Greenkeeping Research.

The scope of this work has been enlarged and a new series of trials arranged in collaboration with the Greenkeeping Research Committee, set up by the New Zealand Golf Association, the work being financed by the latter body. The area at Hokowhitu has now been going on for seven years and some extremely interesting data on greenkeeping is now being recorded. The outstanding success of New Zealand brown-top and chewings fescue and the validity of the acid theory in relation to greenkeeping are some of the outstanding features. The new programme of work includes the testing of strain differences apparent in single-plant studies of brown-top to see the significance of these under sward conditions. Such a trial is being arranged for guidance regarding the standards for certification purposes.

The research work is promulgated by a full-time advisory officer, and each year greenkeepers meet at Hokowhitu for their annual conference. A diploma course in greenkeeping has now been arranged.

Lectures and Demonstrations.

During the year considerable time has been spent, as opportunity offered, to delivering lectures, and in this regard the young farmers' clubs have been very active. Visitors to the Station have increased, and much time has been spent in showing them round.

Establishment.

The new grasslands building has proved a great boon, and the space is now fully taxed. The question of additional storage room and the conversion of the present barn into a chemical laboratory have been gone into, and plans are in the course of preparation by the Public Works Department. Additional glasshouse space will be required to cope with the work relative to the study of wilted and lush growth in connection with the facial-eczema investigation.

RESEARCH WORK AT AGRICULTURAL COLLEGES.

Grants were made by the Department during the year to Massey College and Canterbury Agriculture College for the following projects under the ægis of the Plant Research Bureau:—

CANTERBURY AGRICULTURAL COLLEGE.

Subterranean Clover.

Systematic investigations to ascertain the place of subterranean clover as a pasture species for the lighter lands of Canterbury were commenced during the year at Ashley Dene, where 72 acres were subdivided into twenty-four fields of 3 acres each. This provides for four fertilizer treatments, each of which is replicated six times. A separate flock of sheep is to be grazed on each of the fertilizer treatments, the six replicates being grazed in rotation. The flocks are to be studied for a period of at least five years, and the results are to be measured in terms of fat-lamb returns, live-weight increases, wool yields, and sheep health and thrift.

The fertilizer treatments are as follows:—

(1) 1 cwt. super to 5 cwt. lime applied in alternate years.
(2) 2 cwt. super applied annually.
(3) 1 ton of lime (initial), followed by 2 cwt. super annually.
(4) 1 ton of lime (initial), followed by 2 cwt. super plus 1 cwt. potash annually.

The trial areas have been reticulated with water. Sheep-yards have been constructed and weighing-scales installed. A uniform flock of 4-tooth Corriedale ewes is being selected for the experimental flocks.

Owing to an exceptionally dry autumn delaying the clover growth, the inauguration of grazing has had to be postponed. Evidence has already been secured that distinct advantages in clover establishment are secured by initial applications of lime applied at a rate of 5 cwt. per acre.

MASSEY AGRICULTURAL COLLEGE.

Mole Drainage.

During the year a grant was made to Massey Agricultural College to enable research work to be commenced upon mole drainage, an investigation which is likely to have considerable value over much of the stiffer loam country located throughout New Zealand, large areas of which are to be found in the Manawatu and Southland districts. The investigations were carried out under the immediate direction of Mr. A. W. Hudson, who has been assisted by Mr. H. G. Hopwell, B.Agr.Sc., of the staff of the Fields Division, Department of Agriculture.

In addition to the laboratory investigations, two experimental installations were arranged in the field at Massey College following careful surveying and levelling. Attention was particularly devoted to the types of plug attached to a specially designed mole plough, and the trials comprise duplicate premises occupying about 3 acres. Arising out of the preliminary work much interest attaches to the greater success in drainage achieved by the use of a specially designed fin-plug which prevents a closure of the cut made by the knife of the drain plough.

The work is proceeding in the direction of having careful measurements made of the inflow and outflow of water coming from various types of drains, and a great deal of valuable fundamental information is likely to be derived as the work progresses and the drains reach a stage when they can function under more typical conditions, as will happen when the ground becomes consolidated.