A COMPARISON OF LASALOCID AND SALINOMYCIN IN FEEDLOT STEERS

C.A. Strasia[1], C.E. James[2], D.M. Lucas[3], F.N. Owens[4]
D.R. Gill[4] and D.L. Marr[5]

Story In Brief

Eight hundred fifty eight Louisiana crossbred steers were divided into three weight groups and fed a popped milo feedlot ration with either Lasalocid (30 g/ton) or Salinomycin (10 g/ton). Average daily feed consumption was significantly greater (4.4% or .89 pounds/hd/d) with Salinomycin. Average daily gain at 65 days was 4% greater with Salinomycin while feed conversion was similar with the two ionophores. Final daily gain was 4.6% greater with Salinomycin while efficiency favored cattle fed Salinomycin by 3.1% and 2.5% on the light and medium weight blocks. Final live weights also favored animals fed Salinomycin. The greatest difference occurred in the heavy steer group where the pens receiving Salinomycin were marketed three weeks ahead of the pen of animals fed Lasalocid. Liver abscess incidence (14.4% to 54.0%) reflected typical industry levels without dietary antibiotics and was not altered by the ionophore source.

(Key Words: Lasalocid, Salinomycin, Popped Milo, Steers)

Introduction

Salinomycin has been fed to beef animals only in research trials. The ionophore has been fed with whole shelled, rolled and cracked corn, steam flaked corn or milo, high moisture corn and corn silage, but it has not been fed with popped milo. Previous data from Gill et al. (1984), Martin et al. (1984), Hicks et al. (1985) and Strasia and Jordan (1985) indicate that processing method, roughage type, percent roughage in the ration or grain combinations can influence the efficacy of ionophores.

Materials and Methods

Eight hundred fifty eight Louisiana crossbred steers which had been on native grass pasture near Clayton, New Mexico for approximately 75 days, were trucked to the Clayton Cattle Feeders lot. Some arrived at the feedlot December 12, 1984 and the remainder arrived January 7, 1985. On arrival, all steers received routine feedlot vaccinations, ear tags and a Synovex-S implant. A second Synovex-S implant was administered 65 days later.

Initial average pen weights for the 6 pens were respectively: light block, 529 and 536 pounds; medium block, 576 and 586 pounds; and heavy block, 625 and 644 pounds. These pens were randomly assigned to

[1]Area Extension Livestock Specialist, Guymon, OK [2]Manager, Clayton Cattle Feeders, Clayton, NM [3]Manager, Ruminant Field Research Section, A.H. Robins Co., Richmond, VA [4]Professor [5]DVM, USDA/FSIS, Guymon

treatment for this study. The calculated composition of the finishing diet was: NEm = 80 Mcal/cwt; NEg = 50 Mcal/cwt; crude protein = 11.7%; calcium = .55%; phosphorus = .35%; potassium = .6%; salt = .4%; and either Lasalocid at 30 g/ton or Salinomycin at 10 g/ton. Animals were gradually switched from the starting diet (45% roughage) to the finishing diet (20% roughage). Each entire pen of cattle was weighed initially, at 65 days and upon termination of the study. A 4% pencil shrink was applied to calculate shrunk weights and shrunk weight gains.

When cattle reached 1000-1050 pounds shrunk, the pens were marketed by the standard feedlot practice. The study had three pens per treatment, one of each weight group. When a pen of animals was sold, the pen with matching weight was weighed off test. Hence, days on test were identical for corresponding treatments but total days prior to slaughter differed. Liver abscess data were obtained with the cooperation of USDA/FSIS veterinarians. Treatments were compared on a pen mean basis by Analysis of Variance.

Results and Discussion

Daily feed intake were summarized monthly and for each ten day feeding period, (Table 1). Feed consumption was 4.4% higher ($P<.05$) for the Salinomycin treatment. However, in the lighter weight replicate, animals receiving Lasalocid consumed .7% (.14 lb/hd/d) more feed. This Salinomycin pen of cattle suffered from respiratory infections which resulted in the death of two animals during the first two weeks of the study. Consumption decreased markedly during the 2-10-85 to 2-20-85 period, possibly due to sub-zero temperatures during this time span.

Daily gain to 65 days was higher with Lasalocid in the light replication (.19 lb//hd/d) but lower (.24 lb and .46 lb) in the heavier weight groups, respectively. The feed efficiencies at 65 days were identical with the two ionophores (Table 3).

Pens of cattle which received Salinomycin reached acceptable slaughter weight more quickly than the pens which received Lasalocid (Tables 2 and 3). At termination of the study, gains favored Salinomycin pens (Table 3). Feed efficiency was superior for Salinomycin in the light and medium group (Table 2), but for the heavy cattle, despite 7.6% slower gain, cattle fed Lasalocid were 5.9% more efficient. Although

Table 1. Monthly feed consumption.

Weight Group	Lasalocid			Salinomycin		
	Light	Medium	Heavy	Light	Medium	Heavy
Month:						
December[a]	18.37	19.86		17.77	19.75	
January	19.16[a]	19.28[a]	20.78	19.53[a]	20.94[a]	23.37
February	18.84	18.67	20.32	17.57	18.42	21.99
March	20.44	19.98	19.93	20.01	21.51	23.19
April	21.66	20.45	20.36	21.45	22.08	23.17
May	21.56	21.62	20.26	21.11	21.52	21.64
June	20.21	20.96		19.78	20.61	

[a]Reflects starting dates of 12-12-84 and 1-7-85.

Table 2. Gains, efficiencies and liver abscess data.

Weight Group	Lasalocid			Salinomycin		
	Light	Medium	Heavy	Light	Medium	Heavy
Number steers	207	102	124	198	102	125
Initial wt, lb	529	586	625	536	576	644
65 day ADG, lb	2.66	2.58	2.46	2.47	2.82	2.92
65 day feed/gain	7.14	7.57	7.77	7.50	7.19	7.50
Days fed	206	198	155	206	198	155
Final gain, lb	505	472	349	517	489	376
Final wt, lb	1034	1058	974	1053	1065	1020
Final ADG	2.45	2.32	2.25	2.51	2.47	2.42
Final ADF	20.03	19.95	19.96	19.89	20.68	22.61
Final feed/gain	8.17	8.60	8.88	7.92	8.39	9.32
Liver abscesses, %	53.8	44.6	26.8	54.0	52.9	14.4

[a]All weights are reported after a 4% pencil shrink and feed data is "as fed".

Table 3. Ionophore comparisons[a].

	Lasalocid	Salinomycin
Number steers	433	425
Days fed	190	190
Initial wt, lb	570	577
Final wt, lb	1022	1046
Final gain, lb	453	469
65 day ADG, lb	2.53	2.63
Final ADG, lb	2.36	2.47
Mean feed intake, lb	19.99	20.88
65 day feed/gain	7.42	7.42
Final feed/gain	8.47	8.44
Liver abscesses, %	43.9	41.31

[a].All weights are reported after a 4% pencil shrink and feed data is "as fed".

the Salinomycin pen was ready for slaughter in early May, no bids were tendered until June. Feed consumption by these animals began its decline in May.

The liver abscess incidence is similar to current industry average for cattle on feed for a long time which have not received an antibiotic in their feed. Condemnations due to flukes averaged 6%. This is high considering that these cattle came from the Southeastern U.S. Ionophore had no significant impact on liver abscess incidence.

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