

Similarly, the Agronomy Division, in association with Canterbury Agricultural College, will, under the direction of Mr. J. W. Hadfield, deal with all farm crops other than pastures.

The work on plant-diseases will be centred in Auckland under Dr. G. H. Cunningham, where there will also be opportunity for attacking the problems of the fruit industry, and, in particular, those of the citrus industry.

The entomological work of the Bureau will be carried out at the Cawthron Institute, where excellent facilities are available. The whole work of the Bureau will be co-ordinated by the Plant Research Bureau Committee through the Chief Executive Officer, Mr. F. R. Callaghan. The reorganization has involved the erection of suitable buildings at Palmerston North, Lincoln, and Auckland, and plans for these are well under way.

ANIMAL HEALTH AND NUTRITION.

Following the procedure resulting in the co-ordination of plant research, a meeting of interested Departments and Institutions was held to report on the resources and needs of the Dominion in regard to investigations of problems of animal health and nutrition. General co-ordination was arranged, although the whole question, particularly in its relation to breeding, is still under consideration. It is hoped that a comprehensive scheme of attack on these important problems which are related to the corresponding human questions will be evolved during the year. In the meantime, however, a combined attack on the problems of deficiency of trace elements—for example, cobalt, iodine, &c.—has been arranged between the departmental workers, Cawthron Institute, the Veterinary officers of the Department of Agriculture, and officers of the Health Department. It is in these latter directions that considerable advances in knowledge have been made during the past year.

SOIL SURVEY AND LAND UTILIZATION.

In recent years world-wide interest has been taken in land-settlement as a means of creating employment. Before opening up new areas for settlement or cultivating existing ones more intensively, a sound knowledge of the soil resources and present farm-management practices is essential. A systematic soil survey of New Zealand is in operation, and in the past few years the main soil types of Taranaki, the central portion of the North Island, and Waipa County, together with Ashburton and Levels Counties in the South Island, have been mapped.

Soil survey work was formerly carried out as part of the work of the Geological Survey, but in view of its importance in the whole question of land-utilization a separate Soil Survey Division has been formed.

At the present time soil surveys of North Auckland and Hawke's Bay are being carried out. It is intended that these shall be a basis for a complete investigation of the present position in regard to all aspects of land utilization in these districts. The soil surveys are being followed up by surveys of the types of pasture and farm-management practice, so that as complete a picture as possible of the possibilities of developing industries in these districts will be obtained.

The soil surveys are proving of value in delimiting areas where farming is likely to be uneconomic, but which may be suitable for afforestation. In parts of North Auckland serious consideration may have to be given to protective afforestation in order to prevent erosion of the land-surface which leads to rapid run-off of rain and consequent flooding.

Soil surveys are also an essential part of investigations which are being made in regard to the development of the citrus industry.

A survey of the tung-oil industry shortly to be undertaken by a research officer of the Department will also benefit by the soil survey work already done in North Auckland.

A further use for soil survey has been found in delimiting areas in North Auckland with kauri-gum resources. In conjunction with the Bureau of Industry, the gum resources of various swamps and the efficiency of various washing-plants