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Summary only

THE FERTILITY OF HILL COUNTRY EWES MATING AT
DIFFERENT STAGES OF THE JOINING PERIOD

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VARIATIONS in oestrous activity and fertility over the joining period were calculated from the pooled records of one Romney × Border Leicester and eight Romney flocks at the Whatawhata Hill Country Research Station during 1967 to 1973. The flocks were teased for 2 to 3 weeks by vasectomized Romney and Romney × Border Leicester rams and then single-sire mated with 20 to 40 ewes per ram, starting on March 15 to 20. The 8 weeks of joining were divided into 4 periods each of 14 days for analysis.

The major factors arising from the analysis were:

- (1) The slow onset of oestrous activity. Only 37% of 2-year-olds and 61% of mature ewes were mated in period 1.
- (2) The overall low percentage of ewes lambing to a mating in a single time period. The average was 57%.
- (3) The variation over the 4 periods in the percentage of ewes lambing to a mating in a single period. It was 50 to 55% in period 1, rose to a maximum of 62% in period 2, and then declined in periods 3 and 4 to 46 to 51%.

The low percentage of ewes lambing following mating in a single period and the differences between periods 1 and 2 can largely be accounted for by ewes that were mated in one period returning to service in the next. This suggests there is a low fertilization rate and/or a high incidence of early embryo death.

A flock of Romney ewes, multi-sire mated at the same stage of the breeding season, also had a slow onset of oestrous activity (15 to 36% mated in the first 14 days) and a low percentage of ewes lambing to matings in a single period (46 to 60%).

The slow onset of oestrous activity and the apparent poor conception rate is possibly due to the ewes being joined early in the breeding season. The increase in the conception rate from periods 1 to 2 may reflect the increase in ewe fertility from the start to the middle of the breeding season as observed by Quinlivan and Martin (1971).

REFERENCE

Quinlivan, T. D.; Martin, C. A. C., 1971: *Aust. J. agric. Res.*, 22: 497.