them, in fact the market for them is rather disappointing seeing that the quality is much improved, and as Christmas approaches we trust better results will be obtainable."

Messrs. Simons, Shuttleworth & Co., Liverpool, cable the following quotations from to-day's apple market, November 21st, 1900,

For sound fruit—Baldwins, Seeks, Phoenix, 11s. to 13s.; Spies, Greenings, Golden Russets, Cranberry Pippins, 12s. to 14s.; Canada Reds, Ben Davis, Rox Russets, 10s. to 12s.; Kings, 21s. to 23s.; Snows, 15s. to 17s.; Talman Sweets, 8s. to 10s. Common grades and wasty fruit sold from 1s. to 4s less than above. Market opened strong and continued so throughout the day, with a slight advance. A large proportion of receipts continue to land in bad condition.

Messrs. Woodall & Co., Liverpool, cabled to-day, Nov. 21st, as follows:

21,000 bbls. sold. Market opened strong and continued so during the day. Baldwins, 11s. to 13s. 6d.; Kings, 15s. to 23s.; Greenings, 12s. to 17. Market is showing great activity, and prices hardening, and we anticipate a very strong demand for good fruit.

