

In the North Island, sons of rams ranking high on progeny tests for fleece weight have now been compared with rams of average pedigree, chosen on appearance for high wool-production. Two-tooth ewes sired by rams of the progeny-test high-fleece-weight strain showed a 4 per cent. increase in wool-production over ewes of the same mob sired by rams chosen on appearance. Further trials are being laid down during the present mating season, including a comparison of Romney and half-bred rams on fine-wool ewes under North Canterbury conditions.

Intensive Investigations.—A small number of stud Romney and Corriedale ewes and their progeny have been kept under high and low planes of nutrition since June, 1943, to discover the effect on wool-production. A very marked break occurred in the fleeces of the low-plane group at a time when the ewes showed clinical symptoms of pregnancy toxæmia. The possibility that acidosis and ketosis associated with this condition may interfere with oxidative processes necessary for fibre growth is being investigated.

Unscoured fleece weights for the ewes of this experiment after six months' treatment averaged as follows:—

	High Plane of Nutrition.	Low Plane of Nutrition.
	lb. oz.	lb. oz.
Romney (five sheep in each group)	12 10	6 14
Corriedale (six high-plane and five low-plane sheep)	11 6	7 12

These weights include approximately six months' wool grown before the start of the experiment, during which time all the sheep were treated alike.

Count Standards.—British (Wool Control) and United States standard tops have now come to hand and are being used to fix the designations of fineness standards in use here.

Manufacturing Trials.—The first manufacturing trial in conjunction with the Wool Manufacturers' Research Association, Dunedin, of the effect of small amounts of hairy wool on processing has been completed. The presence of medullation equivalent to about 6 per cent. of coarse, hairy fibre did not appreciably affect the processing properties of sound, well-grown Romney wool of 48–50's quality. This was the average amount of hair found in the least desirable 200 lb. of britch and hindquarter wool from seven hundred unculled stud Romney ewe hoggets not shorn as lambs. The fleeces had been skirted in the normal way. A full report has been prepared for publication. A second trial using 56–60's half-bred and Corriedale wool has been arranged. Fleeces for this trial have been collected, sorted, and sampled. Measurements of the raw material for hairiness, fibre length, and diameter are practically completed. Acknowledgment is made to the Wool Council for a grant, in aid of this work.

MASSEY AGRICULTURAL COLLEGE

SHEEP NUTRITION EXPERIMENT

MR. W. M. WEBSTER

In view of statements by fat-lamb producers that the type of feed produced by the new strains of clovers and grasses plus heavy top-dressing was not the most suitable for their purpose, it was decided to carry out tests on productivity, thrift, and finish of breeding-ewes and "fat" lambs of—

- (a) The following pasture mixtures—
- (i) Pedigree perennial rye-grass plus pedigree white clover:
 - (ii) Pedigree perennial rye-grass plus low HCN. white clover:
 - (iii) Pedigree perennial rye-grass plus mother-seed white clover:
 - (iv) Mother-seed perennial rye-grass plus mother-seed white clover:
 - (v) Mother-seed perennial rye-grass plus pedigree white clover.
- (b) The following manurial treatments of a basic pasture mixture—
- (i) 1 cwt. superphosphate:
 - (ii) 4 cwt. superphosphate:
 - (iii) 4 cwt. basic slag:
 - (iv) 4 cwt. superphosphate plus lime:
 - (v) 4 cwt. superphosphate plus lime plus potash.

The trial was commenced in March, 1940, and data have now been obtained for four seasons. In spite of shortage of staff, it has been possible to collect during the present season the full set of data required.

A marked feature of the season was the prolonged wet spell covering the latter half of the winter and the majority of the spring, resulting in very strong spring growth, which necessitated the use of cattle earlier than usual. This was followed by a prolonged dry spell which commenced early in December and still continues. In spite of these unusual climatic conditions, the behaviour of the experimental animals was very satisfactory. No abnormal trouble was experienced, and the lambing percentage was again good. The lambs proved to be remarkably thrifty and fattened in record time. This season's lambs were ready for killing earlier than usual, and all except two injured lambs were killed by mid-January, approximately a month earlier than usual. Fat-lamb quality is up to the same standard as in previous seasons, and no significant differences between groups have been noted. The ewes were shorn early in December. Fleeces were lighter in weight and of poor colour in all groups. This can be attributed largely to the wet winter and spring conditions.

During the early spring flush of feed, cattle were used as previously to control the pastures. Two yearlings per acre were carried until mid-January, when, owing to the prolonged dry spell, they were no longer required. The pastures have remained in good condition in spite of the drought.