

July 19, 1915, with currants, cherries, etc., precooled to 46° F. before shipment and shipped to Winnipeg in car No. 284492 C.P. It will be seen that the brine tank car did not furnish refrigeration sufficient to keep the temperature as low as it was at the start, so that a portion of the cherries showed a waste of 10 per cent upon arrival at Winnipeg.

The Use of Salt and Ice for Fruit Shipments in Brine Tank Cars.

(Summary of Previous Work taken from Bulletin No. 48.)

Co-operating with the Canadian Pacific Railway during the spring of 1914, tests were made in Vancouver using low percentages of salt, i.e., 2 per cent and 5 per cent of salt with crushed ice in empty brine tank cars. By using 2 per cent of salt, the temperature near the tanks reached 32° F. and in the centre of the car, 38° F. By using the 5 per cent of salt mixture, a temperature of 25° F. was secured near the tanks, and 32° F. in the centre of the car. While the 5 per cent mixture seemed to give a temperature too low for fruit, it should be kept in mind that the tests were made in the middle of April when the outside temperatures ranged from 40° F. to 65° F. With ten tons of warm fruit in the car, and an outside temperature of from 60° F. to 90° F. this low temperature would not be obtained. (Fig. 1.)

Following up this work in the summer of 1914 with a shipment of fruit from Summerland to Vancouver, B.C., a brine tank car was used with slatted floors and with 5 per cent of salt incorporated with crushed ice in the tanks. The shipment arrived in Vancouver in good condition. The temperatures were low and there was no evidence of freezing.

Demonstrations with Brine Tank Cars in 1915.

With the co-operation of the Canadian Pacific and the Grand Trunk Railways, arrangements were made to use brine tank refrigerators for two cars of fruit that were purchased for experimental shipment from Grimsby to Winnipeg during the past season, in order to carry the work further, using the salt mixture with precooled fruit.

Crushed ice with 5 per cent of salt was placed in the tanks of the cars. The fruit was precooled to 40° F. and 45° F. As is the customary practice at the precooling plant with all shipments of precooled fruits, slatted false floors were placed in the cars. A thermograph was placed on the floor against the ice tanks to record the lowest temperatures during transit and one was placed on top of the load of fruit in the centre of the car to record the highest temperature to which the fruit would be exposed while in the car. The fruit was loaded and braced in the usual manner and the doors sealed with sulphite paper. On September 20, car No. 284024 C.P. (Fig. 2) was shipped to Winnipeg, requiring four and one-half days to reach its destination. On September 23, car No. 340053 G.T.P. (Fig. 3) was shipped to the same point requiring approximately five days to reach its destination. Block ice without salt was used for re-icing during transit.

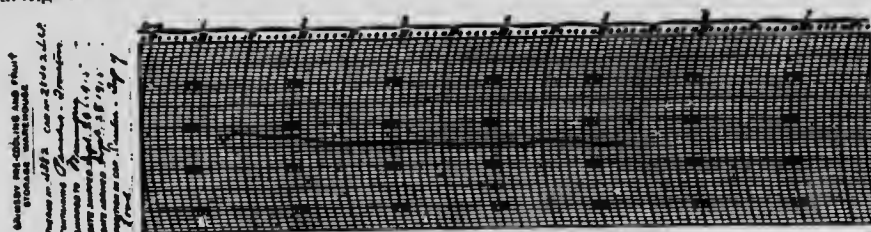


Fig. 2. Temperature record, top of load of fruit, centre of car No. C.P. 284,024.