

The Effect of Treating Beef Cows with Doramectin or Ivermectin on Calf Performance and Parasitological Variables

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Abstract

Four studies were designed to compare doramectin (Dectomax®) injectable solution to ivermectin (Ivomec®) injectable/pour-on solutions for controlling gastrointestinal parasitism in cow-calf herds in Parma, ID and Watkinsville, GA. Two studies were conducted sequentially at each study site beginning in the spring of 1994 and again in 1995. The Georgia studies were each 168 days in duration and the Idaho studies 139 days. Each year at the Georgia site, 90 cow-calf pairs (mature cows) were randomly allocated to one of three treatment groups: non-medicated, doramectin, and ivermectin injectable solution. Similarly, at the Idaho site 108 cow-calf pairs (first-calf heifers) were randomly allocated to one of three treatment groups: non-medicated, doramectin, and ivermectin pour-on solution. On Day 0, cows were treated SC with either doramectin or ivermectin injectables at a dose of 200 µg/kg or with ivermectin topically at a dose of 500 µg/kg. Calves (ap-

proximately 1 to 4 months of age) were not treated with an anthelmintic. Fecal samples were collected for determining nematode egg counts (EPG) at approximately 7-day intervals from cows and calves through Day 56 and at 28-day intervals thereafter until the end of the studies. Calf body weights were recorded at approximately 28-day intervals in each study. Fecal egg counts for cows and calves and calf body weights were combined at each location for analysis. In addition, calf body weights were combined from all four studies for analysis. In general, the non-medicated cows geometric mean egg counts remained below 8 EPG at each location. Treatment of cows with doramectin or ivermectin resulted in significantly ($P < 0.05$) reduced egg counts post-treatment compared to the non-medicated cows. In the Idaho studies, geometric mean EPG in calves from non-medicated dams increased from 4 EPG to a maximum of 69 EPG, whereas in the Georgia studies, geometric mean EPG in calves from non-medicated dams increased from 14 EPG to a maximum of 212 EPG.

Calves from doramectin and ivermectin-treated dams at each site demonstrated significantly ($P < 0.05$) reduced egg counts (Georgia, Days 42 to 168 and Idaho, Days 7 to 49) compared to calves from non-medicated dams. Combining body weight data from all calves (396 calves), initial body weights were 181, 183, and 181 lb for the calves from non-medicated, doramectin-, and ivermectin-treated dams, respectively, and these body weights did not differ ($P > 0.05$). Average daily gains (ADG) were 1.68, 1.85, and 1.76 lb for the calves from the non-medicated, doramectin-, and ivermectin-treated

dams, respectively. Calves from the doramectin-treated dams demonstrated significantly ($P < 0.05$) greater ADG than calves from the non-medicated group dams. There were no differences ($P > 0.05$) in ADG between calves in the non-medicated and ivermectin groups and between the calves in the doramectin and ivermectin groups. The overall data suggest that pasture nematode contamination was suppressed by endectocide treatment of dams, which resulted in improved calf performance over calves from non-medicated dams.

Abstracts

Poisoning of dairy heifers by mercurous chloride

V.R. Simpson, N.C. Stuart, R. Munro, A. Hunt, C.T. Livesey
Veterinary Record (1997) **140**, 549-552

Mercury poisoning was diagnosed in four dairy heifers, three of which died. The clinical signs were variable and included salivation, excessive thirst, extreme depression and severe diarrhoea. Postmortem examinations revealed inflammation and ulceration of the alimentary tract, pulmonary and cardiac

haemorrhages, pallor of the kidney cortices and perirenal oedema. The kidney mercury concentrations were in the range 58 to 91 $\mu\text{g/g}$ wet tissue. It is believed that the animals were poisoned by the ingestion of soil contaminated with mercurous chloride.

Histological and bacteriological evaluation of digital dermatitis in cattle, with special reference to spirochaetes and *Campylobacter faecalis*

D. Döpfer, A. Koopmans, F.A. Meijer, I. Szakáll, Y.H. Schukken, W. Klee, R.B. Bosma, J.L. Corelisse, A.J.A.M. van Asten, A.A.H.M. ter Huurne
Veterinary Record (1997) **140**, 620-623

Tissue samples from the feet of slaughtered cattle exhibiting different stages of digital dermatitis were sectioned and stained with haematoxylin and eosin and silver staining techniques. Three morphological variations of spirochaetes were observed, whereas control samples from feet which were macroscopically nega-

tive for digital dermatitis were also negative for spirochaetes. In an immunofluorescence test, *Campylobacter faecalis* was found to be abundant on superficial wound smears from the classical ulceration of digital dermatitis.