EVALUATION OF DEWORMING STRATEGIES IN COWS AND CALVES IN EASTERN OKLAHOMA

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Story in Brief

Crossbred cow-calf pairs grazing bermudagrass pastures overseeded with clover in eastern Oklahoma were used to evaluate deworming strategies. Forty-four spring-calving cows were blocked by sex of calf and age of cow into treatment groups: 1) control, 2) deworm cow and calf, and 3) deworm calf only. Treated animals were dewormed with the label-recommended dosage of ivermectin pour-on at the start of the trial. All cows and calves were maintained in one herd during the 148-day trial. Weights of all cows and calves were recorded on June 3, 1996 at treatment and on October 29, 1996 at weaning. Contrary to previous trials, a management system that dewormed calves only did not significantly increase calf weight gain. Deworming cows and calves tended to increase summer weight gain (22 lb) of calves.

(Key Words: Deworm, Ivermectin, Beef, Cows, Calves.)

Introduction

The economic importance of cattle parasitism is well recognized. However, considerable confusion exists concerning the economic importance of parasitism in grazing cattle with subclinical parasitic infections. The value of deworming cows and /or their calves is often questioned. Quite often stockers are routinely dewormed while grazing introduced pastures but many cow-calf pairs in good body condition, or their calves, do not receive the same consideration.

In herds where anthelmintics are used, commonly only cows are treated in the early spring or fall months. The amount of exposure of nursing calves to worm infestations is often underestimated. Deworming of cows has been promoted to increase weaning weights. Timing is often dictated by when other management practices are performed such as calf branding in the spring or pregnancy determination in the fall. Treatment of the cowherd in mid-summer allows for a reduction in pasture re-infestation by killing worms in the animal that are necessary to contaminate the pasture. Deworming in June comes at a time when the pasture population, necessary for reinfection of the animal, is low due to the heat and low humidity. Mid-summer treatment with an appropriate anthelmintic will kill the inhibited stage of O. *ostertagi* before they erupt from the stomach lining.

Four deworming trials were conducted at the Eastern Research Station located at Haskell, OK during 1992 through 1995. These trials indicated that deworming cows in late spring increased cow summer weight gains up until calf weaning time. Treating cows but not their calves resulted in no difference in calf weight gains, while treated spring-born calves had significantly higher weight gains than untreated calves when both treatment groups nursed treated cows (Stacey et al., 1994). Further study (Stacey et al., 1995) showed that treated calves nursing untreated cows had significantly higher weight gains than the untreated calves nursing untreated cows. The

objective of this study was to evaluate two deworming strategies that may be used by cow-calf producers in eastern Oklahoma.

Materials and Methods

Forty-four crossbred cows and their Charolais sired calves were used in this study conducted at the Eastern Research Station located at Haskell, OK, about 16 miles east of Muskogee. Pairs were blocked by sex of calf, calf age and cow age then randomly allotted to three treatments: 1) control, 2) deworm cow and calf, and 3) deworm calf only. Cows and calves were individually identified and weighed on June 3, 1996. Treated animals received label-recommended dosages of ivermectin pour-on. Pairs grazed in rotation seven bermudagrass pastures overseeded with clover at a stocking rate of 2 acres per cow during the 148-day trial. Previous studies indicated that a low worm infection rate was present in 1991 and 1992. At that time fecal egg counts ranged from 0 to 28 eggs per 3 gram sample of feces. The current study concluded on October 29, 1996 when calves were weaned. Data were analyzed by General Linear Model Procedures.

Results and Discussion

Cow weight gains were not significantly influenced by deworming treatments in this trial as shown in Table 1. Treatment of pairs (cow and calf) with ivermectin in early June increased calf weight gain (302 vs 280 lb.; $p < .12$) slightly when compared with calves reared where neither cow or calf was dewormed (Table 1). Treating the calf only gave similar weight gains (287 vs 280 lb. $p < .6$) compared with untreated pairs. This lack of calf weight gain response is not consistent with earlier observations (Stacey et al. 1994, 1995, 1996) when a higher overall level of cow and calf weight gain was achieved. Treatment of cows and calves with ivermectin in early June increased the calf weight gain over controls during the 144-day period, but not significantly.

Literature Cited

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Table 1. Effect of treating spring calving cow/calf pairs or calf only with ivermectin on cow and calf weight gain.[a]

			Ivermectin	
Item		Control	Cow/calf	Calf only

Number of animals				
	Cows	14	16	14
	Calves	14	16	14
Cows				
	Weight 6/3/96 (lb)	1046	1139	1075
	Weight gain to 10/29/96 (lb)	118	131 (p<.50)[b]	136 (p<.62) [b]
Calves				
	Weight 6/3/96 (lb)	249	261	265
	Weight gain to 10/29/96 (lb)	280	302 (p<.12) [b]	287 (p<.63) [b]

[a]Least square means with sex of calf in the model.

[b]Probability that treatment weight gain is similar to controls.

Research Report