EFFECT OF ALBENDAZOLE ON PERFORMANCE OF BEEF COWS AND THEIR CALVES IN EASTERN OKLAHOMA

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Story in Brief

Two groups of individually identified cows and their calves were vaccinated for Blackleg, weighed and divided into replicated control or treatment groups. Treated cows and their calves were dosed with Valbazen (10 mg albendazole/kg body weight). Fecal samples were collected from 15 percent of all cattle at initial treatment and 7 days later. Fecal samples indicated a 55 percent internal parasite infestation rate. Upon completion of the 109-day trial, treatment with albendazole had increased cow weight gain by 35 lb (11 vs 46) and increased body condition score by .36 units (.07 vs .43) compared to control cows. Treated calves gained 19 lb (150 vs 169) more than control calves. This study indicates that treatment of parasitized cow/calf pairs will result in an economic weight gain by nursing calves.

(Key Words: Beef Cattle, Parasites, Anthelmintics, Deworm).

Introduction

Cattle producers in eastern Oklahoma are predominantly cow/calf operators. Cattle in this part of the state are at high risk of internal parasite infection. Mid-summer deworming of cows and their calves resulted in a 21 lb improvement in calf weaning weight and improved cow body condition scores in southeast Oklahoma (Smith et al., 1987). Another study demonstrated improved calf gains of 24 lb when cows and their calves received a mid-summer deworming after a routine spring treatment (Smith et al., 1991). Studies involving dewormed newly received stocker cattle in Oklahoma resulted in improved gains of 5.5-15.7% (Gill et al., 1986), 28.2% and 31.3% (Hicks et al., 1986). Demonstrated improvements in the rate of gain of stocker cattle and nursing calves and body condition scores in beef cows have a significant effect on stocker and cow/calf operation productivity

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and profitability. The objective of this research was to determine the effect of anthelmintic treatment on the performance of spring-calving beef cows and their calves in eastern Oklahoma.

Materials and Methods

One hundred seventy four lactating beef cows and their calves were individually identified, vaccinated for Blackleg, weighed and randomly allotted to one of two replicated groups. The trial was begun on June 17, 1991, and lasted 109 days. Body condition scores were also taken on the cows. Calves were born from mid-March to mid-May. Treated cows and calves were dosed with 10 mg albendazole/kg body weight (tradename: Valbazen). Cattle grazed separate but similar bermudagrass pastures. Weights and body condition scores were obtained at time of allotment in June and at weaning in October. Fecal samples were collected from fifteen percent of cows and calves at the beginning of the trial and seven days later. An independent consultant determined nematode eggs per gram of feces

Table 1. Effect of Albendazole on cow and calf performance.[a]

Item	Control	Albendazole	Prob[b]
Number of animals			
Cows	85	89	
Calves	82	82	
Cows:			
Weight, 6/17/91 (lb)	873	923	
Weight gain to 10/4/91 (lb)	5.1	21.1	.01
Condition score[c] 6/17/91	5.3	5.5	
Condition score change to 10/4/91	.07	.43	.01
Calves:			
Weight, 6/17/91 (lb)	229	238	
Weight gain to 10/4/91 (lb)	150	169	.01

[a] Least squares means.
[b] Probability that the difference between means could occur by chance.
[c] Scale of 1=very thin to 9=very fat.

using the Wisconsin sugar floatation method. Data were analyzed by General Linear Models procedures.

Results and Discussion

Fecal samples taken at the beginning of the trial indicated that 55% of the cattle were parasitized (40% of cows, 70% of calves). Fecal egg counts were relatively low with average counts of 97 eggs/5 gm feces and 110 eggs/5 gm for infested cows and calves, respectively. Follow-up fecal samples taken at day seven of the trial indicated 100 percent control of observed internal parasites by albendazole (excluding coccidia). Parasites identified in the fecal samples include Haemonchus, O. Ostertagi, Trichostrongylus, Cooperia spp., and coccidia. Fecal samples were examined for liver fluke eggs but, none were found at the beginning of the trial.

Total weight gain for calves receiving albendazole was greater than that of control calves (169 vs 150 lb, $P<.01$). Treated cows gained more weight (46 vs 11 lb, $P<.01$) and had greater increases in body condition scores (.43 vs. 07, $P<.01$) than control cows.

The effectiveness and benefits of controlling internal parasites are dependent upon the type and level of parasite infection, the rate of reinfestation and the timing of treatments to control parasitism. Fecal egg counts were low and the cattle in this trial were not visibly parasitized. However, the results of this and previous field trials indicates that cattle producers in eastern Oklahoma should investigate the incorporation of appropriate internal parasite control measures into their management program.

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