Evaluation of Doramectin Pour-On Solution for Gastrointestinal Parasite Control in Stocker Calves

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Abstract

Doramectin pour-on (Dectomax® Pour-On) solution is an endectocide that is highly effective in the treatment of gastrointestinal roundworms, lungworms, grubs, and sucking and biting lice of cattle. Doramectin pour-on solution also has label indications for protection from reinfection (greater than 90% efficacy) of 28 days for Ostertagia ostertagi, Cooperia punctata, and Oesophagostomum radiatum and 21 days for Dictyocaulus viviparus and Cooperia oncophora. To evaluate the field efficacy of doramectin pour-on solution, four studies were conducted with stocker beef cattle treated with doramectin pour-on solution at a dose rate of 500 +g/kg body weight compared to untreated control calves. Locations and durations of these studies were Wisconsin (140 days), Arkansas (82 days), Louisiana (140 days), and Tennessee (141 days).

In each study, calves were allocated equally to treatments and pastures as randomized complete block designs (body weight and pastures). Across all studies the range in body weight at study initiation was 254 to 666 lb and stocking densities ranged from 1 to 2 calves/acre. Fecal samples were collected at 28-day intervals for determining nematode eggs per gram of feces (EPG). Calf body weights were recorded at 28-day intervals.

In each study, the doramectin-treated calves demonstrated significantly ($P < 0.05$) reduced EPG compared to control calves through Day 56 post-treatment. Average daily gains for the doramectin-treated groups were 2.20, 1.17, 2.31, and 0.88 lb for WI, AR, LA, and TN, respectively. Average daily gains (ADG) for the control groups were 1.96, 0.79, 1.85, and 0.75 lb for WI, AR, LA, and TN, respectively. The ADG were significantly ($P < 0.05$) different between the doramectin-treated and control calves in the WI, LA, and TN studies. Multi-trial analysis of ADG resulted in an overall ADG of 1.34 and 1.63 lb, for the control and doramectin groups, respectively, and these gains were different ($P < 0.05$).

In summary, treatment of beef calves with doramectin pour-on solution reduced potential pasture contamination and improved calf weight gains compared to untreated control calves.