THE EFFECT OF IVOMEC® ON WEIGHT GAINS OF SPRING-BORN CALVES NURSING UNTREATED COWS IN EASTERN OKLAHOMA

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Story in Brief

Forty-eight cows and their spring-born calves were observed at the Eastern Research Station located at Haskell, Oklahoma about 16 miles east of Muskogee. Mature Hereford X Angus or Simmental X Hereford X Angus cows and their Charolais-sired calves were followed in the study. Pairs grazed in rotation seven bermudagrass pastures overseeded with clover at a stocking rate of two acres per cow. All cattle were maintained in one herd. In this trial beginning June 6, 1994 and ending November 8, 1994, the cows were not treated while one half of the calf crop was dewormed with ivermectin. The recommended dosage of Ivomec Pour-On® was given at the start of the trial. Treated calves nursing untreated cows had significantly higher weight gains (46 lb) than the untreated calves during this 155 day trial.

(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. Quite often stockers are routinely dewormed while grazing introduced 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. Fecal egg counts were monitored from May 1991 to May 1992 and indicated a low infection rate. Three trials were conducted during 1992 and 1993. 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). The objective of this study was to evaluate the effect of deworming on the summer weight gains of calves nursing untreated cows grazing improved pastures with light infections of internal parasites.

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Materials and Methods

The cowherd observed in this study was monitored for one year (1991-92) 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 Fecal Exam. It was chosen because it had been reported as the most sensitive fecal worm egg count for adult cattle (Bliss, 1989).

Forty-eight mature Hereford X Angus or Simmental X Herford X Angus cows and their Charolois sired calves were used in this study. Calves born between January 30 and April 4 were individually identified, blocked by sex and randomly alloted to two treatments, control and ivermectin. Weights were obtained on June 6 when calves were approximately 3 months old and were dewormed with the recommended dosage of Ivomec Pour-On®. Calves were weighed again on November 8 at weaning. All weights were obtained after drylotting cattle overnight with water available. None of the cows were treated with ivermectin. Data were analyzed by General Linear Model Procedures.

Results and Discussion

Fecal egg counts are shown in Table 1. Actual counts ranged from 0 to 28 eggs/3 grams feces. These counts indicated a low infection rate in the herd prior to initiation of the deworming trials.

Results from the trials conducted in the summers of 1992 and 1993 showed increased weight gains for spring calving cows when treated cows were compared to untreated. No difference was noted for calf weight gains when calves were not treated. However, improved weight gains were observed when calves were dewormed also.

Treatment of calves with ivermectin in early June increased weight gains (316 vs. 270 lb, $P < .0025$) when compared to untreated calves (Table 2). Mean calf weights at the onset of the trail from both treatment groups were similar (258 vs. 267 lb for Ivomec® and control group respectively). Weight gains of the steers was 309 lb while heifer weight gains were 277 lb during the trial. No treatment by sex interaction was observed. Calves receiving the ivermectin treatment gained 46 lb more than controls during the 155 day trial.

Light infections of internal parasites (determined by fecal egg counts) had an adverse affect on calf performance during this trial. Calves treated with ivermectin nursing untreated cows performed better than untreated calves nursing untreated cows. This trial suggests that cow/calf producers in Eastern Oklahoma can benefit by deworming calves from a cowherd in good body condition grazing introduced pastures with subclinical parasitic infections.

Literature Cited

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Stacey, B. R., et. al. 1994. Oklahoma Agr. Exp. Sta.. Res. Rep. P-939:118.

Table 1. Fecal worm egg counts[a]

Sample nos.	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] A modified Wisconsin sugar centrifugal fecal exam method (counts represent # of eggs/3 gram).

Table 2. Calf weight gains of spring-born calves nursing untreated cows[a]

Item	Control	Ivomec®
Number of calves	24	24
Weight 6/6/94	267	258
Weight gain to 11/8/94	270[b]	316[c]

[a] Least square means.

[b,c] Means in a row that do not have common superscripts differ ($P < .0025$).