# Assessment of the Effects of Treatment of Beef Cows and Calves with Doramectin Pour-On Solution on Pasture Parasite Contamination and Calf Performance

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**Abstract**

Doramectin pour-on solution (Dectomax® Pour-On) is an endectocide with a broad spectrum of activity against gastrointestinal nematodes and arthropods of cattle and duration of activity indications against several nematodes. To evaluate the efficacy of doramectin pour-on solution in decreasing pasture parasite contamination and resulting calf performance, two studies with similar experimental designs were conducted in cow-calf herds in Prairie, Mississippi (MS) and Parma, Idaho (ID). These studies were 168 and 140 days in duration for MS and ID, respectively.

Cows and calves at each study site were equally allocated to either a doramectin or untreated control group and pastures as randomized complete block designs (MS: blocked by pasture location and balanced for sex of calf and age of cow - ID: blocked by pasture location and sex of calf). At the MS site, each doramectin and control group had 60 cows and calves, while at the ID site each group had 48 first-calf heifers and calves. Calves across both studies ranged from approximately 1 to 5 months of age and stocking densities were approximately 1 to 2 cow-calf pairs/acre. On Day 0, cows and calves in the doramectin groups were treated topically with doramectin at a dose rate of 500 +g/kg body weight. Fecal samples for determining nematode eggs per gram of feces were collected from cows and calves at 28-day intervals. Calves were weighed at 28-day intervals and at the end of the studies.

In each study, the cumulative nematode egg output of doramectin-treated animals (cows + calves) was significantly ($P < 0.05$) reduced compared to those animals in the control group (cows + calves). Body weight (Day 168) for the doramectin-treated calves was significantly ($P < 0.05$) greater compared to the control calves in the MS study (527 lb vs 489 lb, respectively). In the ID study, body weight (Day 140) for the doramectin-treated calves was greater compared to the control calves; however, these differences were non-significant ($P > 0.05$, 499 lb vs 473 lb, respectively). Multi-trial analysis of calf body weight (mean initial calf body weights of 214 lb and 211 lb for the doramectin and control groups, respectively) and gain through Day 140 demonstrated a significant ($P < 0.05$) difference in body weight and weight gain for calves treated with doramectin pour-on solution compared to control calves. Body weights and average daily gains for the doramectin-treated and control calves were 501 lb and 2.05 lb, and 467 lb and 1.82 lb, respectively.

These data suggest that treating cows and nursing calves with doramectin topical solution effectively reduced nematode egg output and pasture infectivity, resulting in improved calf performance.