

Conversion of Whey and Second-grade Butters: On the recommendation of the Committee, the government decided to erect a dry-butterfat-processing plant at Auckland to deal with surplus whey and second-grade butters. This plant, with a capacity of 10,000 tons of dry fat per annum, will be operated by the Internal Marketing Division, with the assistance of an advisory committee comprising representatives of the Marketing Department (Export Division and Internal Division) the New Zealand Dairy Board, the Dairy Research Institute, and the Departments of Agriculture, Scientific and Industrial Research, and Treasury.

Fibre-board Butter-boxes.—The Committee arranged experimental shipments of butter in fibre-board boxes to test the suitability of this type of box as a substitute for the customary wooden boxes for the purpose of saving shipping-space and weight. The results were promising.

Butter-wrapping Experiments.—Experimental shipments were arranged to determine the relative value of Pliofilm and Pliofilm + parchment for wrapping butter forwarded as chilled cargo with cheese.

Dried Meat.—Reports received through the Scientific Liaison Officer in London drew the Committee's attention to the possibilities of dried meat as a means of facilitating and augmenting the supply of meat from New Zealand to Great Britain during the war period. Experiments carried out by the Cambridge Low Temperature Research Station of the British Department of Scientific and Industrial Research demonstrated that dried meat prepared under carefully controlled conditions had very good keeping-qualities and could be reconstituted into a variety of palatable and nutritious meat dishes. Negotiations with Great Britain were followed by a trial order from the British Ministry of Food for 20 tons, and the Committee arranged for its production by an Auckland firm under the supervision of Dr. J. C. Andrews. This order will consist of mutton, except for a trial lot of 1 ton of dried pork produced from second-grade porkers and a trial lot of beef. The plant at Auckland is a small one, capable of producing only 1 ton of dried meat per week, but the data obtained from its operation, together with information supplied from Great Britain, will be of great value in designing an improved plant capable of large-scale production.

Dried meat has definite possibilities as a special ration for the armed forces, and this field is being explored in collaboration with the defence services.

Experiments are in progress on the packaging of dried meat in suitably-lined waxed cartons in substitution for tins, and on the compression of the meat into blocks to secure maximum economy of shipping-space.

Dried Milk.—Following an inquiry from the British Ministry of Food as to the possibility of greatly-increased production of roller-dried whole milk in New Zealand, steps were taken by the Committee to explore sources of supply of milk, the availability and cost of the necessary plant, and the problems involved in such a project. The Dairy Research Institute initiated experiments on the gas packing of dried whole milk and its compression into blocks as a means of saving tinplate.

Dried Vegetables.—As a result of the special interest shown by the defence services in dehydrated vegetables, laboratory experiments on the drying of the following vegetables are being undertaken by the Department's Fruit Research Officer in collaboration with the Plant Chemistry Laboratory at Palmerston North: Carrots, parsnips, potatoes, beans, onions, and cabbage. This work is to determine the best methods of pre-treatment to preserve as far as possible the flavour, nutritive quality, and physical properties of the vegetables after reconstitution. The laboratory results have been translated to a commercial plant, where sufficient quantities of dried material have been produced for full trials.

Overseas Contacts.—Very valuable assistance has been given to the Committee by Mr. Nevill Wright, Scientific Liaison Officer in London, by keeping it in close touch with developments in Great Britain in the preservation and transport of foodstuffs under war conditions, by forwarding technical data and special reports in connection therewith, and by facilitating arrangements for experimental shipments of various classes of dehydrated foodstuffs forwarded from New Zealand and their examination on arrival in England.

PLANT RESEARCH BUREAU.

Plant Research Bureau Committee.—Mr. A. H. Cockayne, Chairman; Dr. F. W. Hilgendorf, Vice-Chairman; Professor G. S. Peren; Professor E. R. Hudson; Sir Theodore Rigg; Dr. E. Marsden; Mr. R. B. Tennent; Mr. C. A. Marchant; Mr. Alan Grant; Mr. F. R. Callaghan, Secretary and Chief Executive Officer.

The Plant Research Bureau now comprises five Divisions, viz. :—

	Location.	Director.
Agronomy Division	Canterbury Agricultural College, Lincoln ..	*Mr. R. A. Calder (Acting-Director).
Botany Division	8 The Terrace, Wellington	Dr. H. H. Allan.
Entomology Division	Cawthron Institute, Nelson	Dr. D. Miller.
Grasslands Division	Massey College, Palmerston North	Mr. E. Bruce Levy.
Plant Diseases Division	Owairaka, Auckland	Dr. G. H. Cunningham.

* Mr. J. W. Hadfield, Director, was seconded to Linen Flax Section, Industries and Commerce Department, as from 1st June, 1940.

Participating in the Bureau are (1) the Department of Agriculture and its various Divisions; (2) the Department of Scientific and Industrial Research and its several research sections; (3) Massey Agricultural College; (4) Canterbury Agricultural College; and (5) Cawthron Institute.

AGRONOMY DIVISION, LINCOLN.

Acting-Director: Mr. R. A. CALDER.

In pursuance of the policy decided upon subsequent to the outbreak of war, this Division, although still maintaining some research work, has been concerned mainly with pure-seed-production undertakings. New Zealand must now depend almost entirely upon her own resources for her seed-supplies of agricultural crops and, if quality is to be maintained, it is essential that pure seed stocks be available.

Wheat.—The production of nucleus supplies of pure and smut-free seed, which are increased and distributed under certification, has now become a major effort, and during the past season 11 acres of the main varieties were harvested and yielded 557 bushels.