

Ruakura Farm Training College.—The attendance at this college has been disappointing. For the first term in 1936 there were less students in residence than has been the case since the college has been in existence. This poor attendance is accounted for largely by the shortage of labour on farms and the demand for boys in city businesses. One feels sure that this state of affairs must be only temporary, and there is little doubt that in the very near future the attendance at the college will be back to normal.

In addition to the regular college operations, courses were held during the 1936 winter for unemployed boys, and in this connection there was both a junior course and a senior course. The junior course was held from 8th to 19th June, and an attendance of twenty-three boys was given a comprehensive course of lectures and demonstrations relating to the more important practical aspects of farming. The senior course lasted from 22nd to 27th June and was attended by eighteen youths. This course was designed on intensive lines, and included special lectures and demonstrations on pastures, cultivation, and live-stock.

FIELD EXPERIMENTS.

This branch of the Division's work has continued to increase, and each year the activities become more varied in character. At the end of the year there were 976 experiments or demonstrations in progress throughout the Dominion and the majority of these are being conducted on a co-operative basis with farmers. The experiments in operation cover a great variety of subjects, particularly in respect to pastures, such as mowing trials, observational top-dressing, strain trials, grazing trials, pasture establishment, and experiments and demonstrations under several other headings. With respect to crops, the experiments relate to the manuring of the various cereal and root crops and the trying-out of new varieties. In addition, there were conducted experiments aimed to discover the means of controlling brown-heart in swedes, and also a very comprehensive series of experiments to determine the best districts in which to cultivate sugar beet and the most suitable varieties, both from the point of view of yield and sugar content. Apart from the above-mentioned experiments, quite an appreciable amount of experimental work was put in hand dealing with the control of ragwort and pig-feeding trials. This latter class of experiment is of particular moment at the present time, in view of the Department's endeavour to bring about as rapidly as possible a considerable improvement in pig-management methods.

The Crop Experimentalist attached to my office is in immediate charge of the whole programme of experimental work of the Division, and appended hereto is a comprehensive report by that officer on all classes of experimental work in hand for the year ended 31st March, 1937.

There are, however, two major projects which in the future will require to be given more consideration than has been the case in the past. I refer particularly to the problem of hill-country deterioration in the North Island and the regrassing of the depleted tussock areas of the South Island. The deterioration of hill country in the North Island is a most serious problem of ever-growing intensity, and it is obvious that if steps are not taken immediately to investigate the causes of its deterioration, and, if possible, to effect a remedy, much valuable land which hitherto had a relatively high stock-carrying capacity will be abandoned to fern and secondary growth. Already many settlers have had to abandon their holdings, and others are merely struggling along in a fight against almost overwhelming odds. It would appear that the problem is one largely bound up with the question of such settlers obtaining easy credit for the purchase of seeds, manure, fencing, and stock to combat the weed-intrusion. Large-scale experiments in which I envisage the possibility of the Department taking control of several farms would appear necessary to secure the fullest information of how to rehabilitate this class of country.

So far as the depleted areas of the South Island are concerned, it will be recognized that the large tracts of semi-barren country, particularly in Central Otago and the McKenzie Country, require the closest investigation with a view to increasing their carrying-capacity. At one time these areas carried a wealth of natural pasture affording an abundance of feed for sheep, but with the passing of time, due largely to overstocking, rabbit-invasion, and injudicious burning, the native pastures have been woefully depleted, and to-day large tracts of virtually barren areas exist in place of the excellent native pastures of by-gone days. The striking work of the late Dr. L. Cockayne, who conducted a series of experiments on the Dunstan Mountains, has given a lead to the method by which regeneration of the tussock areas may be effected, but further extensive work in this connection requires to be carried out. The possibility of introduction of grasses and other plants adapted to the soil and climatic conditions of the tussock areas has not yet been fully exploited, and this should be done at the earliest possible opportunity. Proposals to investigate these two major projects are in hand, and it is expected that during the coming season facilities will be forthcoming to fully investigate the position.

FEED-FLAVOUR INVESTIGATION.

The study of pastures and the correlation of feed flavour with pasture type was continued in the Morrinsville district. Results confirmed those of preceding work as well as those obtained independently at Massey Agricultural College by the Dairy Research Institute. Further experiments designed to discover a method of control of feed flavour were conducted. In this direction, in addition to continuing the use of nitrogenous fertilizers on some pastures, heavy applications of phosphatic fertilizers were made on others. The weakness of co-operative experiments when pasture-management is beyond the control of the Instructor prevented the carrying-out of the experiments as was originally intended. The results obtained, however, indicate the trend of future work and allow of definite