LONG-TERM EFFECT OF TOLTRAZURIL (BAYCOX® BOVIS) ON GROWTH PERFORMANCES OF DAIRY HEIFERS AND BEEF CALVES EXPOSED TO NATURAL EIMERIA ZUERNII AND EIMERIA BOVIS INFECTIONS

Fabrizia Veronesi, Lucio Nisoli, Manuela Diaferia, Daniele Lulla, Daniela Piergili Fioretti

1Faculty of Veterinary Medicine, University of Perugia, Perugia, 2Bayer HealthCare, Animal Health, Milan, Italy

Bovine coccidiosis is a disease determined by several Eimeria species of which E. bovis and E. zuernii represent the most pathogenic. Goal of the present trial was to evaluate the long time effect of toltrazuril administration on the oocyst excretion and diarrhoeic symptoms of beef and dairy calves as well as to evaluate the long-term positive effects on some productive parameters in comparison to diclazuril treatment. The study was conducted as a blind, randomized, controlled, multicentric field trial on 2 Italian Fresian dairy and on 2 Chianina beef farms where the presence of E. bovis and E. zuernii and the timing and frequency of clinical coccidiosis occurrence were previously ascertained. No 30 calves were selected at each trial site and randomly divided into 3 homogeneous groups: T (treated with toltrazuril; Baycox® bovis), D (treated with diclazuril; Vecoxan®) and C (untreated). For 40 weeks post-treatment the calves were weekly weighed and clinically and parasitologically examined; moreover the body condition score (BCS) was determined at the end of the trial. Both toltrazuril and diclazuril were well tolerated and no side-effects were observed. Even if the growth performance showed no significant differences between groups over the complete 40-weeks study period (p> 0.05), the final body weights (BW) (Fresian: 304.5 Kg ± 26.36; Chianina: 418.6 kg ± 68.55) and the BCSs (Fresian: 2.54 ± 0.019; Chianina: 6.37 ± 0.16) of T group exceeded significantly (p< 0.05) that of the C (Fresian: 296.6 Kg ± 58.98, BCS= 2.4 ± 0.028; Chianina: 403.63 kg ± 356.98, BCS= 6.1 ± 0.01) and D (Fresian: 296.35 Kg ± 52.13, BCS= 2.4 ± 0.023; Chianina: 410 Kg ± 74.13, BCS= 6.1 ± 0.028) groups. The results showed that toltrazuril is able to control persistently oocyst excretion and diarrhoeic symptoms: the oocyst counts as well as the number of scour days were significantly (p< 0.05) lower in T group (Fresian: opg GM 47.65; Chianina: opg GM 52.65) compared to D (Fresian: opg GM 182.01; Chianina: opg GM 197.05) and C (Fresian: opg GM 555.25; Chianina: opg GM 491.02) groups. Our results confirm that toltrazuril, applied in accordance with the epidemiological aspects of each farm, is highly efficacious, safe and moreover provides productive benefits both in dairy heifers and beef calves for long time (40 weeks) and suggest that such pharmacological approach may represents the most promising tool for efficient control of coccidiosis in cattle.