

4. All glassware sent for verification must be perfectly clean on both the inside and outside surfaces.

5. The Chief Inspector of Weights and Measures shall cause each bottle, pipette or measuring glass that is found correct within an error of one-tenth per cent, plus or minus, to be ineffaceably marked with the outline of a crown, having within it the initial letter of the reigning sovereign, and any such glassware not being found correct within the error herein specified, he shall cause to be destroyed without compensation to the owners thereof.

6. The fee for the verification of milk test glassware shall be 5 cents for each test bottle, pipette or measuring glass, which amount shall be forwarded to the Standards Branch, Department of Inland Revenue, Ottawa, with each consignment of glassware to be verified.

7. Packages containing glassware for verification must be plainly addressed, and bear the sender's name and post office address, thus:—

To the Standards Branch,
 Department of Inland Revenue,
 Ottawa, Ont.

From John Jones,
 Montreal, Que.

8. A memorandum in the following form shall be inclosed with the glassware in each package:—

Milk Test Glassware.

To the Standards Branch,
 Department of Inland Revenue,
 Ottawa, Ont.

SIRS,—Please receive herewith the following milk test glassware for verification.

Number of Pieces.	Description.	Fees.
.....
.....
.....
.....

Inclosed please find.....in payment of fees.
 This glassware is to be returned to John Jones, Montreal, Que.

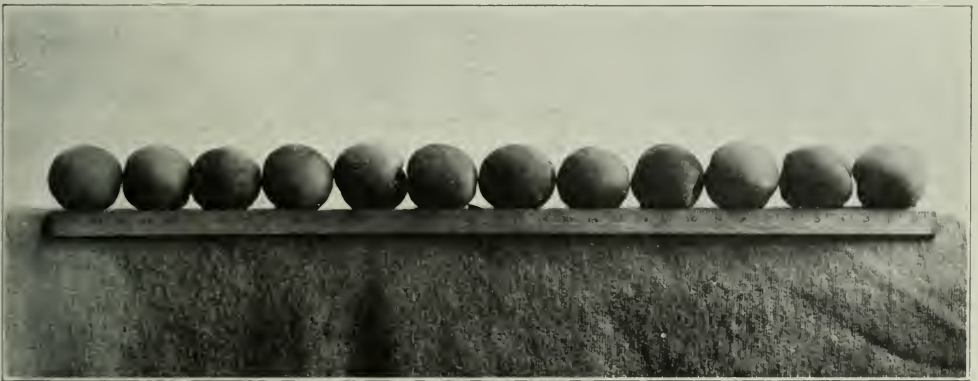
9. Any person who violates any of the provisions of *The Milk Test Act* or the regulations made thereunder, shall be liable, on summary conviction thereof, to a fine not exceeding fifty dollars for each offence.

DEPARTMENT OF AGRICULTURE
DAIRY AND COLD STORAGE BRANCH
OTTAWA, CANADA

TRIAL SHIPMENTS OF PEACHES IN 1910

BY

J. A. RUDDICK AND W. W. MOORE



A yard of Elberta peaches.

BULLETIN NO. 27
DAIRY AND COLD STORAGE SERIES

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LETTER OF TRANSMITTAL.

OTTAWA, ONT., March 1, 1911.

To the Honourable
The Minister of Agriculture.

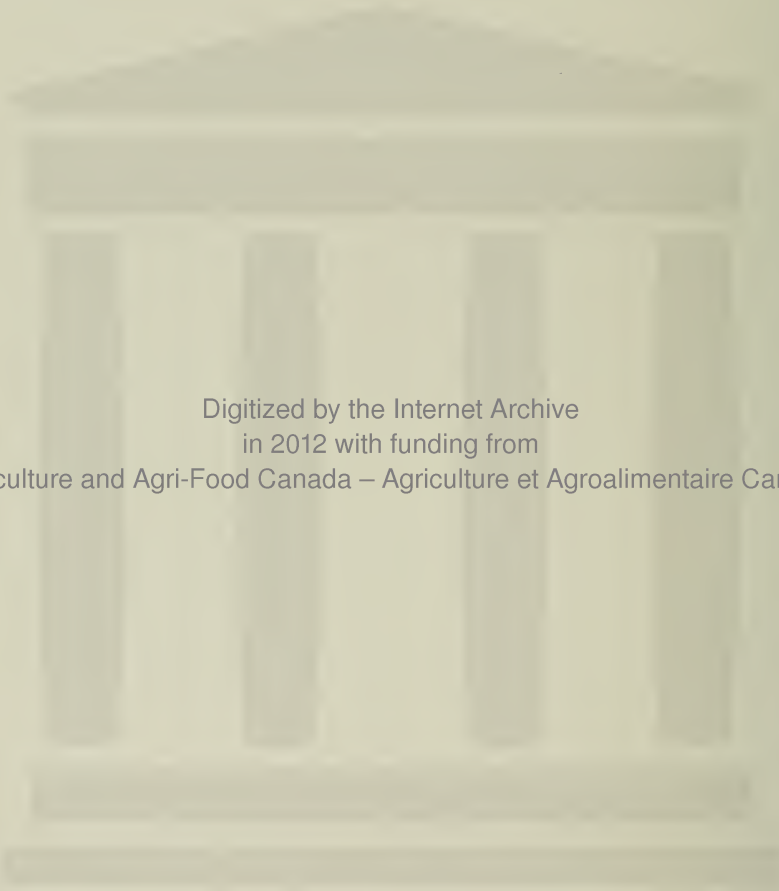
SIR,—I have the honour to submit a report on the Trial Shipments of Peaches made by this branch of your department, and by your direction, to the markets of Great Britain during the season of 1910.

In view of the success of these shipments, it would seem to be desirable that the information obtained should be made available to those who are interested in such matters.

I beg to recommend that the report be published as Bulletin No. 27, of the Dairy and Cold Storage Series.

I have the honour to be, sir,
Your obedient servant,

J. A. RUDDICK,
Dairy and Cold Storage Commissioner.



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TRIAL SHIPMENTS OF PEACHES IN 1910

In 1897 this department made trial shipments to Great Britain of about 7,000 cases of tender fruits, of which over 1,400 cases were peaches. As a result, a good deal of valuable information was obtained and placed before the shippers and growers in the peach belt. During the past three years, in order to encourage the shipment of tender fruits to Great Britain, the department has reserved cold storage chambers on the steamers and guaranteed the earnings thereon so that shippers of small lots might be accommodated and have their fruit carried at a proper temperature and at the regular rates. With the same end in view the department also agreed to pay the icing charges, up to \$5 per car, on all shipments of early apples and tender fruits received at Montreal for export in cold storage from August 1 to October 1 in each year. During the past four years small lots of peaches, grapes, etc., have been sent to various parts of Europe for exhibition purposes, with most excellent results. While the action of the department in these respects stimulated the shipment of early apples and pears, it had no appreciable effect on peach shipments, for the reason that the opinion was pretty generally held that it was not possible to ship our peaches to Great Britain on a commercial scale and land them in good condition.

Owing to this apparent disinclination on the part of shippers or growers to forward such quantities as would thoroughly test the market, it seemed advisable that this department should make a few trial shipments in 1910 in order to procure accurate data respecting the proper degree of maturity at picking time, the best method of packing, proper temperatures during transportation, etc., especially as the acreage under peaches in Ontario has been rapidly increasing in recent years. If shipments are made by private individuals or firms such information is not readily available for the general public.

The extension of markets for farm products is one of the chief duties assigned to the Dairy and Cold Storage Branch of the department and its organization, including the cargo inspectors at Montreal and at ports in Great Britain, along with the iced car services and the specially reserved refrigerator chambers on the steamers, permits of such work being undertaken with little extra expense or interference with other duties. An appropriation was secured for the purpose during the session of 1909-10 and the preliminary arrangements were completed early in June.

The St. Catharines Cold Storage and Forwarding Company, Limited, St. Catharines, agreed to furnish the peaches and pack them as directed, for a guarantee equal to the local market price plus the cost of the special packing and package. It was understood that if the net returns were more than the amount guaranteed, the excess should go to the growers. As soon as this agreement was reached, some of the principal fruit brokers in Great Britain and the cargo inspectors for the department at Liverpool, London, Bristol and Glasgow, were advised that trial shipments of peaches would be made by the department in September and October, and they were asked for full information as to the quantity which it would be advisable to ship, etc. Following is a copy of a letter addressed to Messrs. Geo. Monro, Limited, London, and their reply thereto:—

OTTAWA, June 2, 1910.

Messrs. GEO. MONRO, Ltd.,
London, England.

DEAR SIRS,—In October, 1908, the Canadian Commissioner at the Franco-British Exhibition sent you sample cases of Canadian grown Elberta peaches, which you reported as arriving in extra good condition compared with others of the same variety.

The present prospects are for a good crop of peaches in Canada this year and I have been authorized by the Minister of Agriculture to encourage the shipment of peaches to Great Britain. I propose to purchase from the growers Elberta peaches and have them packed in single layer cases, surrounded with wood wool, each peach wrapped in paper. We could forward these in lots of any quantity up to 1,000 or more cases.

Would you care to accept consignments of these peaches and, if so, about what quantities do you think it would be advisable to send?

If you are favourable to the proposal, I would be glad to have you make any suggestions, which may occur to you from your experience, as to how the peaches should be packed and the cases marked. We can have the cases printed or use paper labels, whichever is considered to be the most practicable.

Yours very truly,

(Sgd.) J. A. RUDDICK,

Commissioner.

On June 13, Messrs. Munro replied as follows:—

We are in receipt of your letter of the 2nd inst., in reference to sending peaches. We remember the lot we received in 1908 which were delivered to us in exceptionally good condition and met a very good market, as English were short at the time. We are also aware that a good many of this variety of 'Elberta' have been shipped here, but have not realized nearly so much money as we were able to make of the consignment referred to. We, therefore, should suggest merely trial consignments this year, commencing as soon as possible, and sending them through the season so that you could be in a better position to judge whether it would pay to send in the quantities you name. Peaches—of all fruits—vary in price very much according to the demand, quality and the condition of the fruit, and if they are not good enough for the best class customer, the price is very low indeed compared with the good ones.

We shall certainly be pleased to do the best we can but do not wish you to send anything but what would find a ready and good sale, and should certainly prefer that you send on as above for the ensuing season.

Your inspector here, Mr. Davis, who meets the shipments at the docks, has called and we have told him as written you, and we think that he agreed with us that it would be better to go carefully at first. We are able also to give him some particulars in reference to South African pears, which may be interesting to you.

In a subsequent letter, dated July 5, Messrs. Munro stated that they thought about five hundred single layer cases for each shipment would give a fair test of the market. After hearing from the different correspondents, it was decided to make shipments during the weeks ending September 17, 24 and October 1, to London, Liverpool and Glasgow and one shipment to Bristol on September 15; part of the Liverpool shipment to be forwarded to Manchester and Leeds and a portion of the Bristol lot to go to Cardiff and Birmingham. This plan, it was expected, would thoroughly test the leading markets with the least expense and the least risk of delay in transit.

Quantity of Peaches Shipped by the Department.

The following statement shows the total quantity of peaches shipped by the department to Great Britain during the season of 1910:—

(STATEMENT No. 1.)

Date Shipped from Montreal.	Shipper.	Market.	No. Single Layer Cases.	Total Number Cases.
1910.	<i>1st Week.</i>			
Sept. 15 ...	Dept. Agriculture, Ottawa.....	Bristol	50	
	" " "	Cardiff via Bristol.....	25	
	" " "	Birmingham.....	24	
	Total for Bristol and district.....		99	
" 16....	Dept. Agriculture, Ottawa.....	Liverpool	51	
	" " "	Leeds via Liverpool.....	12	
	" " "	Manchester via Liverpool ...	12	
	Total for Liverpool and district.....		75	
" 17....	Dept. Agriculture, Ottawa.....	Glasgow.....	93	
" 17....	" " "	London.....	150	
	Total for 1st Week.....			417
	<i>2nd Week.</i>			
Sept. 24..	Dept. Agriculture, Ottawa.....	Liverpool	102	
	" " "	Leeds via Liverpool.....	24	
	" " "	Manchester via Liverpool ...	24	
	Total for Liverpool and district.....		150	
" 24....	Dept. Agriculture, Ottawa.....	Glasgow.....	177	
" 24....	" " "	London.....	342	
	Total for 2nd Week.....			669
	<i>3rd Week.</i>			
Sept. 30 ...	Dept. Agriculture, Ottawa.....	London via Liverpool.....		198
	Total quantity shipped.....			1,284

Temperature of Peaches in Transit to, and at, Montreal.

All the peaches shipped by the department were carried to Montreal by refrigerator car and fast freight, with the exception of the Bristol consignment which was shipped by express. The peaches in this lot were at a temperature of 60 degrees when unloaded at Montreal. In the three subsequent shipments by refrigerator cars, in which thermographs were carried, the temperature in the first two cars during transit to Montreal ranged from 50 degrees at the start to 44 degrees when the cars were unloaded, and in the third car from 56 to 40 degrees. The actual temperature of the fruit at Montreal ex the first refrigerator car was $4\frac{1}{4}$ degrees for those peaches which had been pre-cooled before shipment and $5\frac{1}{4}$ degrees for those packed the day of shipment and loaded without pre-cooling. In the second car the average temper-

ature of the peaches was 50 degrees and in the third car 45 degrees. The express shipment left St. Catharines on Tuesday at noon and was delivered to the steamer at Montreal about noon the following day. In each case the refrigerator car left St. Catharines on Wednesday about 6.30 p.m., arrived at Point St. Charles, Montreal, before 7.00 o'clock, Friday morning, and was placed alongside the steamship sheds on the dock about 2.00 p.m. All the peaches were reported as in firm condition at Montreal.

It will thus be seen that the express service was about twenty-four hours faster than the freight but that the peaches carried in the refrigerator cars were at a much lower and better temperature than the others. Should there be any delay en route, peaches will not receive any damage in a well iced car, whereas, if they are carried by express, any delay at the temperatures mentioned above is dangerous. That this is liable to happen was shown in the case of a private shipment by express for the ss. *Tortona* on September 10, which, owing to an accident to the car, arrived in Montreal on the evening instead of on the morning train and, as a consequence, was not delivered on the dock until 11.30 p.m., the peaches being loaded in the steamer between 1 and 2 o'clock in the morning.

Inspection of Shipments at Montreal and at Ports in Great Britain.

All the peaches were closely watched by our cargo inspectors at Montreal. Cars in which peaches were carried, whether by express or fast freight, were followed up by the chief cargo inspector, and the officials of the Harbour Commissioners' staff (who have charge of the switching of export cars at the head of the docks) were urged by him to have the cars placed alongside the steamers with the least possible delay. Care was taken to see that the peaches were promptly loaded in the steamers and that proper care was exercised in handling the packages and in stowing them in the chambers. The cases were well dunnaged in the steamers (by dunnage is meant the placing of strips of wood between the tiers of cases, both horizontally and vertically, so as to insure a good circulation of air) and thermographs were placed in each chamber.

At London, Liverpool, Glasgow and Bristol our inspectors were also on the alert and remarkably quick deliveries were made. For instance, London peaches were on the market within three hours from the time discharge of cargo commenced. Our inspectors also made a careful report regarding the condition of the fruit on arrival and the prices realized by the brokers.

Private Shipments.

Throughout the peach shipping season private shipments were made to Liverpool, Glasgow, Bristol and London by Mr. C. A. Dobson, Jordan Station, the Biggs Fruit and Produce Co., Burlington, and Mr. D. Johnson, Forest. These consignments went forward in the chambers specially reserved for fruit and received the careful attention of our cargo inspectors at Montreal and at the above mentioned ports. We furnished the shippers with copies of the inspectors' reports, showing the condition of the peaches at Montreal and at the port of discharge, with the time of transfer from car to boat at Montreal, the temperature in the ship's chamber during voyage, etc.

The inspectors carefully supervised the handling of the peaches and as a result not one case was landed in a damaged condition.

These cargo inspectors are on duty at Montreal during the season of navigation and the year round at old country ports, and fruit shippers can always get information respecting their export shipments by applying to the Dairy and Cold Storage Commissioner, Ottawa.

Condition of Peaches on Arrival in Great Britain.

All the peaches shipped by the department were landed from the steamships in excellent condition.

Temperatures in Refrigerator Chambers on Steamships.

Reliable information regarding the best storage temperature for peaches is somewhat limited but according to some careful experiments made by the United States Bureau of Plant Industry, peaches held at 32 degrees continued in good condition longer than those held at 36 degrees or at 40 degrees. Heretofore South African peaches have been carried by the Union Castle line at a temperature of from 34 to 36 degrees, the voyage occupying seventeen days from Cape Town to Southampton by fastest boats, but the South African Trades Commissioner in London in his last report recommends a lower temperature. The 'keeping quality' in peaches is of short duration at best and the limit for Canadian peaches is pretty well reached in shipment to Great Britain.

Our instructions to the steamship companies were to carry peaches at a temperature of from 34 to 36 degrees, with a gradual rise to 55 degrees during the last day of the voyage in order to prevent sweating or the condensation of moisture on the cold fruit when removed from the refrigerators and exposed to a warmer atmosphere. Thermograph records in the steamers sailing to London, Glasgow and Bristol were satisfactory, but in the case of the three Liverpool boats, in which our department had shipments of peaches, through a misunderstanding, no rise in temperature occurred at the end of the voyage, the peaches being removed from a temperature of 35 degrees to a temperature of 60 degrees, and while our inspector reported that the peaches were landed in good condition, they did not appear to stand up as well as those shipped to the other ports, and most probably this was owing to the abrupt transition from a low to a high temperature.

MEMORANDUM showing number of days from port to port taken by steamers carrying Canadian Peaches, season 1910, and extra time until discharge in the case of those which arrived in port Saturday or Sunday.

(STATEMENT No. 2.)

Steamer.	Date sailed from Montreal.	Date of arrival at port in Great Britain.	No. of days on voyage.	Extra time until discharge began.	No. of days from sailing date until discharge began.
Liverpool :—					
Megantic.....	Sept. 16....	Saturday, Sept. 24.....	8	2	10
Dominion	" 24....	Monday, Oct. 3.....	9	1	10
Laurentic	" 30....	Saturday, Oct. 8.....	8	2	10
Bristol :—					
Royal Edward.....	Sept. 15....	Thursday, Sept. 22.	7		7
Royal George.....	" 29....	" Oct. 6	7		7
London :—					
Tortona.....	Sept. 10....	Tuesday, Sept. 20.....	10		10
Hurona.....	" 17....	Thursday, Sept. 29.	12		12
Devona.....	" 24....	Friday, Oct. 7.....	13		13
Cervona.....	Oct. 1....	Saturday, Oct. 15.....	14	2	16
Cairnra.....	" 8	" " 22.....	14	2	16
Iona.....	" 15....	" " 29.....	14	2	16
Glasgow :—					
Hesperian.....	Sept. 17....	Sunday, Sept. 25.....	8	1	9
Ionian.....	" 24....	" Oct. 2.....	8	1	9
Grampian.....	Oct. 1....	" " 9.....	8	1	9

The department's last consignment for London went forward via Liverpool per ss. *Laurentic* which left Montreal on September 30, arrived at Liverpool Saturday, October 8, and discharged the peaches Monday morning, October 10. The peaches left Liverpool by refrigerator car at 7 p.m. same day and were delivered in London at 7 a.m. the following morning, October 11, or within eleven days from the time they left Montreal. These peaches were all sold by October 14.

Average Time between Shipping Point and Port of Destination.

The average time in transportation between the shipping points in the Niagara district and the port of destination in Great Britain by fast freight to Montreal and above ocean steamships was as follows:—

Liverpool, 3 shipments—	Average time, 11 days.			
Bristol, 2	"	"	"	10
London, 6	"	"	"	16
Glasgow, 3	"	"	"	11

The general average for the 14 shipments was 12.8 days.*

Markets and Prices Realized.

As is indicated in Statement No. 1. the peaches shipped by this department went to the ports of Liverpool, London, Glasgow and Bristol. The two Liverpool shipments

*The average time between Grimsby, Ont., and the ports of Liverpool, London and Glasgow for the shipments made by this department in 1897 was 19.9 days. A saving of seven days in time is a noteworthy improvement in our transportation facilities in thirteen years.

were each divided between that market, Leeds and Manchester. The Bristol lot likewise served three markets viz.: Bristol, Cardiff and Birmingham. The claim has been made that it would be better to have all the Canadian peaches, which are exported, shipped to London and distributed from there to the various markets, but while London is undoubtedly the best market for peaches, it does not seem reasonable that fruit intended for sale in Liverpool or Glasgow should first be forwarded to London and after a delay of one or two days there be reshipped by rail to these points both of which have fast direct steamers from Montreal. The extra cost of shipping by rail would be a heavy item as it cost the department 9 cents per case to ship 198 cases from Liverpool to London in an iced car, or within half a cent per case of the freight from Montreal to Liverpool or London. Then there is to be considered the risk of injury from extra handling and exposure during fairly warm weather, and the important question of time in transit. As is shown in Statement No. 2 the boats in the Montreal-London service are slower than those running to Liverpool, Glasgow or Bristol, and peaches shipped via London would require from twelve to eighteen days to reach either Liverpool or Glasgow as compared with ten and nine days by direct boats. The argument applies with even greater force to Bristol which has a seven day service from Montreal once every two weeks. The cold storage freight rate to each of the ports mentioned is the same, viz., 25 shillings a ton of 40 cubic feet.

All the peaches shipped by the department were disposed of by private sale, excepting the two Liverpool lots of 51 and 102 cases which were sold under the hammer. Cardiff made the highest price, viz., 6s. 6d. (\$1.58) per case of 23 'Crawford' peaches, while the highest average price received was \$1.45 per case for 72 cases 'Old Mixon' sold in London. At the same time 78 cases of 'Elbertas' made an average of \$1.39. In Cardiff 25 cases 'Crawfords' averaged \$1.30 per case; Manchester made \$1.33 per case for 12 cases and Leeds \$1.22. On the other hand 198 cases 'Elbertas' sold in London for 94 cents per case, 24 cases sold in Birmingham for 83 cents per case and 177 cases in Glasgow for 85½ cents per case. The whole shipment of 1,284 cases sold at an average price of \$1.04 per case, while the charges averaged as follows:—

Freight from St. Catharines to Montreal, 4 cents per case; ocean freight, 9.6 cents; selling charges in Great Britain, including commission, 9.7 cents; total charges, 23.3 cents per case leaving an average net return f.o.b. cars St. Catharines of 80.7 cents per case, or about 13½ cents per pound. From this must be deducted, of course, the cost of the package, packing material and extra labour.

The following statement gives the complete details of average prices realized, cost of transportation, etc.:—

TRIAL SHIPMENTS OF PEACHES.

STATEMENT showing Average Price Realized for each Shipment, Cost of Transportation, Selling Expenses and Net Returns per case at St. Catharines.

Market.	Date Shipped from St. Catharines.	No. of Cases.	Variety.	Average price Sold for.		Brokers' charges For delivery, &c.		Cost of advertising.		Railway charges In England.		Brokers' commission.		Ocean freight from Montreal.		Ry. Charges to Montreal.		Net returns F.o.b. cars, St. Catharines.		Market.		
				\$	cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	\$	cts.	Cts.	Cts.					
Bristol	1910.																					
a Bristol	Sept. 13.	50	Crawford	1	09	4	6	6	1						9	6	6		0	76	6	Bristol.
a Cardiff	"	25	"	1	30	4	0	5	8						9	6	6		0	93	4	Cardiff
a Birmingham	"	24	"	0	83	2	0			2	9				9	6	6		0	57	8	Birmingham.
Glasgow—1st shipment	Sept. 14	{	Old Mixon	1	09	3	0								9	6	4		0	86	9	Glasgow.
Liverpool	"	51	Crawford	0	99	2	7								9	6	4		0	80	3	Liverpool.
L-eds	"	12	"	1	22	2	0				6	7			9	6	4		0	93	7	Leeds.
Manchester	"	12	"	1	33						5	0			9	6	4		1	07	7	Manchester.
London	"	78	Elberta	1	39	5	6								9	6	4		1	12	9	London.
Glasgow—2nd shipment	Sept. 21	{	Old Mixon	1	45	5	6								9	6	4		1	18	6	London.
Liverpool	"	102	Elberta	0	85	3	0								9	6	4		0	64	8	Glasgow.
Leeds	"	24	"	0	99	2	7								2	3	9		0	80	4	Liverpool.
Manchester	"	24	"	1	16	2	7				6	2			5	3	9		0	88	2	Leeds.
London	"	327	"	1	06	4	9				4	4			5	3	9		0	82	7	Manchester.
Glasgow—3rd shipment	Sept. 28	{	Old Mixon	1	22	4	9								4	8	9		0	73	7	London.
London	"	15	Elberta	1	22	4	9								6	0	9		0	97	5	"
Liverpool	"	198	Elberta	0	93	2	0								4	5	9		0	74	2	"
Total		1,284																				

Average price sold for in Great Britain..... \$1 04 per case

" inland and ocean freight charges..... \$0 13.6 per case

" selling charges in Great Britain including commission..... 9.7 "

Average net price received f.o.b. cars St. Catharines..... 23.3 "

a Shipped from St. Catharines to Montreal by express—remaining shipments were forwarded in refrigerator car by fast freight..... 80.7 "

As the guarantee to the growers was equal to about 40 cents per case, a net return of over twice this amount must be considered as highly satisfactory.

In the marketing of Canadian peaches in Great Britain it would seem to be a poor business policy to instruct the broker in London or elsewhere to hold out for the last penny he can squeeze out of the retailer. If the latter is forced to pay 6s. and upwards for 18 or 20 peaches, it means a retail price of 12 to 16 cents per peach. At this price sales are necessarily slow and the trade restricted. Many of the retailers in an attempt to get their money back will hold the peaches too long, decay sets in and they lose money on the transaction. Where this happens they naturally will become prejudiced against Canadian peaches and will not want to handle them another year at any price. It is much better to have the brokers clear the peaches quickly at a fair price and give the retail dealer a chance to dispose of them rapidly at a reasonable profit than to have them dragging in the market and in the shops until they lose their flavour and become wasty or rotten. In this connection the following excerpt from 'Fruit, Flower and Vegetable Trades' Journal,' London, dated October 8, 1910, is to the point:—

The Canadian peaches have turned out well and quite up to the expectation of those who are handling them. Another consignment is now due. In boxes of 20's selling at 5s. to 6s. 6d. per box, they should be handled by the majority of fruiterers. It will be wise if those handling consignments do not aim at higher prices than will make this fruit sell freely, for although English peaches are up to 24s. per dozen this week, it does not follow that the Canadian article is worth more than is being asked for it, and to raise the price will probably be to spoil the market, for it must be remembered that it is not every fruiterer that can handle peaches, nor will some of those who might, until they become better acquainted with the quality and condition of these consignments. Of course, very few shops can handle peaches that cost two shillings apiece wholesale, but at threepence or fourpence each a good trade should be done at this time of year.

Packages.

Figure 1 shows the case which was used for these shipments. The dimensions, inside measurement, are as follows: length, 18 inches; width, 11 inches; depth, 3½ inches.

Empty, the case weighed 3 pounds and packed, 9 pounds.

The top, sides and bottom of the case are made of lumber ¼-inch thick, planed on the outside.

The end pieces are ⅜ of an inch thick, planed on one side.

The cleats at both ends of the top and bottom are ¼ of an inch thick and ⅞ of an inch wide. These keep the cases apart when placed one on top of the other and thus allow the air to circulate between the tiers of packages when piled in car, ship or warehouse.

The sides, tops and bottoms are each $\frac{1}{2}$ -inch narrower than the inside dimensions given above, thus permitting ventilation at all four edges of the case.

As shown in figure 2 an attractive paper label was pasted on the ends of the cases, and as soon as each case was packed the number of peaches was stamped on the label in the space left blank for that purpose.

Packing.

The bottom of the case was lined to the depth of about half an inch with wood wool. Each peach was first wrapped in white tissue paper and then encircled with a band of wood wool so that one peach did not touch another (see right hand case, figure 1). A thick layer of wood wool was then placed on top of the fruit and the cover nailed on.

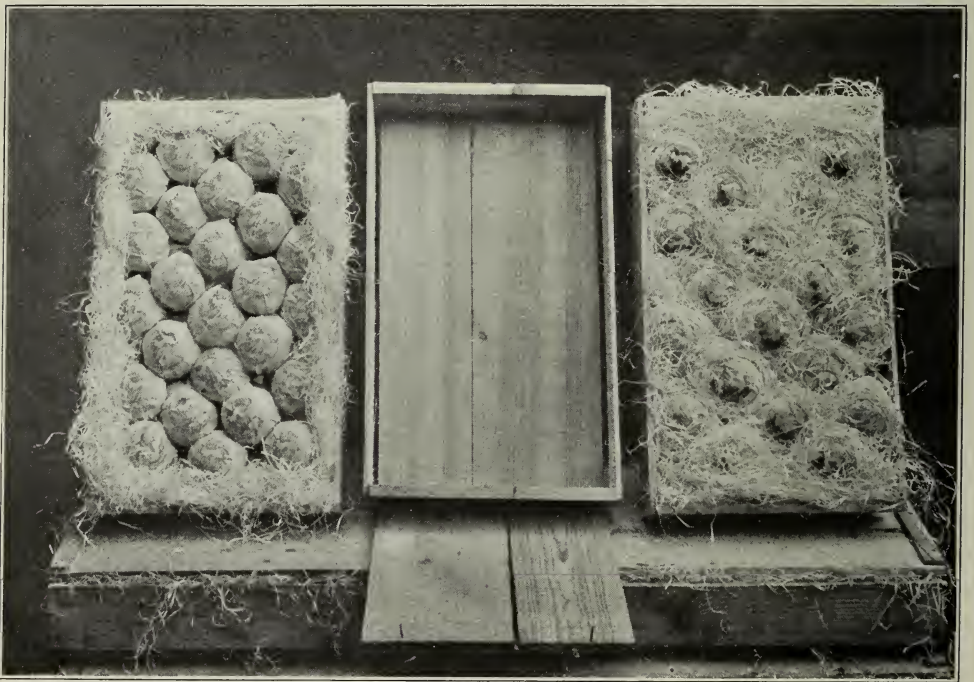


Fig. 1.—Showing empty case and two styles of pack.

A number of cases were put up 'solid pack' (see left hand case, figure 1), that is without the band of wood wool around each peach, and these carried as well and sold for as much money as the others, but the dealers expressed a preference for the right hand pack on the score of attractiveness.

A very fine grade of imported aspen wood wool was used. It was very white in colour and soft to the touch so that it answered the purpose admirably.

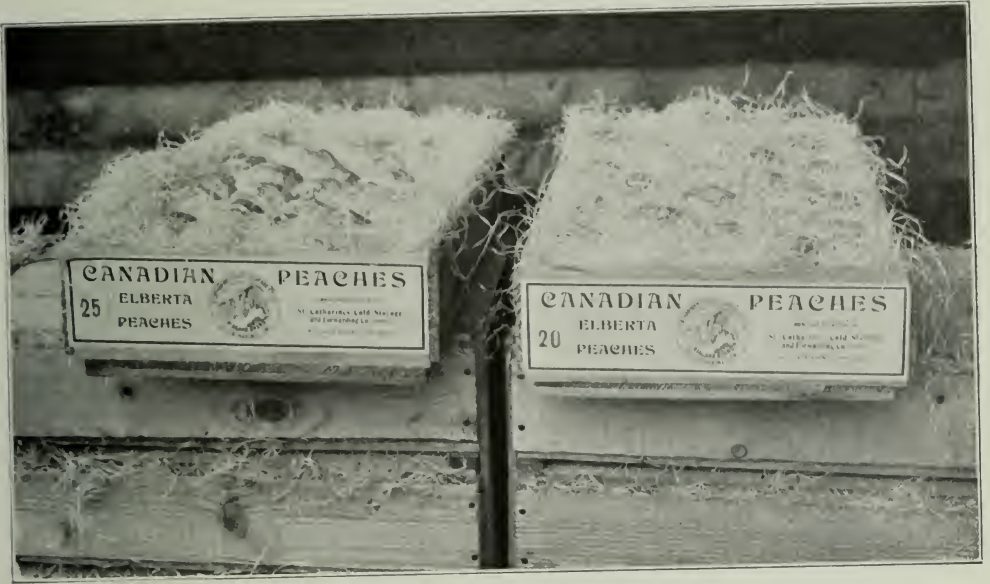


Fig. 2.—Showing labels on ends of cases.

In order to prevent bruising the utmost care must be taken in handling peaches for export. If, for instance, in picking, packing and sorting, the fruit is grasped with the tips of the fingers slight bruises are sure to develop at the points of contact, but if the whole hand is used the pressure is distributed over a wider area and no injury will result.



Fig. 3.—Showing manner in which peaches were packed for conveyance from orchard to packing house.

Special instructions must be given the pickers regarding the method of packing the fruit for conveyance from the orchard to the packing house. We got the best results by using the eleven quart basket and putting only two layers of peaches in it, with a lining of excelsior on the bottom and between the two layers of fruit (see figure 3). By this method the peaches were below the edge of the basket and the latter could be stacked without any harm resulting. One grower sent in baskets with three layers of peaches, with the result that most of the fruit was bruised and could not be used. Another utilized a large crate such as is used for vegetables, but the lower layers were all damaged by the pressure of the fruit above.



Fig. 4.—Showing three cases of peaches crated for shipment.

For convenience in handling, to save expense on the other side and to prevent pilferage, three cases were crated together by means of four battens, two of which were tacked at each end (see figure 4). This made an attractive package which was easily handled and called forth words of warm approval all along the line from railway and steamship employees and from the brokers in Great Britain.

Cost of Packages and Packing Material.

The cases cost 5 cents each delivered at St. Catharines in knock-down, and it cost about $1\frac{1}{2}$ cents a case to put them together, making a total cost of $6\frac{1}{2}$ cents each. The wood wool cost about 5 cents per pound delivered at the packing house. In order to get delivery in time it was necessary to ship it by express, which accounts for the high cost. If shipped by freight the cost would be lessened considerably. About eight ounces were used in packing each case so that the cost of this material amounted to $2\frac{1}{2}$ cents a case. The printed tissue wrappers which were used would cost about 1 cent per case. The total cost of the package and packing material, therefore, was 10 cents a case.

Maturity at Picking.

The degree of maturity at which peaches for export should be picked is of primary importance, but it is impossible to lay down any hard and fast rule on this point. Both experience and good judgment are needed to determine the proper time to pick the fruit, so that it will possess flavour, size and colour, and yet be firm enough to carry safely until it reaches the consumer in Great Britain—a period of from two and a half to three and a half weeks.

In deciding this question, consideration should be given to the following factors: (1) whether the fruit is a quick or slow ripening variety, (2) the weather conditions in respect to temperature and humidity, (3) the time which may elapse between picking and loading into cars, (4) whether the fruit will be cooled before shipment or not, and (5) the number of days the fruit will be in transit.

If peaches are picked while they are green and hard, they will be flavourless and unattractive when placed on sale in Great Britain and, as a consequence, will not sell at a profitable figure, no matter how sound they may be. On the other hand, if picking is delayed too long, decay is apt to set in before the fruit reaches the old country and the broker may find only a small portion of the shipment in a saleable condition.

Judging from the results obtained from these trial shipments, it would appear that the Elberta variety, especially, should not be picked until it is well grown and possesses a tinge of red, but is still in a firm condition. (A distinction should be noted between 'firmness' and 'hardness'. A green peach feels as hard as a bullet, while a more mature specimen although 'firm' is not 'hard'.) After some experience has been acquired in shipping to distant markets, the eye can be relied upon almost entirely to judge the degree of maturity and the danger of injuring the fruit by inexperienced handling will thus be lessened. The more mature the fruit, the greater the care required in picking and packing, the more urgent the need of quick cooling at the shipping point and of rapid transit to market under a controlled temperature.

Pre-cooling.

It is very important that peaches, in common with other tender varieties of fruit, should be cooled as quickly as possible after they are picked. As the St. Catharines Cold Storage and Forwarding Company, who packed the peaches for these shipments, have cold storage in connection with their packing house, it was possible to cool about one-half of each shipment to about 40 degrees before loading them into the car. As

the other half were only received from the orchard on the day of shipment, they were packed and loaded direct into the iced car. At Montreal, as already stated, a difference of about 10 degrees was found between the peaches that had been pre-cooled and those that were not; the temperature in the one case being 44 degrees and in the other 54 degrees. One advantage of pre-cooling before shipment and the consequent retarding of the ripening process soon after the fruit is picked, is that the peaches may be allowed to get more mature on the tree and thus improve in flavour and appearance.



Fig. 5.—A truck load of peaches ready for loading in refrigerator car.

Letters, Reports, &c., received from Great Britain.

BRISTOL, BIRMINGHAM AND CARDIFF.

Bristol, 50 cases; Birmingham, 24 cases; Cardiff, 25 cases. Variety, Early Crawford. Shipped from Montreal September 15; landed at Avonmouth September 22.

From Captain H. E. Shallis, Cargo Inspector for Canadian Department of Agriculture at Bristol, dated September 28, 1910:—

I am pleased to report that this shipment was landed here in very good condition. Of the total of 99 boxes (or trays as they are termed here) 50 were retained for Bristol, 25 were sent to Cardiff and 24 to Birmingham, and were despatched to their respective destinations without delay. Of the Bristol lot we had some boxes on show at the offices of the Bristol Fruit Brokers, with whom I had arranged for their disposal. The fruit was found to be firm, hard and

green on arrival, though some were showing signs of colour, and the first opinions expressed by those connected with the trade was that the fruit was somewhat disappointing, being small in size and not sufficiently rounded in shape compared with our house-grown fruit, but as the fruit ripened, very favourable opinions have been expressed as to the colour and quality. The boxes contained each 23 peaches, but there were two boxes of 20 only, these peaches were much superior in every respect as regards size, colour and fleshiness, and more the class of fruit which would find ready acceptance with the public. The packing left nothing to be desired. The temperature kept on board the ship throughout the passage ranged from 34 to 36 degrees until the last day when it was allowed to rise to 50 degrees and slightly over.

One box arrived in bad condition, the fruit being soft, spotty and wasty, and since we have come across several showing waste, in fact, the last reports we have from the dealers who have handled the fruit showed 8 to 10 going off in each box.

Prices.—The day following the arrival of the fruit 28 boxes were sold at 6s. per box, but, owing a great deal to the unripe condition, the others did not go off till yesterday, but as I have mentioned above, the fruit on obtaining more maturity showed the waste referred to, with the result that a lower price of 4s. per box had to be taken to effect its sale, fearing further deterioration. In all we had to lose eight boxes in re-packing to make others sound, for the slightest spot or blemish rendered the fruit unsaleable.

From various opinions before me I may say that the merchants are very favourably impressed and would welcome a large trade in this line, and trust that this may lead to further developments in all classes of fruit from Canada, for with the facilities of carrying in cold storage now available to this port, a good opening affords itself.

From the Bristol Fruit Brokers, Ltd., Bristol, dated September 26, 1910:—

Through our mutual friend Captain Shallis, the inspector of the Department of Agriculture, we were favoured with the handling of the first experimental shipment of Canadian peaches to this market, and we beg to submit our opinion of the out-turn of same as regards quality, condition, packing, etc.

Condition.—The condition, on arrival, must be considered satisfactory, especially so from the shippers' standpoint, whose aim and object is to have the fruit land at the point of destination in such a condition as not to necessitate a forced sale. It may be said, therefore, that from the shippers' standpoint, the consignment ex. *Royal Edward* arrived in perfect condition, that is to say, in a somewhat immature state, shippers having erred on the right side in packing the fruit in such a condition as to ensure its arriving here in a hard state, which of course is advisable. On the other hand, however, this had the effect of taking away from the attractiveness of the fruit, and, whatever one's patriotic feelings, same could not be described as pleasant to the eye.

Quality.—This shipment consisted of 23 fruits, and they were small, but for some reason amongst this shipment we discovered 2 trays of 20 fruits which, by a singular coincidence, opened up fully ripe, of a most lovely colour and of bold and attractive appearance. The peaches had, however, in many instances started to decay.

We mention this point more to emphasize the vast amount of difference in the appearance of the fruit, both as regards size and quality of the 20's fruit as compared with that packed under the 23's, and we are of opinion that future shipments to show a good result to the shipper, and give satisfaction to the public, should consist of fruits of the size of those packed under the 20's, and we

are of the opinion that these would meet with a ready sale on the English markets. The public will not buy a small peach for eating except at a small cost, and they have, therefore, to come under the category of cooking or preserving peaches.

Packing.—The packing was all that could be desired, being after the style adopted by the Cape government in the packing of their delicate fruits.

Prospects of sale.—We consider that the prospects of sale for this and other classes of Canadian fresh fruits are good, and we think you have been well advised to ship your consignments to the various markets rather than to one market only, such market can only distribute it within a certain area, the consequence being that buyers outside the said area have not the opportunity of buying it, as the rail carriage and risk of damage in transit enhances the cost very considerably to buyers outside the said area, and whilst we see by an article in one of the leading London dailies that the writer maintains that if this business of Canadian fruit exporting is to be made a success of, all supplies must be dealt with at Covent Garden, we are not of this opinion for the reasons expressed above. London can only distribute over a certain area, and we repeat that we consider you have been well advised to make your consignments to the principal ports, all of which have their own distributing powers and areas.

As you are aware, Bristol has a very extended area of distribution, viz., all the West of England, the Midlands as far north as Birmingham, Leicester, as also the South Wales districts, which comprise an enormous consuming population.

We have, as Captain Shallis will confirm, made known these peaches to a very wide circle of buyers in all the districts named above, and we can recommend you to make regular and more important shipments to this port by the well-equipped and fast steamers of the Royal Line, which offer exceptional advantages in the handling and carriage of such delicate fruits, and we hope to hear that you intend to avail of these opportunities of making regular shipments not only of peaches, but of the other varieties of fruits with which your territories abound.

We can confidently recommend the shipment of fancy box apples, pears, etc., to this market, and as up to now this market has not been catered for in this respect, the prospects of sale are most encouraging.

Since writing the foregoing, we have heard from several of the buyers of these peaches, that many of the trays opened up with from 6 to 8 bad peaches. As you are aware, when a fruit like the peach is at all touched with waste, it renders it valueless to the buyer as he is bound to re-pack the tray and make them sound. This for your guidance. We have been able to verify their statements as, on examining the few trays we have still left to sell, we find in some instances they contain from 5 to 10 bad peaches.

We are of the opinion that the prices obtained for this first consignment are too high to enable these peaches to come within reach of the fruit consuming public, as at the prices realized for them they will have to be retailed at the rate of 6d. per peach.

From Messrs. Powell, Harvey & Co., Bristol, dated September 29, 1910:—

In our opinion the fruit would have been much better if it had been packed a little riper as we noticed in several boxes opened a good deal of dry rot though the peaches were quite hard. If the fruit had been packed riper this rot would not have occurred. The mode of packing is all that can be desired and the fruit is of exceedingly good flavour, but we do not consider it worth the money realized, i.e. 6s. per box. English peaches of superior quality can be bought at less money. In our opinion the outside value of the fruit is 4s. per box and we

do not think further shipments will realize any more. There is a fairly good demand retail at from 3d. to 4d. each, above that figure the sale, in the provinces at any rate, is exceedingly limited.

From Mr. W. A. MacKinnon, Canadian Trade Commissioner, Birmingham, dated September 28, 1910:—

The peaches have arrived, and I must say in one word that I look upon the experiment as a huge success, for which please accept heartiest congratulations. I cabled to you yesterday as follows:—

‘Sound peaches, holding well. Maturity right. Packing superb. Avoid incipient rot or bruise.’

Herewith I send you a copy of my report to the Department of Trade and Commerce, which may be of some interest also.

(The following report by Mr. Mackinnon was published in the Weekly Report of the Department of Trade and Commerce of October 17, 1910):—

‘CANADIAN TRADE COMMISSIONER SERVICE.

‘*Report of Trade Commissioner.*

BIRMINGHAM, 28th September, 1910.

‘*Experimental shipment of peaches.*—It may not be out of place to report in some detail on the condition of the trial shipment of peaches which the Department of Agriculture sent to Bristol by the Canadian Northern SS. *Royal Edward*. This shipment is the first of a series which will be distributed from various points, including Glasgow, Liverpool and London. The present consignment of about 100 single layer cases holding 23 peaches each was divided between Bristol, Cardiff and Birmingham. The fruit was shipped at Montreal on the 15th instant, reached Bristol on Thursday the 22nd, was conveyed to Cardiff by Great Western railway and to Birmingham by Midland railway, and placed on the markets of both towns on Friday morning, the 23rd instant. Samples were examined at the two last named places, where what remains unsold is still under observation.

‘*Package and packing.*—There is not a word to be said by way of suggestion, since both were entirely admirable. The excelsior is the finest and whitest I have seen used in Canada, and the packing everyone here considers absolutely perfect.

‘*The fruit.*—As regards maturity the first hasty comments of handlers and receivers were to the effect that the peaches had been picked too green. Even if that were so, it would be a mistake on the right side, but in view of the rapid ripening, the weather here being unusually warm for the season, it is likely everyone will now say that they must have been picked at exactly the right stage of maturity. There is some trifling unevenness in the matter of size, and also of ripeness. As for the former, it should be corrected for the more even size, the better show will be made, but a little difference in maturity is helpful, since it allows the retailer time to sell the ripest before the others are quite ready.

‘*Damage.*—It has been pointed out that bruise and incipient rot should be guarded against. The former is usually understood and it is gratifying to note that among all the specimens examined not one single peach appeared to have a finger or thumb bruise, and very few showed either cut or pressure such as might be made by the side or angle of basket or box; in fact, the only bruises noticeable were such as appear to have been caused by undue pressure against the twig in the act of pulling off the fruit. Such marks, however, though gener-

ally found close to the stem, were not always in line with the hollow where the twig itself had been. It is therefore possible that in some cases at least this bruise has originated by the fruit being set down rather roughly on the stem end. In other cases, however, the injury is rather a break than a bruise, and has evidently been caused in the act of snapping off the fruit in such a way that a fragment of skin has been torn loose for perhaps a quarter of an inch from the point where the stem was detached. The loose flap thus formed could be distinctly seen in the midst of the rotted portion. It is probably impossible to avoid this injury to some peaches, but they should then be omitted from the shipment.

‘What is called “incipient rot” may or may not have been discovered when the fruit was shipped; if not, there is of course no help for it, but if on minute examination a spot is visible from which decay might be expected to radiate, the peach should be discarded. A case was examined containing ten, more or less, damaged peaches, and it is reported that the number amounted sometimes to 12, though on the other hand some cases showed not a single damaged specimen, and the average would apparently not exceed six. These figures apply to Saturday and Monday, the second and fourth days after landing. The decayed spots varied in size from a pin-head to nearly an inch in diameter, but in every case there was clearly discernible a centre or heart from which the trouble had originated and spread. The smallest of these spots were simply marks varying from whitish-yellow to a light brown colour, from which the peach down was missing, so that there was a slight depression. Some receivers described the trouble as “dry rot” but none were able to state its cause with certainty. The smaller spots suggest the possibility that a strong sun had reached them through a drop of rain, which formed a temporary burning-glass. Possibly, however, Canadian horticultural experts can indicate exactly the origin of this rot and point out a remedy, since it would probably make itself evident in similar lots of fruit cold-stored in Canada.

‘*Varieties.*—The government shipment appears to have been confined to the early Crawford, but a private exporter has sent to Birmingham one case of Crawfords and one of Fitzgeralds. The latter variety seems to have stood the journey very much better than the former, assuming that conditions were exactly similar at time of shipment. Only one or two specimens out of the case containing 64 peaches showed signs of damage or rot, while amongst the Crawfords the waste was much more considerable. On the other hand the Crawfords had preserved much more of their natural flavour, and were on the whole of a better size for sale in the English markets.

‘*Prices.*—The 23 peach cases were selling in Cardiff at 6s. and the fruit (which was prominently displayed and advertised by showcards calling attention to the fact that they were the first direct shipment of Canadian peaches to Cardiff) sold retail at 6d. each, including even damaged specimens. Whether that price could be maintained is questionable, and there is no doubt Canadian shippers ought to be able to make a profit while allowing the consumer here to purchase at from 3d. to 4d. per peach.

‘In Birmingham the price realized at market was 5s. per case, and the retail price 4d. each. The trade here pointed out that as this fruit is necessarily inferior to the best English hothouse varieties, it cannot compete with the latter as choice dessert fruit, and that consequently it is better to fix the price from the beginning at a reasonable figure which will allow a continuous supply being readily marketed hereafter. These peaches arrive just when the English peaches are disappearing, and should therefore find a ready sale at the price indicated. It is evident, of course, that in any case the question of profit or loss will be decided by the percentage of sound fruit capable of holding firm long enough to admit of disposal in retail stores.

‘It must be admitted that the Crawford is not entirely satisfactory as a long distance carrier, but as already stated the results of this first important experiment are on the whole surprisingly good.

‘The gradual raising of the temperature is most desirable and had in this case excellent results. Fruit packages quickly removed from low temperatures to the outside air are often quite damp owing to condensed moisture upon wrappers and packing material. The consignment under consideration was carefully examined and no trace of moisture found, both fruit and wrappers being in excellent condition.

‘It is too early to draw general conclusions, but in this matter of temperature again it is most gratifying to observe how successful has been this first experiment.’

The Lord Mayor of Cardiff received a few specimens which he acknowledged as follows:—

‘I must say the fruit was in excellent condition and I am sure will find a ready and appreciative market in Cardiff and district. The samples were exceedingly choice and luscious.

‘(Sgd.) W. A. MACKINNON,
Trade Commissioner.’

PARAGRAPHS FROM NEWSPAPERS IN THE OLD COUNTRY.

‘Canada,’ London, October 18th, 1910.

CANADIAN PEACHES.

The first cases of the Canadian Government trial shipment of peaches to England arrived at Avonmouth on the *Royal Edward* on Thursday of last week. The lot was divided into three, part going to Bristol, part to Cardiff and the remainder to Birmingham. Considering that the variety (Early Crawford) is one of the tender sorts, the result has been pronounced by Mr. W. A. MacKinnon, the Canadian Trade Commissioner at Birmingham (formerly chief of the Fruit Division of the Dominion Department of Agriculture) as decidedly gratifying. ‘The packing,’ says Mr. MacKinnon, ‘was superb, equal to or excelling anything I have seen from other colonies or from foreign countries.’ At Cardiff up to Saturday each case of twenty-three peaches was bringing 6s. wholesale. At retail establishments of the highest class the price asked was 6d. each.

‘South Wales Daily News,’ September 26th, 1910.

CANADIAN PEACHES—SHIPMENT FOR SOUTH WALES.

The ss. *Royal Edward* has arrived at Avonmouth with a consignment of ‘Crawford’ peaches shipped by the Canadian Government direct for Cardiff from Montreal. The fruit, which arrived in splendid condition, is of excellent flavour and texture, the preservation being no doubt due to the perfect system of packing that was adopted by the Department of Agriculture. The Canadian Government are bent on stimulating interest in the products of the Dominion among English and Welsh dealers, thus bearing in mind the interests of growers

in that country. If the consignments continue to arrive in good condition, there is no reason whatever why this delicious fruit should not become more popular as time advances and the good qualities of these peaches come to be understood.

'Gazette and Empire,' Birmingham, September 24th, 1910.

PEACHES FROM CANADA.

The consignment of Canadian peaches referred to in yesterday's *Gazette* reached Bristol on Thursday, and twenty-four boxes, each containing twenty-three specimens of the fruit, arrived in Birmingham yesterday morning, directed to the business premises of Mr. Baragwanath, wholesale and retail fruiterer. The fruit had been carefully wrapped in tissue paper and then packed between layers of 'wood wool,' with the result that it reached Birmingham in an undamaged state. It was nicely coloured, firm to the touch, and not too ripe, while it was apparently of excellent quality. Another consignment is expected shortly.

LONDON.

First shipment—78 cases Elbertas; 72 cases Old Mixon: Shipped from Montreal September 17; landed at London September 29.

From Thomas E. Davis, Cargo Inspector for Canadian Department of Agriculture at London:—

The stowage of packages showed good stevedoring, adequate space being allowed between cases owing to extra dunnage, whilst a tarpaulin was placed under head pipes to guard against possible sweat.

Immediately on arrival a quick start was made, the goods being on the market within three hours from breaking of cargo. Examining peaches I found the fruit sound, without marks, and of good appearance.

The department's parcel opened sound, although hard, and in the opinion of Messrs. Munro not sufficiently ripe.

In regard to the packages, I venture to say that the method of crating these cases together should be placed before shippers as it certainly is an object lesson in packing and if accepted as a standard crate would, I am sure, justify the reason of its adoption as it not only minimizes the handling but also the chance of plunder.

With the absence of English peaches the varieties are eagerly sought for.

From Messrs. Geo. Monro, Limited, Covent Garden Market, London, dated September 30, 1910:—

We are in receipt of peaches which we got possession of yesterday afternoon, immediately on arrival of the ss. *Hurona*, but are sorry to find that they are in too hard a condition.

The packing and soundness is everything that we could wish, but coming in cold stores as they do, they should have been left to get somewhat riper, as they will now have to be kept in the fruiterer's shops for some days before they could possibly be used, and then will not ripen up as well as if they had matured rather more fully on the trees.

We have disposed of them, but as we sent some away to the country and were not quite able to fix a price, owing to them being so hard, we are not returning you account sale until next mail

Mr. Davis has called and examined them, and we have represented this to him as well.

We hope the next shipment will come in rather riper condition, when they will no doubt sell readily. We are certainly pleased to see the packing is done so well. The 'Elberta' and 'Mixon' are better than the 'Crawford,' and we think if they come as good size they will sell in preference to the 'Crawford.'

Provided there are no complaints from those sent to the country, we expect to be able to return you the whole parcel at 6s. per box, as we have cleared them all.

Second shipment—324 cases Elbertas; 18 cases Old Mixon: Shipped from Montreal September 24; landed at London October 7.

From Inspector Davis, London:—

Stowage.—The cases came forward properly stowed and carried at a temperature of 35 degrees, rising 40 degrees the last two days.

At the time of discharge (6 p.m.) the atmospheric temperature stood at 58 degrees.

When landed and delivered the packages were carefully handled and placed with the receivers within three hours of arrival.

Condition.—The peaches turned out well generally the trouble being that here and there fine examples go off quickly, commencing with a small speck which rapidly spreads. This bad feature does not appear to be in any way associated with the packing. Messrs. Munro's theory is that the rot sets in by the fruit being punctured by insects. Personally I have wondered whether the adverse condition could not be attributed to change of temperature.

Packing.—The Elbertas sent by the department were packed 20, 23 and 25 per case, the 20's being put up separately in wood wool, while the 23's and 25's were packed solid. Dealers have a preference for the former pack.

Third shipment—198 cases Elbertas: Shipped from Montreal, September 30; arrived in London via Liverpool, October 11.

From Messrs. Geo. Moore, Limited, Covent Garden Market, London, dated October 10, 1910:—

We are just in receipt of yours of the 30th ult. and we are pleased to note that you have sent these by Liverpool, being a quicker route than coming by the Thomson line.

We are sorry to note that this will be the last shipment for the season, as we anticipated making a considerable trade in this fruit, but can see that the weather has been against it this year.

We do not think it would be advisable to try to get any more for the peaches than we have done as there are still a good few English one about, and to make a trade it is a wrong principle to pinch the buyers too tightly; a good many of them already complaining that they could do a much larger trade at a little less money.

There have also been some complaints of a percentage of them turning out in wasty condition, and this is probably through the wet weather you refer to in your letter just received.

We trust that our results will be entirely satisfactory to you and that it may lead to a larger business in the coming years.

We must certainly congratulate you on the method of packing, as it is perfect, and takes on at once with the buyers here, whereas, if they had the same

fruit offered them in any other package than single layers, it would not have realized anything like as much money.

From Inspector Davis, London:—

These peaches packed in 20's and of Elbertas, came forward by refrigerator car Midland railway, 7.00 p.m., October 10th, 1910, and delivered 7.00 a.m. the 11th inst. I examined the peaches and found two or three in each tray faulty. Messrs. Monro, Limited, complained that the quality was not up to expectations, being lacking in colour, and as a result only a casual inquiry is being made, the peaches going at 3s. 6d. and 4s. per case.

NOTE.—The peaches referred to above were packed on September 26th and 27th. We hoped to get six or seven hundred cases for shipment that week but the bulk of the peaches brought in to the packing house were ripe and soft, and therefore unfit for export. Consequently we accepted only 198 cases and shipped the whole lot to London. These peaches although firm, lacked both appearance and quality and afforded a good illustration of the variation in quality which may be found in Elberta peaches in the Niagara district. The average price made by this shipment was less by 7½c. a pound than the average of the first lot of Elbertas sold in the same market. The difficulty experienced by brokers in disposing of these peaches even at much lower prices, indicates clearly that there is only a demand for our best peaches in the old country markets.—J.A.R.

LIVERPOOL, LEEDS AND MANCHESTER.

First shipment—Liverpool, 51 cases; Leeds, 12 cases; Manchester, 12 cases; variety. Early Crawford: Shipped from Montreal, September 16; landed at Liverpool September 26.

From A. W. Grindley, Chief Cargo Inspector for Canadian Department of Agriculture, Liverpool, dated September 27, 1910:—

The above peaches landed per ss. *Megantic* September 24th and were discharged early September 26th. The Liverpool lot was sold in the Commercial saleroom at 3.00 p.m., September 26th; the Manchester lot in Smithfield market about 6.00 a.m., September 27th, and the Leeds lot in Kirkgate market at the same time as the Manchester lot. Liverpool made from 4s. to 4s. 3d.; Manchester, 5s. 6d., and Leeds, 5s.

The peaches were carried at from 35 degrees down to 34 degrees and to-day are still quite green, and I am afraid will not mature to perfection.

The size of the fruit is good, style of packing and package perfect.

You must remember when comparing prices realized that the Liverpool Commercial Saleroom is wholesale and can deal in large quantities, while Smithfield market, Manchester and Kirkgate market, Leeds, are like Queen's Square, Liverpool, where jobbers sell small lots on commission. Mr. Fred. Bridge, Manchester, who realized 5s. 6d. per case telephoned me to-day that he did not want any more than eight crates—24 cases—from next shipment, so the smaller markets can only deal with very limited quantities. I understand that the bulk of the peaches sold here yesterday were bought by a Birmingham firm. Liverpool and Covent Garden are the great distributing centres for fruit in England.

From A. W. Grindley under date September 29, in further reference to peaches mentioned above:—

Some of the peaches are standing up well and are being retailed at 4d. and 6d. each.

I fancy some cases on top and near coils in ship's refrigerator were too cold, while those which were not so much exposed appear to be turning out well.

Peaches from the 'Cape' could be carried at a lower temperature than 'Canadian peaches' as they arrive here during cold weather, while ours are discharged from a temperature of 35 degrees into a temperature of 70 degrees, and such a sudden change is bound to injure the fruit. I find California pears and plums which are landed in good condition quickly ripen and go wasty during the warm weather. I noticed yesterday in Queen's Square California plums which were carried at 35 degrees, which were running juice out of the chip baskets simply because they could not stand a sudden change of 30 or 35 degrees. The fruit should be kept for twelve hours in an intermediate temperature. Engineers should be instructed to allow the temperature of refrigerator chambers where delicate fruits (peaches, pears and plums) are stowed to gradually rise during the last 24 hours so as to more nearly approach the temperature that the goods will have to meet when discharged.

Second shipment—Liverpool, 102 cases; Manchester, 24 cases; Leeds, 24 cases; variety, Elberta: Shipped from Montreal, September 24; landed at Liverpool, October 4.

From A. W. Grindley, Liverpool, dated October 4, 1910:—

The peaches were all in perfect condition when landed this morning and will be sold in Liverpool Commercial Saleroom to-morrow, except 8 packages to Manchester and 8 packages to Leeds. Temperature of thermograph 35 to 37 degrees, which I still continue to consider too low; better have 30 to 42 degrees as the peaches are on the firm side and have still to meet warm weather when discharged. This morning, three hours after being discharged from ship's refrigerator, moisture was condensing from atmosphere and the wood wool and tissue paper wrappers were quite damp. This has a tendency to damage the fruit and make it go wasty.

Members of the trade much prefer to have a band of wood wool round each peach as it gives the fruit a better appearance when exposed for sale in the retail shops, as well as preventing the peaches bruising each other when ripe. As the fruit was all hard when landed there was practically no difference in condition on arrival, but the packages with only tissue paper and packed solid (23's and 25's) were not nearly as attractive in appearance as the 20's with wood wool bands round each peach.

Mr. Grindley wrote again on October 8, as follows:—

These peaches ex. ss. *Dominion* were carried. I believe, at too low a temperature to be discharged during what amounted to summer weather here. Manchester averaged about four worthless peaches per tray and out of 24 trays sent to Leeds 2 trays, or about 40 peaches, were worthless. The retail trade here are complaining about the peaches not holding up. They held up long enough to pass through the Commercial Saleroom here, but they ripen too quickly and go 'wasty' too soon to suit the retail trade.

From A. W. Grindley, Liverpool, dated November 9, 1910:—

Some of the peaches stood up well for ten days or a fortnight, and they took care of themselves, realizing 6d. and 8d. each as 'Canadians' and in a few cases 1s. or more as 'English' hot-house.

For future shipments it would be well for the Department of Agriculture to advise Canadian shippers to confine their consignments to the ports of London, Liverpool, and Glasgow, and to place their fruit in the hands of reliable firms at one or more of these ports, from which centres the fruit could be distributed to the best advantage to the inland towns. The port of Bristol might be added to the above three ports, as there is a good direct service from Montreal to Bristol, but Bristol and district can easily be supplied from London and lacks the competition between numerous buyers which is found at the three ports first mentioned.

As it appears that Canada in the near future will have large quantities of peaches to export, the idea of realizing 'fancy prices' from a very 'restricted market' will have to be thrown aside, and the fruit put on the British market at such a price that the middle-classes will buy it.

GLASGOW.

First shipment—57 cases, Early Crawford; 36 cases, Old Mixon: Shipped from Montreal September 17; landed at Glasgow September 26.

From Jas. A. Findlay, Cargo Inspector for Canadian Department of Agriculture, Glasgow, dated September 27, 1910:—

I am in receipt of yours enclosing copy of letter sent to Messrs. Simons, Jacobs & Co., relating to consignment of peaches, and, as instructed in yours, I cabled you the condition on arrival and prices secured, viz.: 'Condition satisfactory, 4s. 6d. per box.'

I examined them on arrival and got them passed by the customs officials immediately on discharge and thereupon lifted by contractors for Messrs. Simons, Jacobs & Co.'s stores. The fruit landed in good order and I saw only two peaches in the number of boxes I happened to see at the docks and in Messrs. Simons, Jacobs & Co.'s store when offered for sale, showing slight touch of waste. Both varieties made the same price and were in equal condition.

Mr. Findlay wrote again, on September 29, as follows:—

Messrs. Simons, Jacobs & Co., did not list the cases of peaches, as they offered them at their private sale on Tuesday morning direct to retailers and thereby secured a better price than they would have secured at the larger sale, most likely. They had to sell in smaller lots by so doing. The fruit was generally firm and sound, decay appearing in an isolated peach or two among the various cases I saw open.

From Messrs. Simons, Jacobs & Co., Glasgow, dated September 29, 1910:—

We herewith beg to hand you account sales and cheque for the experimental shipment of peaches ex. *Hesperian*, which we have sold to the best advantage. This fruit arrived in quite good condition and we would very much like to have realized a higher price for them because we know that in London 6s. has been the figure at which sales have been effected. Some of the fruit from that place has reached Glasgow and it appeared to us that the London shipment contained peaches which were larger and more matured than those which came on here. It is, however, a pleasing thing to know that the experiment of shipping this fruit

has been successful and, we should think, profitable. Conducted on a moderate scale there is no reason why that success should not be permanent.

Second shipment—177 cases Elbertas: Shipped from Montreal September 17; landed at Glasgow September 26.

From Jas A. Findlay, Glasgow, under date October 7, 1910:—

I beg to confirm cable sent you to-day, viz.: 'Peaches, 3s. 6d., 3s. 9d.' I regret the price is lower than last week; one item which is certainly affecting the price secured for your consignment to Glasgow is that Liverpool and London are sending down small consignments to a few firms in the Bazaar who are naturally pushing the sale with their own customers and are not committing themselves any further by buying those sent here direct. A fair test of the markets can only be secured by each distributing centre depending on its own district.

I did not cable the prices of the peaches on Tuesday as little or none were sold and at the moment of writing there are still a few crates to sell.

The firm condition of the peaches on arrival and when on offer tells against the sale, but buyers as they become acquainted with the mature peach will give greater support to consignments. The condition of the fruit was very satisfactory in both styles of packing, though the package of 20 peaches, showing each peach surrounded with wood wool, looks best, but one or two retailers whom I have spoken with on the matter, prefer as little packing as possible.

From Messrs. Simons, Jacobs & Co., Glasgow, dated October 15, 1910:—

We are sorry that this consignment did not arrive to as good a market as the previous one. We have nothing to complain of with regard to the condition of any of the boxes, for there was little or nothing to choose between them as regards this. We, however, think that (the 20 count) those packed with a band of wood wool round each peach, is the most preferable.

GENERAL CONCLUSIONS.

These trial shipments have demonstrated:—

That Canadian peaches can be delivered in Great Britain in good marketable condition provided proper care is exercised in preparing them for shipment.

That only peaches of good quality, of large size and with a touch of colour should be shipped.

That every detail of packing must be attended to with scrupulous care.

That if peaches can be pre-cooled before shipping they may be picked in a more mature condition, which would add to their flavour, size and appearance.

That shipment by fast freight in a well iced and properly loaded refrigerator car is better than by express.

That in the ocean steamers any temperature between 35 and 40 degrees will carry the peaches safely if they have been delivered to the steamship in right condition.

That it is important to have the temperature gradually raised to about 55 degrees during the last thirty-six hours the fruit is in the ship's refrigerator so that when it is landed there will be no condensation of moisture from the warmer outside air.

That it would be an advantage if during the next few years all the Canadian peaches shipped could be sold by one broker in each of the principal markets so that undue competition might be avoided.

That only a comparatively small quantity of our peaches can be disposed of in Great Britain at the prices realized for our shipments the past season, and that if our growers desire an outlet for a considerable quantity a much lower price will have to be accepted, and finally,

That the number of growers who are in a position to successfully cater to this export trade is limited and that if it gone into by the average grower, or shipper, following the average slipshod methods, nothing but disaster may be anticipated.

ADDENDA.

The South African Export Peach Trade.

As the export of peaches from South Africa to Great Britain has been rapidly increasing during the past five years, the following information relating to the development of that trade should prove of interest and value to Canadian peach growers. Some very sound advice regarding the requirements of the English market is given by the South African Trades Commissioner in London and reprinted herewith.

LARGE INCREASE IN PEACH SHIPMENTS.

Since 1906 the number of single layer cases exported from Cape Town yearly has been as follows:—

	Cases.
1906.	7,612
1907.	10,572
1908.	12,925
1909.	17,298
1910.	23,646

The South African shipping season extends from the first of January to the latter part of April.

The freight rate charged by the Conference line of steamers for fruit in cold storage from Cape Town to Southampton is 65s. per ton of 40 cubic feet measurement on mail steamers and 60s. on the slower boats, plus 10 per cent primage in both cases.

According to the excellent annual report of the South African Trades Commissioner in London, for the fruit season of 1910, the estimated cost of shipping peaches, including cost of packing material, freight and the London charges, would average 48c. per case, with an average price obtained of \$1.44 per case.

The following extracts are taken from the above mentioned report:—

The Value of Large Grade Fruit.

As Cape fruits are sold during the cold winter months on the European markets chiefly for decorative purposes they must be large and sound and attractive. When the fruit is sold by public auction or otherwise the greatest importance is attached to the 'count,' that is the quantity of fruit in each box, for as each class of fruit is packed in a standard box of uniform size, it can be understood that when the fruits are large a less number will be contained in a box than when the fruit is of a small grade, and the 'count' marked on the outside of a box, therefore, indicates the grade or size of the fruit. To give some idea of the value of the large grades as compared with the small grades, I have recorded the results of actual sales during last season at Covent Garden, and will give a few examples.

During the first week in February:—

Early River Peaches: count 24, 4s. 6d.; 15, 5s. 6d. per box.

During the third week in April:—

Peaches: count, 32, 2s. 6d.; 28, 3s. 9d.; 20, 5s. 3d.; 15, 8s.

It costs the same to ship the large as the small fruit. Reckoning that it costs 2s. to ship a box of peaches, we will take the result of the sale during the third week in April last, the prices for that week happen to have been low, as there were over 6,500 boxes of peaches on the market, deducting 2s. per box from each count to show what the shipper got for his fruit, for 28 larger size 1s. 9d., for 20 large grade 3s. 3d., and for 15 very large peaches he got 6s., after deducting the cost of export. I am pointing this out to growers to impress upon them the necessity of growing more fruit of the large grades. I leave it to them to determine how to do it; but they must understand that it is quality, not quantity, that is wanted on the London market.

'Quantities and Prices.'

This season there were 23,646 boxes of peaches exported, against 17,298 for 1909; this is also a reasonable increase, and I do not think the total quantity affected the prices. During the height of the export season, however, when over 6,500 boxes were landed in the course of one week, it was found very difficult to prevent a serious fall in the prices. The peaches, on the whole, did not arrive in a satisfactory condition. The transportation of this fruit to the oversea markets offers one of the most difficult problems to those connected with the trade. The Cape peaches usually arrive in London in a sound condition in so far as their appearance goes, but when tasted they are found to be dry, wooly and lacking in flavour.

The prices during the past season may be considered satisfactory.

During the last week of January, Early Rivers, in counts of 28 and 24, were making 4s. 6d. to 5s. 6d., and Alexanders 5s. to 8s.; during February different varieties of good attractive peaches were making 4s. 3d. to 5s. 3d. for counts of 28 and 24, and for larger fruits in counts of 20 and 15, prices ranging from 7s. to 10s. per box. During the last week of February when very large quantities were coming forward, the prices fell to about 2s. 6d. to 3s. 9d., and 5s. 3d. to 8s. for similar counts as above. During March good peaches were making 4s. 5s., 6s. per box, and exceptionally large and attractive fruit in counts of 25 and 15 made 8s., 9s., and up to 15s. per box.

I need not offer any suggestions as to packing, as this is now well understood by the shippers. I will, however, warn beginners to be very careful about the grading; the fruit contained in each box must be as nearly as possible of equal size and quality. I will recommend all shippers, the experienced as well as the beginners, to mark their boxes at the end with the words 'Clingstone' or 'Freestone' as well as the name of the variety and the count, but I must again point out that the English and Continental markets do not want yellow flesh peaches or clingstones, no matter what the variety is. The peach required by these markets must comply with the following description: It must be round in shape, a large size, with a good rich colour, white flesh and a free stone.

DEPARTMENT OF AGRICULTURE
DAIRY AND COLD STORAGE COMMISSIONER'S BRANCH
OTTAWA, CANADA

AN HISTORICAL AND DESCRIPTIVE ACCOUNT
OF THE
DAIRYING INDUSTRY
OF
CANADA

BY
J. A. RUDDICK
Dairy and Cold Storage Commissioner.

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