

In both trials the herbage consumed was botanically analysed and dry-matter determinations made by the Station Chemist. The general results of these trials went to confirm the field trials in the Waikato in so far as they went to prove—

- (1) That pure grass diets yielded a cream almost entirely free of feed flavours:
- (2) All clovers fed produced feed flavour in the cream, and the indications were that suckling clover and subterranean clover were more potent in this respect than white clover or red clover:

Further pure sowings covering 6 acres of ground have been made, and the work involved in maintaining these crops in a pure condition is considerable, all clovers being sown in drill rows and inter-tilled to control volunteer species and weeds.

GREEN-KEEPING RESEARCH.

This work has progressed well during the year, and I am pleased to report that the New Zealand Golf Council has appointed a field advisory officer and permanent labour to the research area in order that this work may be more efficiently carried on and that the results may be extended to actual field practice. The actual control of the research area is now vested in the advisory officer, and this has released my assistant for ecological pasture work in the field. The direction of green-keeping research is still under the Agrostology Section.

PUBLICATIONS.

The following articles have appeared during the year:—

“Garden Lawns and Playing Greens,” E. A. Madden: *Journal of Agriculture* for June.

“Third Annual Report, Green-keeping Research.”

Papers were contributed by the following officers to the New Zealand Grassland Association Conference: L. Corkill, S. H. Saxby, L. W. Gorman, E. A. Madden, and E. Bruce Levy.

DEMONSTRATIONS, LECTURES, AND CONFERENCES.

The number of farmers and overseas visitors to the research area has increased during the year, and this alone involves a good deal of time of the Station's staff. Such visits, however, are encouraged, and are most convincing as to the value of the work being done.

LAND AND EQUIPMENT.

An additional 4 acres of land has been leased from the City Council, and 1 acre has again been loaned by the Massey College for isolation work with Italian rye-grass. This question of isolation became very acute during the season, and will need to be considered more and more as work with additional species progresses.

EQUIPMENT.

A seed-cleaner and huller have been secured to deal with nucleus pedigree lots of seed. Also a second-hand car engine has been installed to drive huller and thresher, but the performance of this engine is poor, and it will need to be replaced. A gravel tractor has been purchased and is doing very good work.

LABOUR.

Unemployed labour continued during the greater part of the year, but latterly an arrangement has been made for full-time subsidized men to be employed. The benefits to the work and relief to the Overseer in this arrangement have been even greater than expected.

STAFF.

The services of Mr. S. H. Saxby were lost to the Section during the year owing to the temporary-service policy of the Scientific and Industrial Research Department. The loss of this trained officer is much regretted.

It has been very gratifying that all officers connected with this work have again performed a strenuous year's work in a most satisfactory manner. The work at the Station area has been efficiently run under the oversight of Mr. Todd, and it is anticipated that, with the permanent labour now available, even better work in the future will be accomplished.

AGRONOMY SECTION.

J. W. HADFIELD, Agronomist.

The work of the Agronomy Section has been carried out as in the past at the Pure Seed Station, Lincoln, and at the Plant Research Station, Palmerston North.

Growing conditions were favourable at Lincoln and heavy yields resulted, but the harvesting conditions caused heavy losses, there being recorded 16.22 in. of rain for February and March. The season was very late at Palmerston North and conditions far from ideal for seed setting.

The policy of producing nucleus lines of pure and smut-free seed has been continued, and it is satisfactory to report that the Canterbury Agricultural College has taken over much of the seed so produced. The balance has gone into the hands of seed-growers, and will be distributed under certification.

Several new wheats were placed under yield trial. Lin Calcl, a variety from South America, shows promise in baking-quality and yield when autumn sown. Ben Cubbin, an Australian wheat, may have merits as a spring-sown variety.

The main work has consisted of an extensive yield trial comprising most of the New Zealand commercial varieties and several introductions from overseas. Of the recently imported varieties Resistance, raised by the National Institute of Agricultural Botany, proved very promising for Canterbury, Otago, and Southland conditions. It is not yet fixed in type and its high susceptibility to rust renders it quite unsuitable for North Island conditions.

Breeding work has been confined to the selection of crosses suitable for North Island conditions with rust resistance as a special consideration. F3 seed has been harvested from: Ruakura x Algerian x Lampton x Ruakura. F2 seed has been harvested from: Lampton x Gartons x Ruakura.