

AUCKLAND UNIVERSITY COLLEGE

(Auckland Panel—Building Research Committee)

Pumice Concrete.—Further work on pumice concrete has been held over pending the construction of a suitable room and control equipment to ensure reliable results.

Testing Properties of Building-materials.—A number of commercial products were tested for Government Departments, principally pre-cast building blocks, slabs, &c.

THE DAIRY RESEARCH INSTITUTE (N.Z.)

Annual report now published separately by Dairy Research Institute (N.Z.), Incorporated, Palmerston North.

FRUIT COLD STORAGE RESEARCH

Refrigerated Gas Storage of Apples.—Cabinet-scale tests were continued on the Granny Smith variety. Fruit was held in various atmospheres at temperatures of 34° F., 36° F., and 38° F.

Results have not been conclusive, but suggest that optimum conditions for this variety may be found in a carbon-dioxide content higher than 6 per cent. with an oxygen content somewhere between 5 per cent. and 10 per cent., at a temperature of around 38° F. Under the conditions tested this season, the fruit had reached the end of its storage life before December.

A further trial was made with Sturmers in the semi-commercial-scale stores following remodelling of the air-distribution system, but the gas-tightness of the stores declined as the season progressed. Under these conditions the fruit kept much better than the ordinary cool-stored controls, but were not up to the standard that otherwise might have been reasonably expected.

Effect of D.D.T. Sprays on Cold-storage Quality of Apples.—Sturmer apples sprayed with D.D.T. were compared with similar fruit sprayed with lead arsenate. Applications of D.D.T. at a concentration of either 4 oz. or 8 oz. per 100 gallons were found to have no detrimental effect on storage quality.

Effect of Fertilizers on Cold-storage Quality of Apples.—Cox's Orange with phosphate and potash in addition to nitrogen developed less breakdown and fungus but more scald and pit than those with nitrogen only. With the Jonathan, increasing amounts of nitrogen reduced the storage quality, and the absence of potash again lowered storage quality. Delicious remained virtually unaffected by manurial treatments. Nitrogen unbalanced by phosphate and potash again greatly reduced the storage quality of Sturmers, but the complete-treated fruit was as good as the untreated controls.

Cold-storage Quality of Coloured Strains of Apples.—This year rather more than usual of the red strains of Delicious fell into the high-keeping-quality class and most of the seventeen samples kept better than the standard type. A red strain of Jonathan kept as well as the standard type.

Effect of Rootstock on Cold-storage Quality.—A moderately good sample of Jonathan was available, and this season M XV replace M XII as the best stock, being considerably more resistant to breakdown. M I and Northern Spy were relatively very inferior.

General Refrigeration Research.—The fruit-cold-storage staff co-operated in investigation of temperature conditions in the refrigerated holds of overseas ships. The work is under the control of the Refrigerated Cargo Research Council of Great Britain, and involved the placing of large numbers of distant-reading thermometers throughout the cargo during loading, and the extensive taking of temperatures of cargo on its arrival at the ship's side. The work has already shown the need for improvement in local transport of frozen produce, and information has consequently been obtained from overseas on the latest design of insulated railway wagons for the transport of frozen produce.