

THE EFFECT OF IVOMEC® ON WEIGHT GAINS OF BEEF COWS AND THEIR CALVES IN EASTERN OKLAHOMA

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Story in Brief

Fecal egg counts from an Eastern Oklahoma cowherd were monitored from May 1991 to May 1992 and indicated a low infection rate. Three trials were conducted to determine the effect of deworming on weight gains of beef cows and their calves. Deworming cows in late spring increased cow summer weight gains up until calf weaning time in all of the trials. Treating cows but not their calves resulted in no difference in calf weight gains. Spring-born calves that were treated gained more than calves left untreated, but there was no significant advantage in treating fall-born calves.

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

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 their calves is often questioned. Stockers are routinely dewormed while grazing tame pastures but many cow-calf pairs in good body condition do not receive the same consideration.

The cow herd in this study was monitored for a year prior to the administration of an anthelmintic. The history of fecal egg counts in the herd was low and the cattle did not show clinical signs of being parasitized. The objective of this study was to evaluate the effect of deworming on the summer weight gains of cows and their calves grazing improved pastures with light infections of internal parasites.

Materials and Methods

The cowherd observed in this study was monitored for one year prior to initiation of the trials to determine the level of parasitism. Fecal egg counts from samples collected from six random cows were recorded each month. Fecal egg counts were determined by using the modified Wisconsin Sugar Centrifugal Floatation Technique.

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Three trials were conducted at the Eastern Research Station located at Haskell, OK, about 16 miles east of Muskogee. Mature Hereford x Angus or Simmental x Hereford x Angus cows and their Charolais sired calves were used in the study. Pairs grazed in rotation seven bermudagrass pastures overseeded with clover at a stocking rate of 2 acres per cow. In each Trial, all cattle were maintained in one herd. Number of animals, trial dates and length for each trial are shown in Table 1.

Cows and calves were individually identified, then weighed when poured with Ivomec[®] and at weaning. All weights were obtained after overnight fast with water available. Pairs were blocked by sex of calf and randomly allotted to two treatments, control and Ivomec[®]. Half of the cows were dewormed with the recommended dosage of Ivomec[®] Pour-On. In Treatment 1, no calves were treated with Ivomec[®] Pour-On, while in Treatments 2 and 3, calves of dewormed cows were also treated. Data were analyzed by General Linear Model Procedures with model that included treatment and calf sex with initial cow and calf weights as covariates.

Results and Discussion

Fecal egg counts are shown in Table 2. Actual counts ranged from 0 to 28 eggs/3 g feces. These counts indicated a low infection rate in the herd prior to initiation of the trial.

Results from Trial 1 are shown in Table 3. Treatment with Ivomec[®] in early May increased weight gain of spring calving cows by 43 lb (98 vs 142, $P < .005$) compared to control cows during 181 day trial. There was no difference in calf weight gain (327 vs 327) from deworming cows even though the cows responded. Apparently, the bermudagrass-clover pastures provided adequate nutrition for milk production and therefore calf weight was not hindered.

Results from Trial 2 are shown in Table 4. Total weight gain for fall calving cows treated with Ivomec[®] tended to be greater (81 vs 102, $P < .28$) than

Table 1. Summary of cow/calf trials.

Trial no	Number cow/calf pairs	Season calves start	Beginning trial dates	Days on test
1	28	Spring	5/9/92	181
2	23	Fall	6/2/93	81
3	35	Spring	6/2/93	149

Table 2. Fecal worm egg counts^a.

Sample no	1	2	3	4	5	6	Ave
Dates							
May 91	9	28	6	12	9	2	11
June 91	8	3	0	2	6	0	3.2
July 91	15	9	24	23	18	3	15.3
Aug. 91	9	5	6	4	1	7	5.3
Sept. 91	8	6	7	15	5	4	7.5
Oct. 91	4	8	2	3	3	0	3.3
Nov. 91	0	1	1	19	10	3	5.7
Jan. 92	0	1	1	5	2	3	2
Mar. 92	0	2	1	4	0	0	1.2
Apr. 92	3	3	9	5	1	0	3.5
May 92	0	3	4	0	2	8	2.8

^a Modified Wisconsin sugar centrifugal fecal exam method (counts represent # of eggs/3 g).

Table 3. Effect of treating spring calving cows with Ivomec[®] on cow and calf weight gain^a.

Item	Control	Ivomec	Prob ^b
Number of animals			
Cows	14	14	
Calves	14	14	
Cows			
Weight 5/9/92 (lb)	1178	1175	
Weight gain to 11/06/92 (lb)	98	141	.01
Calves			
Weight 5/9/92 (lb)	336	361	
Weight gain to 11/06/92 (lb)	327	327	.99

^a Least squares means.

^b Probability that the difference between means could occur by chance.

Table 4. Cow and calf weight gains of fall calving pairs treated with Ivomec®^a.

Item	Control	Ivomec	Prob ^b
Number of animals			
Cows	11	12	
Calves	11	12	
Cows			
Weight 6/2/93 (lb)	1137	1149	
Weight gain to 8/22/93 (lb)	81	102	.28
Calves			
Weight 6/2/93 (lb)	548	517	
Weight gain to 8/22/93 (lb)	156	166	.64

^a Least squares means.

^b Probability that the difference between means could occur by chance.

Table 5. Cow and calf weight gains of spring calving pairs treated with Ivomec®^a.

Item	Control	Ivomec	Prob ^b
Number of animals			
Cows	18	17	
Calves	18	17	
Cows			
Weight 6/2/93 (lb)	1148	1142	
Weight gain to 10/29/93 (lb)	88	117	.04
Calves			
Weight 6/2/93 (lb)	270	272	
Weight gain to 10/29/93 (lb)	307	332	.11

^a Least squares means.

^b Probability that the difference between means could occur by chance.

control cows during the 81 day trial. There was no significant advantage in calf weight gain from treating fall-born calves at 7 to 8 months of age, perhaps due to the short duration (81 days) and small number of animals per treatment group.

Results of Trial 3 are shown in Table 5. Treatment with Ivomec[®] in early June increased weight gain of spring calving cows by 29 lb (88 vs 117, $P < .04$) compared to control cows. Mean weights for calves of both treatment groups at the start of the study were similar (270 vs 272 lb for control and Ivomec[®] groups). Calves that received Ivomec[®] gained 25 lb more ($P < .11$) than controls during the 149 day trial.

The results of these and previous field trials suggest that cow/calf producers in Eastern Oklahoma can increase summer weight gain of cows with calves by deworming. In order to improve calf weaning weights, however, calves must be dewormed also. Spring born calves responded, but fall born calves did not reflect any significant differences.