USE OF THE RAM-EFFECT AND SHORT-TERM LUPIN FEEDING TO INCREASE OVULATION RATE IN MERINOS

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In southern Australia, the majority of Merino flocks are mated between late spring and early summer, using the ram-effect (Kleemann et al. 1989). The present study determined if feeding lupin grain for 14 days, commencing 6 days prior to the first peak of oestrus that occurs 18 days after teaser or ram introduction and ending at the second peak on day 25 (Pearce and Oldham 1984), increased ovulation rate and reproductive performance.

On each of 2 farms, 500 ewes were assigned at random to 2 equal sized groups and were isolated from rams for 4 weeks prior to the introduction of 2% teasers in November (day 0). Two weeks later, teasers were removed and 3–4% fertile rams joined for 6–8 weeks. Teasers and rams were fitted with harnesses and crayons to determine the number of ewes cycling prior to fertile ram introduction (except on Farm 2), the number of ewes mated between days 15 and 30 and the number of ewes that failed to conceive at their first oestrus. Ewes grazed an abundant supply of mature clover-grass pasture during mating. Lupin grain (500 g/ewe.day) was fed daily to 1 group on each farm, commencing on day 12 for 14 days. Ovulation rate was determined by laparoscopy in a random sample of 80 ewes chosen from each group on day 28.

Supplementation with lupin grain significantly increased ovulation rate ($P < 0.05$) and the numbers of lambs born ($P < 0.01$) and the number of lambs marked ($P < 0.001$) on both properties and the number of lambs marked ($P < 0.05$) on Farm A.

We conclude that feeding lupin grain for 2 weeks at a synchronised mating using the ram-effect improves reproductive performance in Merino flocks mated in late spring/early summer in southern Australia.


![Table 1. Reproductive performance of ewes in control and lupin-supplemented groups and ovulation rate at day 28 in a random sample from each group](image)