

A COMPARISON OF THREE RUMEN MODIFIERS ADDED TO A COTTONSEED MEAL SUPPLEMENT AND FED TO GROWING BEEF CATTLE

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Rumen modifiers are growth promoting feed additives with the potential to improve feed utilisation when added to various diets for cattle. This study compared the effect of adding either monensin, lasalocid or avoparcin to a cottonseed meal supplement. This augments previous studies in which avoparcin was demonstrated to boost performance when added to a protein supplement (Lindsay et al. 1988).

Ninety *Bos indicus* crossbred steers were randomly allocated to one of 15 paddocks with three replicates of five treatments. The treatments were: no supplement (NP); supplement alone (PP); PP plus 200 mg/d avoparcin (PP+AVP); PP plus 150 g/d of lasalocid (PP+LAS) and PP plus 100 mg/d of monensin (PP+MON). The cattle, stocked at 0.3 animals/ha, grazed unfertilized native pastures (predominantly *Heteropogon contortus*). The supplement was 30 g urea plus 500 g/d cottonseed meal (CSM) for 86 days in Year 1, 750 g CSM only for 147 days in Year 2 and 1000 g CSM only for 137 days in Year 3. The equivalent amount was fed twice per week (i.e. 3.5 days supply).

Table 1 Mean liveweight change over three seasons of the different treatments including standard errors of the mean (\pm s.e.m.)

	NP	Supplement treatment				s.e.m.
		PP	PP+AVP	PP+LAS	PP+MON	
Initial live weight (kg)	181	185	182	186	183	1.08
Final live weight (kg)	439 ^{a**}	472 ^b	480 ^b	480 ^b	479 ^b	7.05
Liveweight gain (kg/d)						
Dry 1	0.24 ^{a**}	0.36 ^b	0.45 ^b	0.41 ^b	0.37 ^b	0.03
Dry 2	-0.14 ^{a**}	0.06 ^b	0.02 ^b	0.05 ^b	0.08 ^b	0.02
Wet 2	0.58 ^{a*}	0.41 ^b	0.43 ^b	0.43 ^b	0.42 ^b	0.04
Dry 3	-0.08 ^{a**}	0.23 ^b	0.28 ^b	0.18 ^b	0.25 ^b	0.03

Means with dissimilar postscripts are significantly different ($P < 0.05 = *$; $P < 0.01 = **$)

Supplementation with cottonseed meal during the dry season in years 1, 2 and 3 significantly increased liveweight gain ($P < 0.05$). However, the response to feeding rumen modifiers was not significant (years 1 and 3) or nil (year 2). Wet season growth was similar for all treatments in year 1 (0.60 kg/d) and the NP controls gained significantly faster in the second wet season. These results indicate that supplementation with cottonseed meal during successive dry seasons will increase liveweight gain such that steers will be 30 kg heavier at 3 years of age. The addition of a rumen modifier at the levels chosen in this study did not significantly improve this weight advantage.

LINDSAY, J.A., KIDD, J.F., CERVONI, M.D., DODEMAIDE, W.R. and MULDER, J.C. (1988). Proc. Aust. Soc. Anim. Prod. 17: 430.

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