



1999 Animal Science  
Research Report

# PERFORMANCE OF CALVES DEWORMED WITH IVOMEC SR BOLUS® COMPARED WITH IVOMEC POUR-ON®

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## **Story in Brief**

A study was conducted to determine the influence of the Ivomec SR (slow release) Bolus® on the performance of fall-born calves during periods of the 1998 summer grazing season compared with a one-time application of Ivomec Pour-on®. The experiment was initiated on May 20 and weights and nematode egg counts were made on d 1, 43, 114, and 153. Calves were weaned on July 2. ADG declined through the summer and was slightly negative in the last period of parasite infestation. The SR Bolus® improved total weight gain 21 lb (.14 ADG) during the 153-d trial. This difference occurred in the last period of the trial. There was a trend for the SR Bolus® treated cattle to have lower nematode egg counts 43 and 153 d post treatment compared with cattle treated once with Ivomec Pour-On®. Fecal samples were obtained from only one-third of the calves at each time of collection.

Key Words: Anthelmintic, Bolus, Deworming, Stocker Cattle, Grazing

## **Introduction**

Internal parasites may reduce performance of young growing cattle. Many trials in Oklahoma have repeatedly shown detrimental effects on weight gains and profitability of stocker cattle enterprises. Responses to anthelmintic treatments on stockers grazing summer pastures vary considerably. This variation may be attributed to many factors, including level and type of parasite load, rate of re-infestation and timing of anthelmintic application. Weight gains for stocker cattle re-treated with an anthelmintic during mid-summer have been greater than weight gains of stocker cattle receiving a single treatment at the onset of the grazing season. However, multiple treatments of stocker cattle with anthelmintics during the summer grazing period increase costs and labor requirements. In earlier trials conducted in Oklahoma, the Ivomec SR Bolus® has shown improved parasite control (Wallace et al., 1998). This trial was conducted to gather additional information under different grazing conditions than previous trials.

## **Materials and Methods**

Thirty fall-born mixed steer and heifer calves with average initial weight of  $451 \pm 7$  lb were used in a trial conducted at the Eastern Research Station in Muskogee County, OK, to compare the performance of young growing cattle receiving Ivermectin administered with the Ivomec SR Bolus® (SRB) to cattle receiving a one-time treatment of Ivomec Pour-On® (PO). Calves were approximately 7 mo of age and still nursing their dams when the trial started and grazed bermuda and fescue pastures throughout the summer (153 d). Calves were individually identified, blocked by sex, and randomly allotted to two treatments, Ivomec SR Bolus® or a one-time treatment of Ivomec Pour-On®. All cattle grazed together in the same pasture. Nematode egg counts were collected from the same five head representing each treatment when calves were individually weighed on May 20 (start of the trial), July 2 (weaning), and October 20 (time of marketing). An additional weight was taken on September 11 when a large change in forage quality and quantity was

anticipated. Data were analyzed by General Linear Model Procedures (SAS, 1988).

## Results and Discussion

SRB-treated cattle gained 21 lb more weight compared with PO-treated cattle in the 153-d grazing period (Table 1). This resulted in an increase in average daily gain of .14 lb/d for SRB-treated cattle. There was no significant difference in weight gain between treatment groups until the last period. The weight gain response was less than observed the previous year at the same location although nematode egg counts were similar (Wallace et al., 1998). May through August rainfall at the Eastern Research Station was 15.9 in and 11.6 in for 1997 and 1998, respectively. Figure 1 shows the rainfall by month at the Eastern Research Station. The reduction in rainfall for the 1998 grazing season may have reduced the nematode egg counts. Nematode egg counts tended to be greater for PO-treated cattle at 43 and 153 d post-treatment (Table 2). The additional weight gain measured for SRB-treated cattle in the last period of the trial and the trend for higher nematode egg counts for PO-treated cattle suggest an increased level of re-infestation compared with SRB-treated cattle.

## Implications

These studies suggest that the SR Bolus is an effective tool to increase weight gain of stocker cattle when substantial pasture contamination is present and when one initial anthelmintic application is normally used. More information is needed to determine situations where the SR Bolus may improve profitability of the stocker/feeder enterprise.

## Literature Cited

SAS. 1988. SAS/STAT® User's Guide (Release 6.03). SAS Inst. Inc., Cary, NC.

Wallace, J. D. et al. 1998. Okla. Agr. Exp. Sta. Res. Rep. P-965:187.

## Acknowledgements

The authors express appreciation to Jeffery Schoen and Merial of Rahway, NJ, for assistance and financial support for these studies.

**Table 1. Influence of anthelmintic treatment on performance of stocker cattle grazing summer pasture.<sup>a</sup>**

Item	Pour-On	SR-Bolus	Prob <sup>b</sup>
Number of cattle	14	16	
Initial weight, lb 5/20/98	452	450	.91
Gain, lb 5/20 - 7/2, 43d	123	118	.48
Gain, lb 7/2 - 9/11, 71d	106	116	.23
Gain, lb 9/11 - 10/20, 39d	-21	-5	.02
Total gain, lb 153d	208	229	.05
ADG, lb 153 d	1.36	1.5	.05

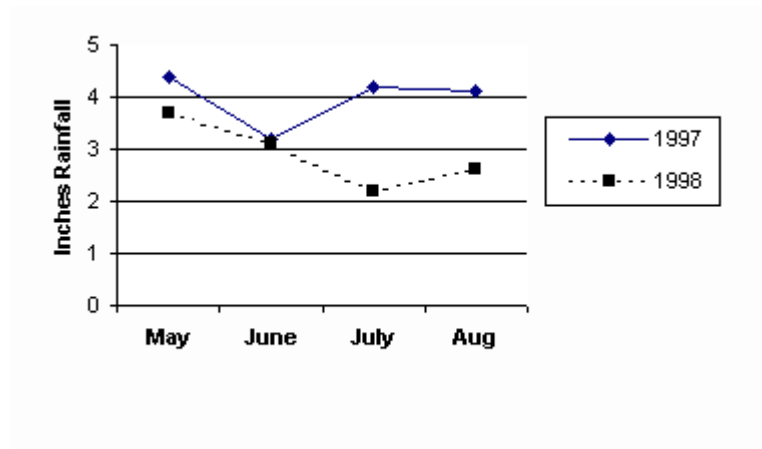
<sup>a</sup>Least squares means.

<sup>b</sup>Probability that the difference between means could occur by chance.

Item	Pour-On	SR-Bolus	Prob <sup>b</sup>
Number of samples per period	5	5	
Nematode eggs/gm of feces			
May 20, 1998	462	231	.23
July 2, 1998, 43d	225	0	.14
Oct. 20, 1998, 153d	155	12	.12

<sup>a</sup>Least squares means.

<sup>b</sup>Probability that the difference between means could occur by chance.



**Figure 1. Precipitation by month during the 1997 and 1998 growing seasons at Haskell, OK.**