Comparative Efficacy of Two Ivermectin Pour-on Anthelmintics in Beef Steers in a Commercial Feedyard

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Introduction

Parasitism leads to decreased performance and quality of life in cattle. Producers often treat or prevent parasitism with a number of approved brand name and generic anthelmintics. Generic products generally have a cost advantage for beef producers when compared to trade-name products. Data comparing brand-name anthelmintic efficacy to that of generic in feedlot cattle are limited. Feedyards must balance efficacy and cost of administration when deciding between brand-name and generic anthelmintics. The objective of this study was to compare the efficacy of Vetrimec® pour-on and Ivomec® pour-on by utilizing the fecal egg reduction test in newly arrived feedlot steers.

Materials and Methods

Forty cattle per pen from 10 feedlot pens were randomly assigned to one of two anthelmintic treatments determined by processing order: 1) Ivomec (0.22 mg/lb BW) or 2) Vetrimec pour-on (0.22 mg/lb [0.485 mg/kg] BW). Cattle from both treatment groups were returned to the home pen they originated from after treatment application, and remained there until their pre-slaughter sort date. Rectal fecal samples were obtained at the time of initial processing and prior to treatment on day 0, and again on day 14. Blinded samples were placed on ice and shipped overnight to a private parasitology laboratory in Lincoln, NE for fecal egg counts using a modified Wisconsin technique. Initial fecal egg counts of treatment groups were compared. Linear and mixed models were fit with treatment, pen and their interaction terms as predictors of net egg count difference and average daily gain using R version 2.10.1. Fecal Egg Count Reduction percentages (FECR) were calculated and used to report treatment efficacy.

Results

There were no endectocide treatment-by-pen interactions for fecal egg reduction or performance. Pre-treatment egg counts were not different between treatment groups (P=0.17). There were no differences in net egg count reduction between treatments (P=0.15) at 14 days post-treatment application. However, cattle housed in different pens had different egg-count loads prior and after endectocide application (P<0.01). Regardless of treatment, only 26% of animals had a FECR of >90% and only 35% achieved a FECR of >80%. Interestingly, 18% of the cattle actually had an increase in FECR 14 days after treated with an endectocide. There were no differences in pre-treatment body weights between cattle that received either endectocide treatment (P=0.096). Cattle treated with Vetrimec Pour On had improved average daily gains compared to cattle treated with Ivomec Pour On (3.90 lb/day vs 3.74 lb/day [1.78 kg/day vs. 1.70 kg/day], Vetrimec vs Ivomec, respectively; P=0.02).

Significance

There were no differences in parasite control between generic and name-brand products in this study. Contrary to previously published reports on the efficacy of pour-on anthelmintics, this study demonstrated an overall lack of efficacy with both products. However, in this study we were unable to determine whether this was due to intrinsic product efficacy or environmental factors such as rain or mud. We observed a significant difference in average daily gain between the two products. Further research is needed to look at different routes of administration, parasite resistance to endectocides, and the role environmental issues can play in the efficacy of these types of products.