

out to determine whether fertilization has occurred. Live-weight changes in the ewes during mating will be observed in relation to fertility results.

An attempt has been made to increase the fertility level of a flock of 100 two-tooth ewes by hormone injection treatment (P.M.S.) under controlled conditions, with half the ewes remaining untreated.

Effect of Pasture Maturity on Thrift of Hoggets.—Evidence has been accumulated which suggests that weaned lambs thrive better during autumn on feed which is allowed to become more mature than usual. To test this an experiment was conducted at Manutuke; two series of five 1-acre paddocks were used in each of which 30 hoggets were grazed. In one series the pasture was kept at normal height by rotating the lambs at two-day intervals, thus allowing eight days' growth between grazings. In the other series the lambs were rotated at five-day intervals, allowing twenty days' growth between grazings. Half the lambs in each group were drenched with phenothiazine at three-weekly intervals from April to August. When the experiment commenced on 19th January, 1946, each group had the same average weight. Results are shown in the following table:—

	Average Weights.		
	15th August, 1946.	11th November, 1946.	Wool Shorn 13th September, 1946.
Normal grazing—	lb.	lb.	lb.
Drenched	90·3	118	7·8
Undrenched	78·8	106	6·4
Mature grazing—			
Drenched	89·8	116	7·4
Undrenched	86·1	112	6·7

Comparison of Crops for Hogget Nutrition.—At Manutuke an area of crops is grown each year to provide “safe” grazing for control of facial eczema during the autumn. This has enabled a comparison to be made of the production obtained from the various crops. In the 1945–46 season the number of sheep-grazing days per acre obtained from the various crops was as follows: thousand-headed kale, 2,274; turnips, 2,115; rape, 1,065; chou moellier, 859; Japanese millet, 1,628.

Hoggets fattened well on all crops except Japanese millet, on which weight increase was rather slow. For the Poverty Bay district thousand-headed kale has proved an outstanding fodder plant, as it can be grazed three or four times during summer and autumn and does not cause anything resembling rape scald.

Comparison of Various Pastures for Ewes and Lambs.—In the course of facial-eczema experiments at Manutuke the following special pasture mixtures have been grown in 1-acre paddocks: short-rotation rye-grass, cocksfoot, timothy, Montgomery red clover, broad red clover, and white clover; Italian rye-grass and white clover; Italian rye-grass, Montgomery red clover, and broad red clover; Italian rye-grass, cocksfoot, and white clover; short-rotation rye-grass and white clover; pedigree perennial rye-grass and white clover. These were stocked with 6 ewes and lambs each with a view to comparing thrift of lambs. The lambs in all paddocks grew well, the average rate of growth being from 0·50 lb. to 0·53 lb. per day. There were no significant differences.

Deaths in New-born Lambs.—An increasing number of reports have been received of lambs dying at or soon after birth. Investigations in Poverty Bay suggested that probably about 10 per cent. of lambs do not live to be a week old, and of these nearly half are born dead. The condition has been reported from a number of districts and from several different types of pasture. An intensive investigation will be commenced as soon as staff is available.