

## SHEEP HUSBANDRY RESEARCH

Mr. R. A. BARTON

At the conclusion of the trial of pedigree perennial rye-grass as compared with short-rotation rye-grass, the area was used for a study of fat-lamb and wool production at two different rates of stocking. Conjointly with this an investigation was also commenced of the effect of Southdown rams of widely differing type as fat lamb sires. The experiment commenced in the autumn of 1948 and is planned to continue for four years. One group of ewes was stocked at the rate of five ewes per acre and a second group at the rate of seven ewes per acre. Two "good" quality Southdown rams and two "poor" quality Southdown rams were mated with these ewes. Preliminary results indicate that the progeny of the "poor" quality rams were inferior to those of the "good" quality rams in shape of leg, subcutaneous fat cover, possible rate of maturity, and export grade. The progeny of the "poor" rams were longer in the leg and in general lacking in carcass quality. The effect of plane of nutrition cannot be determined from one season's results, due to seasonal influences.

Mr. H. GOOT

Further tests have shown that the photo-electric wool staplemeter for measuring tippiness of wool staples has a satisfactory degree of accuracy and speed. Several overseas countries have shown considerable interest in the possibilities of the new instrument, and full descriptions have been published.

The analysis of data accumulated by the fleece-testing department has been continued, and four papers giving the results of these analyses have been published. The work commenced in 1947 on the changes in body weight at different stages of development of sheep and the effect on these changes of different sires, dams, season, &c., has been continued. Over five hundred lambs on a commercial stud-sheep farm are being weighed at approximately two-monthly intervals from birth till fourteen to eighteen months old. They are also graded for "fleshing" at each weighing. The results indicate that there is a highly significant correlation between body weight and fleece weight in Romney lambs. In the 1947 crop of lambs there were highly significant differences between the birth weight of singles and twins and between male and female singles. Differences due to age of dam were highly significant for twins and female singles. A marked depression of the rate of growth after weaning was observed. There was a highly significant correlation ( $r = +0.22$ ) between the age of lambs and the rate of growth.

Mr. A. L. RAE

The data derived from past years' work are being analysed by Mr. Rae while studying for a Ph.D. degree at Iowa State College, U.S.A. It is becoming apparent from analyses of data that a satisfactory progeny-testing programme for commercial stud-sheep breeding is full of difficulties. These data, however, enable estimates to be made of the strength of inheritance of various characters which should be of value to sheep-breeding when applied as selection indices and especially so when more data are available. As the result of past work dealing with progeny testing under a random mating system, it is intended to investigate the possibility of more encouraging progress being made when specific combining ability plays a part in producing more desirable progeny.