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The Effect of Avoparcin² on the Performance of Grazing Steers

S**U**L.R. Corah, W.D. Busby and Jack Riley¹

Summary

One hundred two steers were used to study the effect of Avoparcin on the performance of grazing steers. Four desired dosages -- 0, 200, 400, and 600 mg/head/day -- were compared in a self-fed mineral mix. Feeding Avoparcin at the desired level of 400 mg/head/day increased steer gains by 22%.

Introduction

Avoparcin has already been shown to improve the rate of gain and feed efficiency of feedlot cattle. However, our trial was conducted to determine the optimum dosage and efficacy of Avoparcin with grazing steers.

Experimental Procedure

One hundred two head of yearling Hereford steers averaging 499.5 lb and from a uniform genetic and nutritional background were started on prairie hay and a base mineral mix that was 50% dicalcium phosphate, 25% salt, 10% monosodium phosphate, 7% limestone, 2% trace minerals, 1% magnesium oxide, and 5% wet molasses. At the start of the trial, all steers were weighed after 15 hours off feed and water and allotted by weight to 0, 200, 400, or 600 mg of Avoparcin/head/day. The pastures were predominantly bromegrass. Each treatment was replicated in four pastures. Animals were rotated among pastures to remove effects of pastures and stocking rates. Due to lack of rainfall, some steers were grazed only 74 days. Others grazed 93 days. However, this difference was balanced between treatments. All steers received 1.0 lb of a grain cube daily.

The mineral mix (Table 24.1) was fed ad lib in wind-vane mineral feeders. On day 70, the Avoparcin was diluted further as mineral consumption was increasing.

Individual daily gains were statistically analyzed by analysis of variance.

Results and Discussion

The average daily mineral and actual Avoparcin intakes are shown in Table 24.2.

¹Appreciation is expressed to the American Cyanamid Co. for partial funding support.

²Avoparcin is not currently cleared by the FDA for use in cattle.

The desired level of Avoparcin for finishing cattle is 400 mg/head/day. Feeding Avoparcin to grass cattle at that level increased average daily gain by 22% over controls ($P < 0.05$). There was no significant difference in average daily gain among the three Avoparcin levels.

Avoparcin is currently not cleared for use in the cattle industry.

Table 24.1. Mineral Mix

	Avoparcin treatment level			
	Control	200 mg	400 mg	600 mg
<u>Day 0 to 70</u>				
Avoparcin, %	0	5.5	10.4	14.8
Base Mix, %	100	94.5	89.6	85.2
<u>Day 70 to 93</u>				
Avoparcin, %	0	3.7	7.2	10.4
Base Mix	100	96.3	92.8	89.6

Table 24.2. Effect of Avoparcin on Steer Performance

Item	Nominal Avoparcin intake			
	Control	200 mg	400 mg	600 mg
No. of pastures	4	4	4	4
No. of steers	25	25	24	24
Avg. Weekly Mineral Consumption (gm/head/day)	81.5	63.4	60.5	62.9
Avg. Daily Avoparcin Intake (mg/head/day)	0	223	401	594
ADG, lb	1.68 ^a	1.90 ^{ab}	2.05 ^b	1.91 ^b

^{ab} Means with different superscripts are significantly different at ($P < .05$).