

MATING BEHAVIOUR AND HORMONAL CHANGES IN RAMS IN
RELATION TO BREED AND SEASON

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The libido of rams reaches a peak with short daylength and a trough with long daylength. From data on the breeding season of ewes it could be expected that rams of the Merino & British breeds would differ in this regard, but the extent, endocrinological basis and practical significance of this difference has not been determined in Southern Australia.

Observations were made on 8 mature Peppin Merino and 8 mature Romney (British breed) rams at eight 2-month intervals commencing in March 1975 to determine the magnitude of seasonal changes in libido and reproductive hormones. All animals were kept together at least one paddock removed from ewes. Libido was assessed from number of serves achieved in two 20-minute standardised pen libido tests and also from reaction time to mount a restrained oestrous ewe during semen collections with the aid of an artificial vagina. In the week following each set of libido tests, serial blood samples were collected from 6 rams of each breed at 20-minute intervals for 12 hours. Pooled aliquots of plasma from each ram were assayed for LH, FSH and testosterone (T). Data were examined by analysis of variance and correlation analysis.

Merinos achieved more serves/test and had shorter reaction times than Romneys (2.85 vs. 1.79, $P < 0.05$; 0.39 vs. 0.90 min, $P < 0.05$). T levels were also higher in Merino (6.7 vs. 5.0 ng/ml, $P < 0.05$) but LH and FSH values did not differ significantly from those of Romneys. In May and July all rams achieved significantly more serves/test and had significantly shorter reaction times than in November (2.50, and 2.47 vs 1.52, $P < 0.05$; 0.36, 0.44 vs 1.20 mins, $P < 0.05$). T, LH and FSH levels were all highest in March but were lowest in July, September and November respectively (T, 12.2 vs. 3.0 ng/ml, $P < 0.05$; LH, 11.6 vs. 7.2 ng/ml, $P < 0.05$; FSH, 92.8% 42.7 ng/ml, $P < 0.05$). In general both breeds showed similar patterns of seasonal change in all parameters but LH and FSH levels in Merinos showed little seasonality. Pooled within season correlation coefficients for T vs. No. of serves and T vs. reaction time were + 0.32 ($P < 0.01$) and -0.25 ($P < 0.05$) respectively.

Differences between breeds in the levels of T through the year have not been reported previously, although Schanbacher & Lunstra (1976) found Finn rams to have higher T levels than Suffolks in mid-winter. The differences between breeds in libido were unlikely to be of practical significance except possibly in spring. T levels were not sufficiently closely related to libido on an individual ram basis to be of predictive use.

SCHANBACHER, B.D. and LUNSTRA, D.D. (1976). J. Anim. Sci. 43: 644.

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