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EFFECT OF DECCOX¹ AND AUREOMYCIN² ON PERFORMANCE OF FEEDLOT STEERS DURING THE RECEIVING PERIOD

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Summary

One-hundred thirty Angus steer calves (492 lb) were utilized in a study to determine the effect of feeding Deccox, Aureomycin or a combination of Deccox and Aureomycin on feedlot performance during the feedlot receiving period (29 days). All cattle were fed diets consisting of 50% concentrate on a dry matter basis. No clinical symptoms of respiratory illness or coccidiosis were observed for any of the cattle in this study. There were no significant differences in average daily dry matter intake due to medication treatment. Feeding Deccox improved ($P = .0161$) average daily gain about 10.9%. Feeding Aureomycin tended to improve ($P = .0771$) average daily gain. These data support the use of Deccox in feedlot receiving programs even in the absence of clinical coccidiosis.

(Key Words: Receiving Programs, Deccox, Aureomycin, Feedlot.)

Introduction

The first month in the feedlot is an extremely critical time for recently weaned calves. Performance during the first month on feed is highly related to performance throughout the entire feeding period. In order to reduce the stresses associated with starting new cattle, many producers use antibiotics such as Aureomycin in their receiving diets. Deccox is also often included in the receiving diet to control coccidiosis in newly arrived feedlot cattle.

The objective of this experiment was to determine the effect of Deccox and Aureomycin, fed either singly or in combination, on feedlot performance of newly weaned calves during the feedlot receiving period.

Materials and Methods

One-hundred thirty Angus steers were purchased in western South Dakota and transported 400 miles to the Southeast South Dakota Experiment Farm near Beresford. Upon arrival cattle were allowed access to long stem grass hay and water overnight. For the next 5 days cattle were fed ad libitum amounts of long stem grass hay and increasing amounts of a 50% concentrate receiving diet (Table 1) starting with 1.7 lb of dry matter on day 1 and ending with 7.7 lb dry matter on day 5.

After 5 days in the feedlot, feed and water were withheld from the cattle overnight (16 hours). Cattle were then individually weighed, implanted with Ralgro⁵, vaccinated for IBR, BVD, PI₃, BRSV, injected with 7-way clostridial bacterin and treated for parasites using Ivomec⁶. Cattle were then randomly assigned to eight pens, six pens of 16 head and two pens of 17 head.

Starting on day 6, cattle were offered ad libitum amounts of the receiving diet (Table 1) fed once daily. Two pens of cattle received no medicated feed additive, two pens received Deccox at a rate of .114 grams of active ingredient (decoquinat) per head and two pens received 2 grams of Aureomycin (active ingredient chlortetracycline) per head for 1 week and 1 gram per head for the rest of the trial. The two remaining pens received .114 grams per head of decoquinat and 2 grams per head of Aureomycin for the first week and 1 gram per head for the rest of the trial. All Deccox and Aureomycin used in the experiment was fed as a top dress. Total trial period was 29 days (6 to 34 in the feedlot).

¹Deccox is a product of Rhone-Poulenc, Inc., Atlanta, GA.

²Aureomycin is a product of American Cyanamid, Inc., Wayne, NJ.

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⁵Product of IMC-Pitman-Moore, Terre Haute, IN.

⁶Product of MSDAGVET, Merck and Co., Inc., Rahway, NJ.

TABLE 1. RECEIVING DIET FED STEER CALVES

Ingredient	Level ^a
Alfalfa-grass hay, %	12.50
Corn silage, %	37.50
Rolled corn, %	17.44
Ground high moisture corn, %	17.44
Supplement, %	15.12
<u>Nutrient composition^b</u>	
Net energy for maintenance, Mcal/cwt	80.50
Net energy for gain, Mcal/cwt	52.40
Crude protein, %	14.00
Calcium, %	.67
Phosphorus, %	.45
Vitamin A, IU/lb	2000

^a Dry matter basis.

^b Tabular values.

Data were analyzed as a completely randomized design with a factorial arrangement of treatments. Experimental units were individual steers for average daily gain data and pen means for dry matter intake and feed/gain data.

Results and Discussion

Performance of cattle is displayed in Table 2. Daily dry matter intake averaged 14.35 lb per head and was similar for all treatments. Average daily gain was improved 10.9% by providing Deccox (3.55 vs 3.20 lb/ per head per day). Daily gains tended ($P = .0771$) to be greater for cattle fed Aureomycin (3.50 vs 3.24 lb per head per day).

Interactions between the Deccox and Aureomycin treatments were not significant ($P = .4661$), indicating that cattle responded to Deccox or Aureomycin independent of whether the other additive was present in the diet or not. Cattle fed the combination of Deccox and Aureomycin achieved 19.6 and 14.1%

faster rates of gain ($P < .05$) than cattle fed no feed additive or only Aureomycin, respectively (3.73 vs 3.12 and 3.27 lb per head per day). Cattle fed the combination of Deccox and Aureomycin tended to gain ($P = .0780$) more rapidly than cattle fed only Deccox (3.73 vs 3.37 lb per head per day).

The differences in feed/gain are not statistically significant. Feed intake and efficiency data were analyzed on a pen mean basis. Only two pens of cattle per treatment combination were utilized in the study, limiting the ability to detect statistical differences in feed efficiency.

These data support the use of Deccox in feedlot receiving programs, even though no symptoms of clinical coccidiosis were observed during this study. No symptoms of respiratory disease were observed during this study, either. Aureomycin feeding tended to improve performance, although this response was not as consistent as what was observed for Deccox.

TABLE 2. PERFORMANCE OF STEER CALVES, DAY 6-34 IN THE FEEDLOT

Item	Main effects				Treatment combinations			
	Deccox		Aureomycin		Control	Deccox	Aureomycin	Deccox + Aureomycin
	o	+	o	+				
Numbers of steers	65	65	65	65	32	32	32	32
Initial wt., lb	493	491	493	491	493	494	493	488
ADG, lb/head/day ^a	3.20	3.55	3.24	3.50	3.12 ^b	3.37 ^{bc}	3.27 ^b	3.73 ^c
DMI, lb/head/day	14.35	14.34	14.36	14.33	14.29	14.42	14.42	14.25
Feed/gain	4.57	4.22	4.58	4.21	4.71	4.44	4.42	3.99

^a Deccox effect, P = .0161; Aureomycin effect, P = .0771.

^{b,c} Means in same row with unlike superscripts differ (P<.05).