

The following matters relative to land utilization have been studied during the year:—

- (1) A comprehensive land-utilization survey in Hawke's Bay.
- (2) An examination of the position relative to the culture and the role of subterranean clover in Canterbury and the drier parts of Otago.
- (3) A study of the farming and of the social and economic factors affecting the farming of Chatham Islands.
- (4) A study of the economies of liquid-milk production in the region between Wellington and Palmerston North and adjacent to these urban centres.

(1) *Land-utilization Survey in Hawke's Bay.*—During the year under review the land-utilization survey in Hawke's Bay has been continued according to plan in that progress has been made approximately to the extent and along the lines that were expected. The survey embraces a study of the natural resources on which the farming of Hawke's Bay is based and a consideration of the economic and social conditions that bear upon land utilization.

The major endeavour of the Department of Agriculture consists of a survey of farm practice and farm management which is being carried out in close association with the soil-survey and pasture survey that are being undertaken by the Department of Scientific and Industrial Research.

In addition, considerable preliminary attention has been given to the public utilities and social services of Hawke's Bay that bear directly upon its farming. In this the co-operation of both the urban and the rural communities has been freely sought and generously given. As evidence of this, a well-attended representative meeting of delegates of public bodies held at Hastings on the 16th March decided (i) that the public bodies would provide data as requested for use in the survey, and (ii) that they would make a contribution of £400 towards the cost of publishing the report on the land-utilization survey. These decisions are tangible evidence of the viewpoint of the Hawke's Bay community in respect to the work.

The work is far from completed, but in due time a full and comprehensive report will be issued.

(2) *The Position regarding Subterranean Clover in Canterbury and the Drier Districts of Otago.*—Correlated with the greatly increased attention to and use of subterranean clover during recent years in the eastern part of the South Island there has been a considerable lack of exact knowledge based on field experience as to the culture and the role of subterranean clover in the farming of the region specified. Largely because of this lack of knowledge there has been much variation in the culture and utilization of subterranean clover in the region.

With the object of obtaining an indication of the relative worth of different practices, detailed information about the culture and utilization of subterranean clover was collected from 179 South Island farms during the latter part of 1937. The location of these farms was: 23 in Canterbury north of the Waimakariri River, 28 between the Waimakariri River and the Rakaia River, 42 between the Rakaia River and the Rangitata River, 40 in Canterbury south of the Rangitata River, 29 in North, 17 in Central Otago.

In rare instances the areas of subterranean clover which came under consideration were nine years to ten years old, but almost all were sown during the last three years, approximately 70 per cent. being in their first year, 17 per cent. in their second year, and 13 per cent. over two years old.

It is felt that dependable conclusions could not be based on the information obtainable during one visit to the areas being studied, particularly when such a large number of them are in their infancy, and hence it is planned to visit most, if not all, of the areas at least once again later on, it being expected that their behaviour in the interval will prove enlightening.

(3) *A Study of the Farming and of the Social and Economic Factors affecting Farming in Chatham Islands.*—A somewhat general study of the farming position in Chatham Islands was carried out. Among the main facts disclosed by this study are:—

- (a) There is at present a trend of population away from Chatham Islands *e.g.*, in 1937 the passengers by sea from Chatham Islands exceeded by forty-five the inward passengers.
- (b) In essential respects the climate approximates that of the North Island rain-forest districts. Hence, climatically, Chatham Islands is quite suitable for both sheep-farming and dairying.
- (c) The economies of farming in Chatham Islands are basically affected by the remoteness of markets for farm produce and for farm stores and requisites.
- (d) Having due regard to the farm economy of Chatham Islands as a whole, a compact block of 15,000 acres to 20,000 acres in the vicinity of Waitangi and Te One could advantageously be devoted to dairying at least to a considerable extent, and certainly to an extent sufficient to give the supply of butterfat needed by a butter-factory of an output large enough to allow of economical manufacturing costs.
- (e) Sheep-farming, which is easily the most important phase of farming on Chatham Islands, shows a general upward trend in the numbers of breeding-ewes, lambs tailed, and total sheep.

In the five-year period, 1932-36 inclusive, the number of lambs tailed annually for every 100 breeding-ewes was 72.9: the corresponding figures were for the whole of New Zealand 88.8, and for the North Island 87.5 lambs tailed annually per 100 breeding-ewes.

- (f) Chatham Islands offer considerable scope for advisory and investigational work designed to raise the standard of its farming to bring it into line with the plane of efficiency of the farming of New Zealand.