

the greatest benefit from the covers was the relative absence of vegetable matter in the covered sheep. In the non-covered group several fleeces showed evidence of discoloration brought about by bacterial activity, but this was absent from the covered fleeces.

Pelt Research.—Arrangements were made during the fat-lamb-killing season for the Leather Research Chemist of the Department of Scientific and Industrial Research to obtain sample pelts from the various types of cross-bred lambs available from the College flocks.

AGRICULTURAL ECONOMICS.

Ashburton Farm-management Survey.—A condensed account of Mr. J. R. Fleming's farm-management survey of Ashburton County, including a map, is being published as a Bulletin of the Department of Scientific and Industrial Research, and is at present in the press. By arrangement with the Department of Scientific and Industrial Research and the Department of Agriculture, the detailed sections of the survey have been cyclostyled in the form of an appendix to the Bulletin.

Addington Stock Market.—A survey of some of the main features of this stock market is being carried out.

General.—The record of the course of prices of farm-products, the farm-account work, the College Bulletin work, and the study of recent world changes in monetary and production methods and in trade and market conditions, have been continued.

FARM ADVISORY SERVICE.

The research activities of this Department have been confined mainly to a study of the application of existing knowledge to farm practice and the alterations necessary in present farm practice to enable the most economic use of new information. Attention has also been given to certain management aspects of hogget mortality; the establishment and management of pedigree cockfoot for seed-production; pasture establishment, management, and top-dressing; and other general farm-management problems. Attention has also been given to problems associated with the valuation of rural properties.

FARM CROPS AND PASTURES.

The following activities are in progress:—

Root Crops.—(1) Variety trials with mangels and swedes are now in their second season. Yield data and, in the case of swede trials, records of the incidence of dry rot, brown heart, and insect attack are being compiled.

(2) Mangel-seed treatment: Trials with sulphuric-acid treatment and pre-germination of seed prior to sowing are in progress.

(3) Swede-seed treatment (for control of dry rot): Six treatments are now under investigation in association with I.C.I., Ltd.

(4) The effect of gyrotiller cultivation on yields of mangels and swedes.

(5) Farm-yard-manure yield trials with mangels and swedes.

(6) Variety trials with white and yellow turnips. Yield and disease data are being collected.

(7) Trials with various potato treatments—vernalization, "Azeta," and various degrees of greening—and the collection of data on earliness and yield.

Cereals.—(1) Influence of gyrotilling on wheat and oat yields.

(2) Effect of various new grades of disinfectants on germination and yield (wheat and oats) in ordinary soil and in heavily disease-inoculated soil. (Results are being published in the *N.Z. Journal of Agriculture*.)

(3) Studies on the intensity of plant population in wheat fields, including irregularity of plant distribution, plant mortality, and influence of plant density on yield. (Results are being published in the *N.Z. Journal of Science and Technology*.)

Garden Seeds and Legumes.—Seed-disinfection trials. Effect on germination after treatment and after a period of storage; effect on nodulation in legumes.

Pasture Plants.—(1) Investigation of the value and utilization of *Phalaris tuberosa* as a pasture plant under Canterbury conditions. Records are being continued with eight fields under study.

(2) Liming trials on lucerne.

(3) Long-term effect of lime on pasture composition, and yield and nutritive value of herbage.

(4) Cocksfoot: Further improved strains of cocksfoot have been built up from offspring of C. 23 and sown for testing.

(5) Testing of cocksfoot strains:—

(a) A pasture-mixture trial, including certified Akaroa, certified Government stock seed (C. 23), and Government pedigree seed (C. 23) is being conducted.

(b) A strain trial of the following five strains of cocksfoot has been established: Certified Akaroa, C. 23 (original), C. 23 (first remove), C. 23 (second remove), C. 23 (new combination).

(c) In co-operation with the Department of Agriculture a pasture-strain trial has been laid down. This includes certified Akaroa, certified Plains and College C. 23 cocksfoot, and in addition all the available strains of perennial rye-grass, Italian rye-grass, white clover, and red clover.