

Monensin and Implants for Steers Grazing Native Range¹

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Story in Brief

Two trials were conducted to determine the effect of monensin and implants on weight gains of stocker steers grazing native tallgrass range. Monensin was fed at 0 or 200 mg per animal daily. Within each monensin level, steers were administered no implant, DES or Ralgro in the winter trial and no implant or DES in summer trial. Monensin decreased daily gain .12 lb on dry grass in winter and increased gain .16 lb on summer pasture. Implanting with DES improved daily gain .13 lb and .21 lb in winter and summer, respectively. Ralgro was of little or no benefit. In the summer trial, gain promoting effects of monensin and DES were additive.

Introduction

Monensin (Rumensin²) and implants are compounds that increase weight gains of growing cattle on good forage. Little information is available about monensin for stockers on dry grass. Also, limited research has been done with growing cattle treated with combinations of monensin and implants. These trials were conducted to study the separate and combined effects of monensin and implants on weight gains of stocker steers grazing native range.

Experimental Procedure

Two trials, one in winter and the other in summer, were conducted with one set of yearling steers. The cattle were allotted on arrival at the ranch to two separate pastures and group-fed supplement containing 0 or 200 mg monensin per animal. Within each monensin level cattle received no implant, 30 mg diethylstilbestrol (DES)³ or 36 mg zeranol (Ralgro)⁴ in winter and no implant or 30 mg DES in summer.

During the 118-day winter trial (November 30, 1978, to March 28, 1979) steers were fed 3 lb per head daily of a 20 percent crude protein supplement. In the 95-day summer trial (June 15, 1979, to September 18, 1979) they received 5 lb of a 12 percent crude protein supplement. Implants were administered on two occasions, on the first and last days of the winter trial.

¹ Appreciation is expressed to Nick Robson, Catoosa, Oklahoma, for providing cattle and pastures used in these studies.

² Elanco, Eli Lilly and Company.

³ DES is not presently approved by FDA for use in food animals.

⁴ International Minerals and Chemical Corporation.

During both trials cattle grazed native tallgrass range at a stocking rate of about 5 acres per steer. Groups were rotated between the two pastures once during each trial. Individual initial and final weights were obtained following overnight withdrawal from feed and water with one exception — final weights in the summer trial were taken immediately after cattle were gathered from pasture in the morning.

Results and Discussion

In the winter trial (Table 1) monensin reduced average daily gain .12 lb. One explanation for this response is that monensin could have suppressed forage intake, negating any beneficial effect on VFA production or digestibility. Lemenager *et al.* (1978) reported that 200 mg monensin reduced intake of dry grass 19.6 percent in

Table 1. Monensin and implants for steers on native range in winter.

	No monensin			Monensin		
	No implant	DES	Ralgro	No implant	DES	Ralgro
No. steers	27	28	27	32	32	34
Initial wt, lb	470	479	488	507	504	502
Daily gain, lb	.18 ^{bc}	.28 ^c	.22 ^c	.04 ^a	.21 ^c	.08 ^{ab}
		No monensin		Monensin		
No. steers		82		98		
Daily gain, lb		.23 ^a		.11 ^b		
		No implant		DES	Ralgro	
No. steers		59		60	61	
Daily gain, lb		.11 ^a		.24 ^b	.15 ^a	

^{abc}Means without a common superscript differ significantly ($P < .05$).

Table 2. Monensin and implants for steers on native range in summer.

	No monensin		Monensin		
	No implant	DES	No implant	DES	
No steers	31	32	26	26	
Initial wt, lb	660	675	651	689	
Daily gain, lb	1.79 ^a	1.98 ^{ab}	1.89 ^a	2.13 ^b	
		No monensin		Monensin	
No. steers		95		79	
Daily gain, lb		1.84 ^a		2.00 ^b	
		No implant		DES	
No. steers		57		58	
Daily gain, lb		1.84 ^a		2.05 ^b	

^{ab}Means without a common superscript differ significantly ($P < .05$).

mature cows and 15.6 percent in mature steers. It is possible that 200 mg exceed the optimum level of monensin for cattle consuming relatively small amounts of low quality forage.

DES increased daily gain in winter, while Ralgro had little or no effect (Table 1). Gains of steers on all treatments were low due to unusually harsh weather. Snow and ice were present about 45 days during the trial, making it necessary to supplement grass with native hay during that time.

In the summer trial (Table 2) monensin increased average daily gain .16 lb. This response is consistent with results of numerous other studies with growing cattle on good forage. Despite the fact that the cattle were last implanted 174 days before the end of the trial, DES improved summer gain .21 per day. Data indicate in the summer trial the effects of feeding monensin and implanting with DES were additive.

Literature Cited

Lemanger, R.P. 1978. Okla. Agr. Exp. Sta. MP-103:15.
