Productivity of cattle treated with the IVOMEC® SR Bolus

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The IVOMEC SR Bolus is designed to release 12 mg of ivermectin per day for 135 days, providing therapeutic and prophylactic efficacy against existing and acquired infections of gastrointestinal roundworms, lungworms and external parasites. This level of parasite control prevents clinical disease due to gastrointestinal nematodes and lungworm and minimizes the productivity losses due to subclinical infections with these parasites. Analyses of 15 studies conducted in dairy replacement heifers and stocker cattle managed under various husbandry practices in North America confirm the parasitological and subsequent productivity benefits obtained in cattle treated with the IVOMEC SR Bolus. Evaluations including weight gain and fecal egg counts were measured at intervals specified by the individual trial protocol. Plasma pepsinogen levels, pasture parasite larval contamination and tracer calf worm burdens were also measured in some of the studies. In a combined analysis of five separate-pasture, single-replicate dairy replacement heifer studies, cattle treated with one IVOMEC SR Bolus at the beginning of the grazing season gained significantly ($p<0.05$) more weight to Day 139 to 141 (11.2 kg) and to the end of the grazing season (14.5 kg) than did untreated control cattle. In ten stocker cattle studies, designed with control and treated animals allocated to the same pasture or to separate pastures, weight gains recorded for cattle receiving the IVOMEC SR Bolus ranged from 21.0 kg to 50.2 kg ($p<0.01$) higher than untreated control animals in single pasture studies and from 30.1 kg to 41.6 kg ($p<0.02$) in separate pasture studies. In each trial, fecal egg production was suppressed during the 135-day ivermectin delivery period and remained at low levels for trials extending beyond 135 days. As a result of the reductions in fecal egg output, pasture larval counts and tracer calf worm burdens were reduced on the pastures grazed by cattle treated with the IVOMEC SR Bolus.

Sarcina ventriculi - associated abomasal bloat in neonatal calves

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Abomasal bloating and ulceration in calves are usually attributed to infection with *Clostridium perfringens* type A, infection with BVD virus, or copper deficiency. In the spring of 1996, tissues or dead calves were received by the veterinary diagnostic laboratory at Kansas State University from 11 cases of abomasal bloating from 10 cattle herds. Cases were primarily in nursing beef calves, although bloating was also observed in dairy calves being fed milk replacer. Affected calves were typically between 1 and 6 weeks of age, and had clinical signs of bloating of less than 3 days duration. Postmortem findings varied from abomasal distention with gas to abomasal rupture with secondary peritonitis. Abomasal mucosa in cases was variably normal, hemorrhagic, emphysematous, and/or ulcerated. Bacteria with morphology characteristic of *Sarcina ventriculi* were identified histologically in the abomasum of all but one calf with abomasal bloat. Organisms were frequently present in high numbers in affected calves, but were rarely present in non-bloated calves. These observations suggest a possible role for *S. ventriculi* in the pathogenesis of abomasal bloating in cattle.