ewes died and no lambs survived. The sheep which died were both affected with kidney trouble, which was a predisposing cause of death. In addition, another sheep had definite symptoms of kidney trouble at the conclusion of the winter period.

These experiments are being continued with a fresh line of sheep brought in from other districts where kidney trouble has not been experienced. Provision has been made for winter feed, and it is anticipated that better results will be obtained from the treated block than was the case during the first season.

Farms.—On farm B treatment of the pasture with basic slag at the rate of 4 cwt. per acre has given greatly increased returns. On this farm deterioration of pasture was not so bad as on farm A, there being a sprinkling of clover and trefoil in the flora. The ground was moister, favouring a more immediate effect of the basic slag, and giving much more growth in the late summer and autumn than was the case with the treated block on farm A. The following notes illustrate the effect of basic slag in improving stock returns :—

Block (1), 7 acres, treated with 4 cwt. per acre basic slag : This block was stocked with 13 ewe hoggets from the 11th September, 1928 to the 15th November, 1928. The number was then increased to sixteen. On the 19th April, 1929, the sheep had made an average gain of 30·3 lb. per head over the spring weights. The sheep dropped in condition during the winter, the average weight after lambing on the 16th October, 1929, being 80·6 lb. Ten lambs survived, and no loss of ewes was experienced during the winter period.

Block (2), 7 acres untreated : This block was stocked with seven ewe hoggets from the 11th September, 1928, to the 15th November, 1928. The number was then increased to ten and remained at this figure during the winter. On the 19th April, 1929, the sheep had made an average gain of 26·3 lb. per head. They lost condition during the winter, the average weight after lambing being only 73·3 lb. per head. Six lambs survived, and no deaths occurred in ewes during the winter period.

These experiments are being continued, and provision has been made for supplementary feed during the winter.

Conclusion.

The field experiments so far as they have gone have revealed the very low feeding-value of Moutere pasture. This has been confirmed by analyses of pasture samples (see Bulletin 19, Department of Scientific and Industrial Research). In the case of untreated pasture on a deteriorated farm, live-weight increase of stock is restricted to the spring and early summer periods of pasture-growth. During the late summer and the winter great difficulty occurs in maintaining condition of young stock. Ewes drop greatly in condition unless supplementary feed is available.

Treatment of the pasture with basic slag or lime and basic slag has given good results, enabling a higher stocking of the pasture and better returns to be obtained from the sheep. On a very deteriorated farm where much kidney trouble has been experienced the results obtained from the first season on the pasture treated with lime and phosphate are not entirely satisfactory. It appears probable that supplementary feed during the winter and the provision of one or more fields resown with English grasses and clovers will be essential in order to maintain ewes during the winter period, and enable satisfactory growth of lambs during the spring and early summer to be made.

MOUTERE PASTURES
GROWTH CURVES (SHEEP).