

EFFECT OF WHOLE COTTONSEED ON LACTATING MERINO EWES AND THEIR LAMBS

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Whole cottonseed (WCS) is a protein and energy source used for supplementing stock during drought (Leng 1986) and has become accepted as a practical alternative to cereal grain supplementation. However, there is little objective information available on the effect of WCS on productivity. This experiment examined the effect of WCS on ewe liveweight change, milk production and the growth rate of their lambs.

Two groups of 10 mature Merino ewes, pregnant to Merino sires, were chosen at random from a population stratified on live weight. Both groups were offered Mitchell grass (*Astebila* spp.) hay of 6% crude protein and 300 g/head/day of molasses fortified with 8% by weight urea, from day 130 of pregnancy (range 125-135). In addition, one of the groups was fed 400 g/head of WCS, daily. All ewes in the control and treatment groups lambed during a 28 day feeding period. Milk yield was estimated using the oxytocin method on day 25 (± 10 of lactation). The results are presented in Table 1.

Table 1 Performance of ewes and lambs after supplementation with whole cottonseed (WCS)

Group	Ewe live weight (kg)		Milk yield (ml/day)	Lamb growth rate (g/day)
	Initial	Change		
Hay + urea + molasses	52.2 (1.02)	-3.3 (1.34)	838 ^a (51.0)	139 ^a (17.1)
Hay + urea + molasses + 400 g/head/day WCS	52.2 (1.94)	-3.9 (1.03)	1122 ^b (105.7)	236 ^b (28.1)

Values in columns with different superscripts differ significantly ($P < 0.05$).
Values in parenthesis are $\pm$ s.e.

Ewe liveweight loss after lambing was similar in both groups. Ewes supplemented with WCS produced 33% more milk and their lambs grew 69% faster compared to unsupplemented sheep. This may reflect higher intakes of hay/WCS by supplemented ewes or the high crude protein (21%) and digestible energy content (14.0 MJ/kg) of WCS. The increased milk yield may also be a function of the high fat content of WCS which would allow more cottonseed protein to escape fermentation in the rumen (Leng 1986).

As the ewes were in fat condition (score 4) at the start of the experiment, the relatively high milk yields and lamb growth rates of both groups may not be indicative of ewes at pasture exposed to a low plane of nutrition during the last 6 weeks of pregnancy. In view of the magnitude of the response to WCS it may be possible to achieve significant production responses with lower levels of supplementation. This information would be of most relevance to sheep producers in close proximity to irrigated cotton areas in eastern Australia.

LBNG, R.A. (1986). "Drought Feeding Strategies - Theory and Practice". (Peel Valley Printery : Tamworth).

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