

by Dr. Orr. This will enable the research to be given an Empire-wide significance. Definite action in New Zealand has been deferred until reports are to hand from these two officers, or until their return to New Zealand towards the end of 1927.

It is considered that the scope of the investigation as at present outlined is rather limited, and steps are now being taken to enable questions dealing with top-dressing, pasture-management, food values of New Zealand stock-feeds, and similar problems to be included in the research.

(6) *Fuel Research.*

A survey of the whole position is being obtained. In the meantime—

1. The Director of the Geological Survey is making a careful survey of bituminous-coal resources.
2. A liaison officer, a New-Zealander, Mr. H. O. Askew, is working at the Fuel Research Station, Greenwich, and will make a report on the application of the recent work at that station to New Zealand coals and New Zealand conditions.
3. The Dominion Laboratory is investigating various methods of briquetting, and has given advice to various companies on distillation processes.
4. A research grant has been made to a research worker at Canterbury College, to enable him to undertake investigations on low-temperature distillation.
5. The Department is collaborating with the Railway Department and Mines Department on general fuel questions.
6. Arrangements are in train with the coal-owners for the establishment of a bureau of information for fuel utilization and for researches into the suitability of New Zealand coals for various purposes.

(7.) *Forest Products.*

A scheme is under consideration for co-operation in research with the sawmillers and Forestry Department.

(8) *Fisheries.*

A research grant has been made for the purpose of conducting an investigation of the plankton of waters round the New Zealand coast, and of the stomach-contents of fishes. This investigation should be of value in the determination of the fish-food available, and, indirectly, on the fish-carrying capacity of New Zealand waters.

(9) *Vitamin Research.*

A grant has been made to the Otago University to enable an investigation to be undertaken into the vitamin content of various New Zealand foods and foodstuffs, to be conducted under the direction of Professor J. Malcolm. In Dunedin a local committee, consisting of Dr. Inglis, Dr. Hector, Dr. Holloway, Dr. Malcolm, and Mr. Bowman, has been set up to deal with the research, and also a related one concerning food-values. The work in these investigations is at present somewhat limited on account of lack of funds, but it is hoped that ultimately they will be linked up with the wider sphere as contemplated in the nutrient content of pastures investigation.

(10) *Cool Storage.*

The Department has made a survey of the work at present being undertaken by the Department of Agriculture and Cawthron Institute in regard to the cool storage of fruit, and has arranged for the visit of Dr. Franklin Kidd, of the Cambridge Low-temperature Research Station, in September next. Dr. Kidd will report as to the best steps to be taken in New Zealand in regard to investigation of cool-storage problems, and his report will be utilized as a guide to operations to be conducted locally. Investigations into cool-storage problems connected with meat, butter, cheese, fish, and eggs are also being discussed with the various bodies concerned.

(11) *Standardization.*

The question of standardization has two aspects: (1) The elementary standard units of length, volume, weight, electrical energy, &c., on which the industrial and trade operations on a modern scale depend for security. (2) Voluntary determination by industries of standards of size, shape, weight, strength or other qualities, with a view to attaining some measure of uniformity in order to eliminate the waste caused by the multiplication of different patterns, &c., and to secure interchangeability of parts.

With regard to 1: Arrangements have been made with the Labour and other Departments for the Physicist appointed to the Dominion Laboratory to take charge of the ultimate standards and assist in the comparison of these with Inspectors of Weights and Measures, &c.

With regard to 2: Negotiations are at present in progress with the Department of Industries and Commerce and with the Stores Control Board with a view to arrangements for standard specifications which will enable tenderers of New Zealand goods to compete on an effective basis; and already considerable assistance has been rendered by the Dominion Laboratory. Such specifications probably will be based on those of the British Engineering Standards Association, and it is hoped that by defining precisely the nature and quality of the article required simplification in purchase may be effected and thus fresh fields of production opened up. Standard specifications will also render equitable comparison of tenders without undue correspondence and delay. The co-operation of the Stores Control Board in this work is much appreciated.