

In a similar experiment at Manutuke 149 ewes lambed under observation, producing 177 lambs. The following observations were made :—

- (1) Presentation was normal in 74 per cent. of ewes, one forefoot was back in 19 per cent., and both forefeet were back in 3 per cent. of cases.
- (2) Assistance was rendered where no progress had been made 1 hour after bursting of the water-bag, and on this basis it was deemed necessary in 43 per cent. of ewes.
- (3) Assistance was given to 35 per cent. of ewes bearing single lambs whose presentation was normal. The average weight of these lambs was 11·5 lb., compared with an average weight of 11·0 lb. for single lambs whose presentation was normal and who were born without assistance.
- (4) It was considered necessary to remove the membranes from the noses of 32 per cent. of lambs after birth.
- (5) Six lambs were born dead, all on account of malpresentation, and two other lambs died within forty-eight hours of birth, a total mortality of 4·5 per cent.
- (6) Ninety-two lambs were born unobserved in the paddock and 14 (15 per cent.) of these were found dead. From the position and state of the lambs it was considered that 6 had been malpresentations and 3 others protracted lambings.
- (7) Teats were classified as : large, 26 per cent. ; medium, 55 per cent., and small, 19 per cent. Some lambs, particularly small twins, had difficulty with large teats, but it was found that the size diminished materially if some milk was removed, and lambs then experienced no further difficulty. Some lambs found difficulty in holding small teats in their mouths. Teats of two ewes were so close to the leg that lambs could not suckle without assistance.
- (8) Milk-supply was classified as poor in 2 per cent., medium in 39 per cent., and good in 59 per cent. of ewes.

From these two experiments and from field observations the following conclusions may be drawn :—

- (1) Still-births and deaths during the first week probably account for 10 per cent. to 15 per cent. of all lambs born in New Zealand.
- (2) The major cause of these losses is difficulty in lambing.
- (3) Smothering by membranes is probably an important cause of loss in at least some flocks.
- (4) It remains to be shown to what extent these losses can be prevented by careful attention by well-trained shepherds.
- (5) Probably about 2 per cent. of lambs die of starvation because of inadequate milk-supply, and approximately the same percentage of lambs are lost because of defective teats. These losses could be greatly reduced by careful attention to udders and teats when culling and by assistance from shepherds to new-born lambs which experience difficulty in suckling.

*Infertility Associated With Subterranean Clover.*—Assays of clovers and grasses to determine if they contain the substance which causes infertility in ewes grazing almost pure swards of subterranean clover in Australia gave the following results : thirteen out of seventeen of the subterranean-clover samples gave positive assays ; these were obtained from Banks Peninsula, Hastings, Blenheim, Wairoa, Christchurch, Wanaka, and Whangarei. The remaining four samples, from Palmerston North, Whangarei, and Wanaka, gave a doubtful positive reaction. Two white-clover samples, from Manutuke and Ruakura, gave doubtful reactions and two others were negative. There has not been sufficient spread over the year to enable any observations to be made on seasonal variation. A number of pure species from the Plant Research Station, Palmerston North, was also examined. Two subterranean-clover samples gave positive results ; the remaining samples, which were negative, included strawberry clover, white clover, and various grasses.