1999 Animal Science Research Report

EFFECT OF MIDSUMMER DEWORMING WITH CYDECTIN® ON COWS AND CALVES

Pages 89-91

Authors:

S.C. Smith, M.R. Montague and M.D. Green

Story in Brief

Two groups of cows and calves in two separate locations were used to demonstrate the effect of an anthelmintic on animal weight change through the summer grazing season to weaning of the calves in the fall. At the initial July weighing, cows and calves were individually identified and randomly allocated to a treatment group. Treated animals received moxidectin (Cydectin®) at the approved dosage (0.5 mg/kg body weight). Fecal samples were collected from 15% of cows and calves. Positive fecal egg counts indicated 31% of the cows and 100% of the calves at both locations were infested with internal parasites. Cows had previously been dewormed in May with fenbendazole. Spring rainfall was less than normal and summer was extremely hot and dry. There was no treatment x location interaction so data from the two locations were pooled. Treated cows tended to gain an average 8.9 lb more than untreated cows. Treated calves, however, gained 6 lb less with treatment. These results suggest there may be little or no benefit to midsummer deworming of cows subsequent to spring deworming during periods of extreme drought and heat.

Key Words: Beef Cattle, Anthelmintics, Deworm, Drought

Introduction

Numerous field trials with cows and their calves in eastern Oklahoma have demonstrated significant improvements in animal performance following treatment with anthelmintics (Smith et al., 1995, Stacey et al., 1994, 1995, 1996, 1997). Weight gains by dewormed cows are typically improved 25 to 35 lb when treated in mid-summer. Nursing calves treated with anthelmintics have shown increased fall weaning weights of 20 to 25 lb as a result of mid-summer deworming (Smith et al., 1995).

Eastern Oklahoma has relatively high rainfall, an extended growing season, moderate winters and a preponderance of introduced pastures. As a result, stocking rates may be especially high. All these items are conducive to the life cycle of internal parasites. The internal parasite of most economic impact on cattle performance in eastern Oklahoma is the brown stomach worm, *O. ostertagi*.

Moxidectin, brand name Cydectin® , is a new generation anthelmintic labeled to control internal and external parasites in beef cattle. Moxidectin

has proven itself effective against numerous internal parasites, including *O. ostertagi*. The objective of these trials was to demonstrate the effect of treatment with an anthelmintic on animal performance from mid-summer to fall weaning of the calves.

Materials and Methods

In early July, 105 cows and their calves, in two locations, were initially identified, weighed and randomly allocated to a treatment or control group. Animals were topically treated with moxidectin (Cydectin®) at the recommended label dosage (0.5 mg/dg body weight) or were left untreated. Cows had been dewormed with fenbendazole (Safeguard®) earlier in the spring. Fecal samples were randomly taken from 15% of the cows and calves and sent to a commercial laboratory for analysis. Treated and untreated cows and calves were co-mingled throughout the summer grazing season. Final weights were taken when calves were weaned in October. Trials at both locations were 109 d.

Results and Discussion

Positive fecal egg counts taken at the beginning of the trials indicated that 31% of the cows and 100% of the calves were infected with internal parasites (Table 1). Fecal egg counts averaged 1.3 and 20.2 eggs/gram for cows in locations 1 and 2, respectively, and 105 and 260 eggs/gram for the calves in locations 1 and 2, respectively.

As there was no treatment x location interaction, data were pooled for analysis. Treated cows (Table 2) gained 8.9 lb more than untreated cows ($P<.11$). However, treated calves (Table 3) gained 6.2 lb less than those left untreated ($P<.001$).

The effectiveness of an anthelmintic in controlling internal parasites and improving animal performance is dependent on several factors. Among those factors are the degree of individual animal infection, overall herd infestation, pasture conditions conducive to the life cycle of the parasite and efficacy of the anthelmintic.

The low initial fecal egg counts of the cows in these trials were not expected because they had previously received a spring treatment for internal parasites. Significant re-infestation from April/May to mid-summer may occur. Fecal egg counts are not wholly accurate in predicting the degree of infestation of individual animals nor the magnitude of response to an anthelmintic. Previous trials by Smith et al. (1995) have shown improved animal performance in cows and stocker animals receiving follow-up treatments for internal parasites.

Cow weight change in these trials was less than that indicated by previous

studies in eastern Oklahoma. The drought under which these trials were conducted may have significantly reduced the pasture conditions necessary for completion of the parasite life cycle and animal re-infestation. With lowered rates of re-infestation following a spring treatment with an anthelmintic to a summer re-treatment, the average response of the herd to re-treatment would be expectedly reduced. The reason for the negative response of treated calves is not readily apparent.

Literature Cited

Smith, S.C. et al. 1995. Circular E-944. Oklahoma State University, Stillwater.

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

Stacey, B.R. et al. 1995. Okla. Agr. Exp. Sta. Res. Rep. P-943:85.

Stacey, B.R. et al. 1996. Okla. Agr. Exp. Sta. Res. Rep. P-951:95.

Stacey, B.R. et al. 1997. Okla. Agr. Exp. Sta. Res. Rep. P-958:60.

Acknowledgements

The authors express their appreciation to Ft. Dodge Animal Health for the product to conduct these field trials/demonstrations. The authors are especially grateful to Don and Brian Kirkes, Talihina, OK, and Ralph Cantrel, Kinta, OK, the cooperating producers without whose assistance these endeavors would not be possible.

Table 1. Average fecal egg counts of cows and calves at time of deworming, eggs/gram.

Location	Cows	Calves
1	1.3	105.0
2	20.2	260.0

Table 2. Average initial weight and weight change of cows following deworming in July[a] (pooled data).

	Number	Initial wt, lb	Wt change, lb	P value
Control	51	1088	21.5	
Treated	54	1064	30.4	.11

[a]Least squares means.

Table 3. Average initial weight and weight change of calves following deworming in July[a] (pooled data).

	Number	Initial wt, lb	Wt change, lb	P value
Control	51	301	158.7	
Treated	50	319	152.5	.001

[a]Least squares means.

1999 Research Report - Table of Contents