

MINISTER'S STATEMENT.

WE are apt to accept New Zealand's overseas trade in farm-produce as an accomplished fact, without inquiring too closely as to the circumstances which have made this possible. The invention of refrigerating machinery during the latter half of last century by Perkins in America and Harrison in Australia enabled perishable foodstuffs to be exported over long distances. It may not be so generally known, however, that this invention was based on the purely scientific investigations of Carnot on the theory of the heat cycle. It is an arresting fact that New Zealand's overseas trade in primary products to the annual value of tens of millions of pounds is based on the application of pure scientific research. This in itself is a most forceful argument for the prosecution of scientific research with all the means at our disposal.

To quote another example from overseas of the value of scientific research to industry: A total expenditure of about £190,000 on the Swedish plant-breeding station at Svalöf has added £2,750,000 annually to the value of Swedish crops.

It may be mentioned, as an interesting example of the value of scientific research carried out by the Department, that a very small expenditure for research on the storage of bananas changed the "Maui Pomare" from a losing to a paying proposition.

Examples could be multiplied, but these results are sufficient to show the enormous benefits which are likely to arise from the intelligent application of pure research to industry. In this country it is the Department of Scientific and Industrial Research which is largely responsible for organizing scientific research and applying the results for the benefit of industry. The work of the Department is not administrative, but rather advisory. It carries out chemical, physical, and biological testing for other Departments and for various industries co-operating in research. While it is desirable that the Department should be free from regulatory duties in order to conduct scientific work, it is necessary that there should be close contact with those Departments of State and other bodies whose problems are directly concerned with the practical applications of science. This has been achieved to a large extent by associating the work with some of the larger national projects.

A spirit of full co-operation is necessary, since it is apparent that New Zealand's financial resources will not permit the scale of total research activity of Great Britain, for example, although our farming interests are faced with problems similar in nature and magnitude. Our manufacturing industries, moreover, are conducted on a scale which will not permit the overhead for research which is carried by the large organizations in older countries.

PLANT RESEARCH.

Since New Zealand is largely a farming country, it is natural that plant research should play a large part in the activities of the Department. Full co-operation of all branches of research in this field has been effected, and this is due in no small measure to the public-spirited co-operation of the Department of Agriculture, Massey and Canterbury Agricultural Colleges, and Cawthron Institute. The work has been organized under a responsible committee consisting of the Director-General of Agriculture, as Chairman, with the principal executive officers of the Research Department, the Cawthron Institute, Massey and Canterbury Agricultural Colleges, and the Director of the Fields Division of the Department of Agriculture. In this way all the investigations concerned with plant research in the Dominion are brought under a unified control.

The Plant Research Bureau is now so organized that each Division is situated in that part of the Dominion most affected by its activities. The fullest use of existing facilities has been made by associating the Divisions as far as possible with institutions interested in the same work.

In the Grasslands Division at Palmerston North, near Massey College and the Dairy Research Institute, all the pasture problems of the Dominion will be dealt with by Mr. Bruce Levy and his staff. Through the co-operation which has been arranged between Canterbury Agricultural College, the Department of Agriculture, the Cawthron Institute, and the Soils Division it will be possible to extend the investigations to a wider range of the varied conditions of this country.