

REPRODUCTIVE WASTAGE IN SOUTH AUSTRALIAN COMMERCIAL MERINO FLOCKS

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Reproductive performance of the Australian Merino remains poor with little increase in lamb marking percentage over the last three decades. In South Australia, lamb marking percentage has remained virtually static, and averages only 77 lambs marked per 100 ewes joined. To define the problem, we investigated the sources of reproductive loss in South Australian commercial Merino flocks grazed in different agricultural regions of the State.

In the first year of a three-year study, 10 flocks of 300-400 mature-aged Merino ewes were selected from different properties on the basis of rainfall isohyet (300-400, >400-500, >500 mm), time of joining and lamb marking percentage. Ovulation rate (OR) of each flock was estimated from 75-90 ewes by laparoscopy. The number of fetuses present during mid-pregnancy was evaluated by real-time ultrasound imaging, and the number of lambs and ewes present at marking was recorded.

Table 1 Reproductive performance of ten S.A. commercial Merino flocks

Attribute	Mean (s.e.)	Range
Ovulation rate	1.35 (0.05)	1.23 - 1.65
Ewes lambing per ewe joined+	0.90 (0.02)	0.72 - 0.96
Lambs born per pregnant ewe+	1.26 (0.04)	1.13 - 1.54
Lambs marked per lamb born	0.78 (0.02)	0.69 - 0.86
Lambs marked per ewe joined	0.89 (0.05)	0.58 - 1.06
Reproductive wastage per ewe:		
Ewes failing to mate	0.034 (0.015)	0.007 - 0.168
Ewes mating but not lambing	0.095 (0.015)	0.040 - 0.168
Ewes dead or missing	0.005 (0.003)	0.000 - 0.025
Partial failure of multiple ovulation#	0.079 (0.014)	0.031 - 0.168
Lamb losses from birth to marking	0.245 (0.032)	0.134 - 0.451
Total reproductive loss	0.460 (0.041)	0.271 - 0.645

+ Number of ewes lambing and lambs born estimated using real-time ultrasound imaging.

Proportion of ewes with a potential for twin lambs that only produce a single lamb.

Potential reproductive performance (OR) was higher than that observed in Western Australia (135 v 114) (Lindsay *et al.* 1975). Our result for lamb marking percentage was high compared with the State average (89 v 77) and is probably a reflection of good seasonal conditions and exclusion of maiden ewes from our study. The sources of reproductive wastage were shared equally between those occurring during pregnancy and those occurring during and shortly after lambing. Sampling of further flocks is required to obtain a reasonable estimate of the sources of reproductive loss in commercial Merino flocks in South Australia.

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