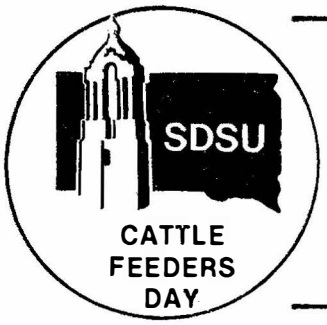
1983

Lasalocid Supplementation for Grazing Steers

L. B. Embry
South Dakota State University

M. J. Goetz

R. M. Luther



LASALOCID SUPPLEMENTATION FOR GRAZING STEERS

L. B. Embry, M. J. Goetz and R. M. Luther

Department of Animal and Range Sciences

CATTLE 83-1

Summary

Lasalocid was fed at 0, 100, 200 and 300 mg daily in two grazing experiments with steers from late May to mid-October for 141 and 142 days. Sixteen steers per treatment group were used in each experiment and fed 2 lb per head daily of a corn supplement with the test levels of lasalocid.

Average responses in average daily gain for the two experiments were 106, 112 and 120% of controls for 100, 200 and 300-mg daily of lasalocid. These results indicate the 300 mg level to be more effective than the lower levels. Grazing conditions during the two experiments appeared to indicate more benefit from the higher level of supplementation with improvement in available forage.

Introduction

Management systems for pastures and for the grazing animals can be major factors in the amount and efficiency of production. Several nutritive and nonnutritive products have been reported to improve utilization of pasture forages and animal performance. Improvement in rate and efficiency of production can be of considerable economic benefit. The importance becomes greater with increasing costs of crop and livestock production.

Lasalocid sodium (Bovatec) is a feed additive shown to improve growth rate and feed efficiency of cattle in the feedlot and on pasture. Two experiments were conducted to test the product when fed at 100, 200 or 300 mg per head daily in a corn supplement to steers grazing predominately bromegrass pasture.

Procedures

Pasture and Treatments

The pasture used in the experiments had been established for several years with a stand of about 50% alfalfa initially. However, there has been a reduction in the amount of alfalfa over years, and the available forage was largely bromegrass during the 2 years of these experiments.

Supplemental treatments to pasture grazing were as follows:

1. Corn grain (nonmedicated control)
2. Corn grain with 100 mg lasalocid per head daily
3. Corn grain with 200 mg lasalocid per head daily
4. Corn grain with 300 mg lasalocid per head daily

The corn grain was ground, mixed with the appropriate level of lasalocid and hand-fed in feed bunks daily at 2 lb per head. Supplements were pelleted for the first experiment but fed as meal in the second. Trace mineral salt and dicalcium phosphate were offered free access. Well water was provided to each pasture paddock through on-ground lines to watering tanks.

The pasture area was divided into four strips with each strip subdivided into four paddocks of approximately 4 acres. The rows served as replications with each treatment assigned to one of the paddocks in each row to give uniform distribution over the pasture area. To further minimize pasture differences, the cattle were rotated within rows (replications) following each 4-week weighing. The rotation system was such that the supplemental treatment stayed with the cattle as they were rotated to a new paddock each 4-week period. Grazing was continuous for all paddocks throughout each experiment.

Experimental Animals

Sixty-four Hereford and Hereford crossbred steers were purchased for experiment 1. Sixty-four Angus and Angus-Hereford steers were used in experiment 2. Each year the steers were individually identified with ear tags, injected with Clostridium chauvoei-septicum-novyi-sordelli bacterin and given a Warbex pour-on treatment for control of external parasites. Insecticide-impregnated ear tags were used for control of horn flies. The steers received no growth stimulating implants.

For each experiment, the steers were allotted into 16 similar groups of 4 steers each on basis of weight and breed group. Assignment to pasture treatments and replications was at random. Period of grazing was from May 28 to October 16 for 141 days in experiment 1. In experiment 2, the grazing period was from May 26 to October 15 for 142 days.

Results

Results for weight gain data are shown for each experiment and averaged for the two (table 1). Since supplements were fed at a constant level of 2 lb per head daily in all paddocks, feed efficiency for supplement and pasture days would reflect rate of gain and is not presented.

TABLE 1. LASALOCID SUPPLEMENTATION FOR GRAZING STEERS

Item	Control	Lasalocid, mg/day 100	200	300
Number[a]	32	32	32	32
Initial wt, lb				
Exp. 1	642	641	642	639
Exp. 2	689	687	689	688
Avg	666	664	666	664
Final wt, lb				
Exp. 1	804	831	838	838
Exp. 2	878	868	886	909
Avg	841	850	862	874
Avg daily gain, lb				
Exp. 1	1.15	1.35	1.39	1.42
Exp. 2	1.33	1.28	1.39	1.56
Avg	1.24	1.32	1.39	1.49
Percent of control		106	112	120

[a] Sixteen steers per treatment group in each of two experiments:
Exp. 1: May 28 to October 16, 1981 - 141 days.
Exp. 2: May 26 to October 15, 1982 - 142 days.

There was a misunderstanding in the rotation procedures for the second month of experiment 1. As a result, the cattle were returned to the original paddocks, but the supplement treatments were rotated as scheduled. This resulted in the level of lasalocid being reduced by 100 mg daily for the 100-, 200- and 300-mg treatment levels and the cattle in each control paddock received the 300-mg level for the second month of the experiment. Since the cattle were supplemented properly for four of the five 4-week periods, any effects from the second period were believed to be minimal.

Available forage was short for a major part of the pasture season in experiment 1 because of a low amount of rain. The amount of rain during experiment 2 was above average and there was a surplus of available forage for the four steers in each paddock. All paddocks were clipped in mid-August during experiment 2 at about 10 in. to remove bromegrass seed stalks.

Rates of gain shown in table 1 appear rather typical in comparison to past studies on this pasture area over a season from late May to mid-October at this level of grain supplementation and for nonimplanted cattle. Rate of gain was reduced markedly during the last period from around mid-September to mid-October. This occurred in experiment 2 where there was a surplus of forage as well as in experiment 1 under a more limited supply of forage. No supplemental protein was fed during this period, but it likely would have been beneficial. The reduction in gain during this latter period did not appear to have any appreciable effect on the comparative responses to the treatment levels of lasalocid.

The main differences in animal performance between the two experiments were higher rates of gain for the control and the 300-mg lasalocid groups in experiment 2. The more favorable pasture conditions would appear to offer a logical explanation for the better performance for the control group.

Optimum levels of products such as lasalocid which alter fermentation in the rumen likely increase with increasing levels of feed intake. More limited availability of forage in experiment 1 might then be an important factor in the small differences in degree of response to increasing levels of lasalocid from 100 to 300 mg daily. A liberal supply of forage in experiment 2 might then explain the better response to the 300-mg level of lasalocid.

Averaged for the two experiments, there was an increase in daily gain with increasing levels of lasalocid. In comparison to the control, the improvements in weight gain were 106, 112 and 120% for the 100, 200 and 300-mg levels.