Use of Decoquinate in Milk Replacer to Control Coccidiosis in Calves

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Performance data for a period of 12 months was examined and a total of 1582 calves were recruited (Control Group, n = 797; Treatment Group, n = 785). Data on DLWG was analysed by farm. The DLWG to 14 weeks for the control calves were significantly lower (P<0.05) than those that received decoquinate in their milk replacer (overall 0.76kg/day Vs 0.96kg/day). No evidence of clinical coccidiosis was seen in any of the treated groups.

The effect on daily liveweight gain (DLWG) of the decoquinate administration in milk replacer was assessed on three calf rearing units with a history of coccidiosis. All three units reared batches of calves from the age of 10 days to 14 weeks. Batches of calves were made up of animals from multiple sources.

On each unit, historical performance data (DLWG and disease incidence) from batches not receiving any decoquinate (Control Group) was compared to data after introduction of routine decoquinate treatment (Treatment Group). Decoquinate was provided daily at a dose rate of 1mg/kg using Vetcox Pro (Vetsonic (Ltd) UK) mixed into the milk replacer prior to reconstitution, in accordance with the manufacturer's guidelines. Calves were weaned at 8 weeks of age onto a starter ration containing no decoquinate.

It has been suggested that all cattle kept under conventional conditions unavoidably experience infection with coccidia at some point in their lives. Estimations suggest that only 5% of infected animals show clinical signs of coccidiosis (Muirhead, 1989) (anorexia, loss of weight, haemorrhagic and mucoid diarrhoea) whilst the remaining 95% are subclinical. The economic impact of the clinical disease is widely acknowledged (Jolley, 2006) but the negative effect of subclinical coccidiosis on feed conversion and growth is often overlooked even though it occurs more frequently (Daugschies, 2007).

The most effective method of minimizing the effect of coccidiosis is prevention; this can be accomplished by a combination of good hygiene and the use a coccidiostat. One of the biggest problems associated with the use of coccidiostats is that of predicting intakes especially in younger calves. In milk fed calves the intakes of hard starter feed are often variable and the concentration required to achieve an effective dose would risk suppressing feed intake. The administration of a coccidiostat in milk offers an attractive alternative as it allows more accurate dosing.

The inclusion of decoquinate in milk replacer fed to calves between 10 days and 8 weeks of age resulted in a significant increase in DLWG up to 14 weeks of age and was effective in controlling coccidiosis. This was similar to previous findings by Ramsey et al who found decoquinate to be effective in increasing feed intake and weight gain when animals were placed in an environment where coccidia had been found previously. Administering decoquinate in the milk enables more accurate dosing than that which is possible by provision of medicated starter feeder. Vetcox Pro is a medicated premix containing decoquinate, available for use in the UK which is mixed with milk replacer prior to reconstitution.

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