

MASSEY AGRICULTURAL COLLEGE

BIOCHEMISTRY

Milk-supply of Romney Ewe.—The results of the past five years have been submitted for publication. During last lambing season a start was made with recording milk yields of two-tooth ewes—these animals will be under study for five or six years.

Wear in Sheep's Teeth.—An account of this work was presented in the *Proceedings of the Tenth Annual Meeting of Sheep-farmers*, published by Massey College in 1947. Tentative conclusions are as follows :—

- (a) The main factors responsible for “poor mouths” are abrasion especially caused by toughness of pastures, overstocking, drought conditions, and, under certain conditions, high-fertility pastures.
- (b) There is no evidence that good teeth differ structurally from poor teeth or that mineral deficiency is concerned.

Further work is in progress.

RESEARCH ON N-TYPE SHEEP

Further understanding has been gained of the inheritance of N-type sheep, characterized ordinarily by both hairy birthcoat and hairy fleece. It is now possible to determine by inspection of the birthcoat whether a sheep will breed true or not for hairiness. The breeding of hairy sheep is now relatively simple, and the flock is now in the hands of a commercial firm interested in the production of carpets and rugs from the skins. Five papers have been submitted for publication.

SHEEP PARASITOLOGY

The effects of weather on the acquisition of parasites by sheep has been studied. A comprehensive treatise on parasites in sheep is in the press.

PROPAGATION RESEARCH

Work on the use of CO_2 gas in propagating has been continued. A commencement has been made on investigating stock and scion relationships in rhododendrons, also a considerable number of experiments on grafting these plants. Work is still being done on azalea cuttings. Preparations containing naphthalene acetic acid in concentration as high as 1 in 10,000 have assisted the rooting of daphne cuttings, whereas all preparations containing indol-butyric acid were harmful.

DRAINAGE RESEARCH

The general report on the outflows from a back filling of mole drains and the operations of the “Rotcho” tile-trench-digging machine confirms the previous year's observations.

SHEEP AND WOOL DEPARTMENT

A progeny-testing experiment was commenced in March, 1947, and was designed to investigate the heritability of productive qualities in sheep, the problems of progeny testing, and in particular the repeatability of progeny tests of Romney rams in different seasons.

Trials of the carrying-capacity of short-rotation rye-grass and pedigree rye-grass have confirmed the early but short benefit derived from the former grass.

The analysis of the data accumulated by the Fleece Testing and Recording Department has been continued and a number of papers prepared for publication. Data pertaining to the fertility of sheep have been analysed. The influence and relative importance of season, sire, type of birth, &c., on birth weight and growth rate in lambs, as well as heritability of body weight, are being studied.