

WHOLE COTTONSEED ALONE, AND IN COMBINATION WITH COTTONSEED MEAL AS DROUGHT SUPPLEMENT FOR COWS

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Cattle grazing native tropical pastures are commonly supplemented with various agricultural industry byproducts. Cottonseed meal (CSM) is popular as a source of protein because of its low rate of ruminal degradation. Large quantities of whole cottonseed (WCS) have become available for stockfeed. Liveweight performance of cows drought fed on WCS is limited. The plant pigment, gossypol, contained in WCS can be toxic if fed in large quantities (Everist 1981). The high lipid content of WCS may depress fibre digestion of ruminants (Moore et al. 1986). The experiments reported evaluated the effectiveness of feeding WCS ad libitum to cows grazing dry, mature pastures and liveweight responses to the inclusion of CSM with a WCS supplement.

In experiment 1, 24 non-pregnant mature *Bos taurus* cows were randomly allocated to two groups. Both groups grazed *Phalaris tuberosa* pastures at 1 beast/0.4 ha and were rotated between paddocks weekly coinciding with fasted weighings. One group received daily feedings of WCS ad libitum and refusals were measured to determine intakes. At completion of experiment 1, the cows were reallocated into two groups for experiment 2. One group was fed 3 kg WCS (3.59% N) while the other received 2 kg WCS and 1 kg CSM (mean 4.47% N for mixed ration). Feeding methodology was similar to the first trial except stocking rate was reduced to 1 beast/1.25 ha.

The liveweight losses/gains of cows in each trial are shown in Table 1. WCS intakes in experiment 1 ranged between 2 kg/hd/d initially and rose to 5 kg/hd/d over the latter half of the trial.

Table 1 The liveweight losses of cows fed nil or ad lib WCS over a 49 day period (experiment 1) and liveweight gains of cows fed either 3 kg WCS or 2 kg WCS +1kg CSM over a 40 day period (experiment 2).

	Control	WCS	WCS+CSM	SEM*	P
Exp 1 Initial liveweight (kg)	517±18.5	515±17.2	-		
Liveweight change (kg/d)	-1.27	-0.58	-	0.108	<0.01
Exp 2 Initial liveweight (kg)	-	452±19.1	471±17.4		
Liveweight change (kg/d)		-0.003	0.530	0.178	<0.01

* Standard error of the difference between treatment means.

The results suggested that ad lib WCS supplementation will reduce liveweight loss of drought affected cows and will maintain those in poor condition. The inclusion of CSM with WCS is necessary to give higher weight gains.

EVERIST, S.L. (1981). "Poisonous Plants of Australia". p 151 (Angus and Robertson:Sydney).

MOORE, J.A., SWINGLE, R.S., and HALE, H.W. (1986). *J. Anim. Sci.* 63: 1267.

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