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L. Corah

S. O'Neill

Jack G. Riley

See next page for additional authors

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Effect of Aureomycin®, injectable Tramisol® and Ectrin® fly control ear tags on grazing steer performance

Abstract

Steers consuming a free choice mineral mix containing Aureomycin (437 mg per hd per day) gained 15.3% faster than controls during a 129 day grazing trial on brome grass pasture. There was considerable variation in daily mineral intake and daily Aureomycin consumption among the 12 pasture replicates. Worming the locally produced steers with Tramisol resulted in a small but non-significant improvement in gain. Two Ectrin fly control ear tags per steer (three pastures within each mineral treatment for the final 61 days of the trial) resulted in a 0.25 lb daily gain increase. Average horn fly counts for tagged steers was <1 vs. 60 for non-tagged>steers.

Keywords

Cattlemen's Day, 1983; Report of progress (Kansas State University. Agricultural Experiment Station); 427; Beef; Fly tags; Performance; Steer

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Authors

L. Corah, S. O'Neill, Jack G. Riley, and Ronald V. Pope

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Effect of Aureomycin[®], Injectable Tramisol^{®1}
and Ectrin^{®2} Fly Control Ear Tags
on Grazing Steer Performance

Larry Corah, Jack Riley, Stan O'Neill
and Ron Pope

Summary

Steers consuming a free choice mineral mix containing Aureomycin (437 mg per hd per day) gained 15.3% faster than controls during a 129 day grazing trial on brome grass pasture. There was considerable variation in daily mineral intake and daily Aureomycin consumption among the 12 pasture replicates. Worming the locally produced steers with Tramisol resulted in a small but non-significant improvement in gain. Two Ectrin fly control ear tags per steer (three pastures within each mineral treatment for the final 61 days of the trial) resulted in a 0.25 lb daily gain increase. Average horn fly counts for tagged steers was <1 vs. 60 for non-tagged steers.

Introduction

Although Aureomycin has been studied extensively in growing and finishing feedlot cattle, only limited data is available for grazing animals. The purpose of this trial was to determine the effect of Aureomycin (fed in a free choice mineral-salt mix), worming (Tramisol) and fly control tags (Ectrin) on the performance of grazing yearling steers.

Procedure

We took individual shrunk weights of 80 locally produced yearling Hereford and Hereford x Angus steers at the beginning of the 129 day grazing trial (April 9 to August 18, 1982). Steers were allotted to 12 pasture replicates by weight with six pasture groups being fed a free choice non-medicated salt-mineral mix and the other six, the same salt-mineral mix plus Aureomycin to provide a desired intake of approximately 350 mg of antibiotic per head per day. Composition of the mineral mixes are shown in Table 38.1. Half of the steers in each pasture were dewormed with injectable Tramisol prior to going to pasture. Steers in 3 pasture replicates for each mineral treatment were given two individual Ectrin fly control ear tags.

¹Aureomycin and Tramisol are trademark names for products produced by American Cyanamid Co., Princeton, N.J., which provided Aureomycin, Tramisol and partial financial assistance.

²Ectrin is the trademark name for fenvalerate fly control tags produced by Diamond Shamrock Co., Cleveland, Oh., which provided Ectrin tags for the study.

Mineral mix intake was monitored each week and pastures were rotated regularly to reduce pasture effects. Daily observations were made for incidence of disease and horn fly counts were taken 5 times during the final 61 days of the trial. The 68-day interim non-shrunk weights were adjusted by 6% and the final weights by 4% to compensate for fill.

Results

Table 38.2 shows the average mineral and Aureomycin intake. There was considerable variation in mineral and Aureomycin intake within each treatment and among pastures. Aureomycin intake for the trial averaged 437 mg per steer per day. Daily mineral intake was not affected by the presence of Aureomycin.

During the 129 day grazing period, Aureomycin-fed steers gained 36 pounds, (15.3%) more than their counterparts (Table 38.3), even though the level of gain was much poorer during the final 61 days than the first 68 days. Deworming with injectable Tramisol prior to going to pasture resulted in a small but non-significant gain increase as shown in Table 38.4.

Two Ectrin fly control ear tags per steer during the last 61 days of the trial increased daily gain by 0.25 lbs per steer (Table 38.5), and decreased horn fly counts from 60 per steer to less than one.

Table 38.1. Composition of Free Choice Mineral Mix Used in Grazing Trial.

Date fed	Treatment	
	Aureomycin	Control
April 9 - June 11	217½ lbs salt	250 lbs salt
	217½ lbs dical	250 lbs dical
	40 lbs Aureo 50	
	25 lbs SBOM	
June 11 - August 18	230 lbs salt	250 salt
	230 lbs dical	250 lbs dical
	25 lbs Aureo 50	
	15 lbs SBOM	

Table 38.2. Aureomycin and Mineral Intake for Grazing Steers

Pasture treatment:	Medicated	Non-medicated
Aureomycin intake, mg/steer/day:		
1st 68 days	552	0
2nd 61 days	312	0
Total 129 days	437	0
Mineral intake, lb/steer/day:		
1st 68 days	0.14	0.13
2nd 61 days	0.12	0.10
Total 129 days	0.13	0.11

Table 38.3. Effect of Aureomycin on Gain of Grazing Steers

	No Aureomycin	Aureomycin
No. steers	40	40
Initial shrunk wt., lb	525.8	527.0
Interim 68 day adjusted wt., lb ¹	676.8	699.9
Final adjusted wt., lb ¹	753.7	789.6
ADG, 1st 68 days	2.22	2.54 (P=.02)
ADG, 2nd 61 days	1.26	1.47 (P<.001)
ADG, total 129 days	1.77	2.04 (P<.001)

¹Interim individual weights were adjusted by 6% and final individual weights by 4% to compensate for fill.

Table 38.4. Effect of Tramisol on Gain of Grazing Steers

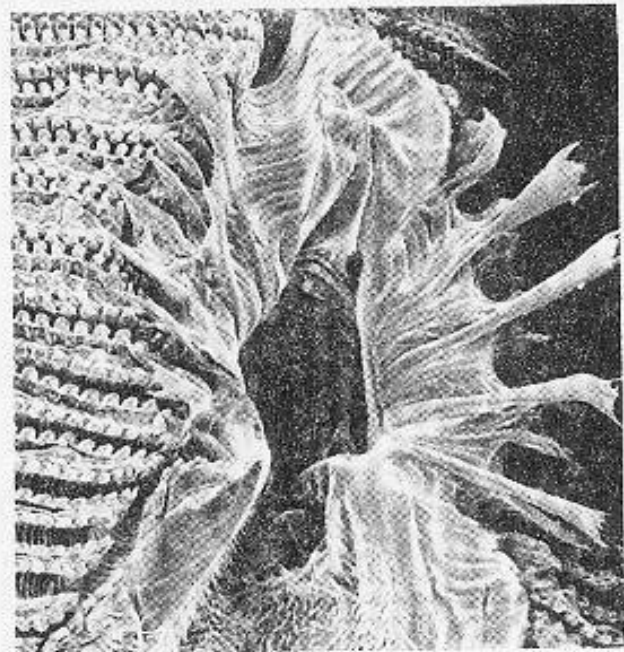
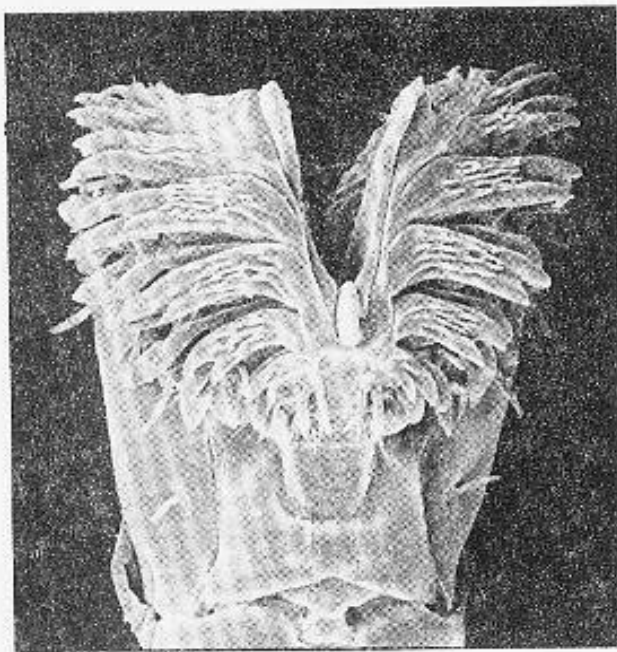
	No Tramisol	Tramisol
No. steers	41	39
Initial shrunk wt., lb	534.0	519.0
Interim 68 day adjusted wt., lb ¹	692.1	684.7
Final adjusted wt., lb ¹	773.8	769.5
ADG, 1st 68 days	2.33	2.44 (P=.41)
ADG, 2nd 61 days	1.34	1.39 (P=.78)
ADG, total 129 days	1.86	1.94 (P=.44)

¹Interim individual weights were adjusted by 6% and final individual weights by 4% to compensate for fill.

Table 38.5. Effect of Ectrin Fly Control Ear Tags on Gain of Grazing Steers During Late Summer

	No Ectrin tags	2 Ectrin tags
No. steers	38	42
Interim adjusted wt., lb ¹	692.1	684.9
Final adjusted wt., lb ²	767.6	775.8
Gain, lb	75.53	90.9
ADG, 61 days	1.24	1.49 (P<.001)
Horn flies/steer, (avg. 5 counts)	60	<1

¹Interim individual weights were adjusted by 6% and final individual weights by 4% to compensate for fill.



These are photographs taken with a scanning electron microscope of the mouthparts of the hornfly (left) and the face fly (right). Horn flies use their "teeth" to penetrate an animal's skin and suck blood -- up to 38 times a day. Face flies feed on tears, so they make the eyes of cattle water by using their "teeth" to irritate the sensitive membranes around the eye.