FRUIT COLD STORAGE RESEARCH

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Refrigerated Gas Storage of Apples

Experimental work was in abeyance this season, as the storage chambers and plant were undergoing renovation and alteration. They are now ready for use on 1947 season's fruit. A small quantity of Sturmer apples was kept under gas storage in cabinets and used in a very successful display of the process at the Nelson A. and P. Show.

Influence of Rootstock and Intermediate Scion on Core-flush in Granny Smith Apples

An attempt was made to extend this work by increasing the range of orchards from which fruit was drawn, but a lack of response from growers made it impossible to obtain more reliable data than had already been secured. The results this season were less conclusive than hitherto, but showed at least that when worked on M XII rootstock the variety is less susceptible to core-flush than when on Northern Spy Stock. Further progress in this work will demand a more rigorous and more extensive sampling of material.

Deep Scald in Jonathan Apples

The Australian recommendation of a temperature decreasing progressively from 38° F. to 32° F. for the Jonathan was subjected to test on Nelson-grown fruit. The severe scald induced by continuous storage at 35° F., and particularly at 32° F., was very greatly lessened by initial periods at higher temperatures, but the results failed to show any significant advantage over continuous storage at 38° F.

Effect of a Pre-harvest, Fruit-fixing Spray on Superficial Scald

A claim was made that a proprietary anti-drop spray material also rendered the fruit less susceptible to superficial scald in cold storage. Samples of Granny Smith apples were provided from a commercial orchard, and it was found that the sprayed fruit was very much more severely scalded than the unsprayed. When oiled wraps were employed, however, the difference was very slight because of the almost complete control of the scald by the wraps.

Transport of Oranges

(*a*) *Use of Pliofilm Wraps.*—A sample of Pliofilm wraps was sent to the Cook Islands and used on one-half of a small experimental shipment of oranges. The wraps substantially increased the percentage of sound fruit by retarding maturity, thereby reducing loss from rots, and by reducing loss of weight through wilting. The high cost of the material, however, outweighed the saving, but further work is warranted when lighter-weight Pliofilm is again available.

(*b*) *Use of Diphenyl-impregnated Wraps.*—A quantity of paper wraps impregnated with the volatile fungicide, diphenyl, was also sent to the Cook Islands and used on half of each of two experimental shipments from two different islands in the group. The wraps proved highly economic in reducing losses from fungous rots, particularly after the fruit had been held subsequently for a period in New Zealand. The regular use of the wraps in commercial consignments can be advocated under present circumstances, although much improvement could also undoubtedly be effected by attention to spraying and improved orchard hygiene in the plantations.

(*c*) *Comparison of Harvesting Methods.*—At the request of the South Australian Department of Agriculture an examination was undertaken of two experimental shipments of Washington Navel oranges harvested part by clipping and part by plucking. Unfortunately, the consignments were severely pillaged in transit, and from the material that arrived it could not be said that either method of harvesting possessed an advantage over the other. The increased loss from rots in the later shipment suggested that such shipments would be better carried under refrigeration.