

Research Summaries 1

A Comparison of Feeding an Oral Electrolyte in the Milk to an Oral Electrolyte Fed Separately in Water to Calves with Diarrhea

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Introduction

Oral rehydration of calves with diarrhea is an important component of their treatment. Delivering oral rehydration solutions (ORS) can be time consuming and labor intensive. Most ORS products require separate administration from milk so that proper energy levels and adequate absorption of milk from the gut occurs. The ability to feed ORS directly in the milk has an advantage of time and labor savings.

The purpose of this study was to compare two commercial products (RE-SORB™ and Diaque™) using their labeled administration for treating uncomplicated diarrhea in calves. RE-SORB™ was designed for feeding separately in water whereas Diaque™ was designed for feeding directly in milk. Parameters monitored during the study included morbidity, mortality, and average daily gain (ADG) which was recorded post treatment and at the time of weaning.

Materials and Methods

The study site was a large dairy in northern Colorado. A total of 571 newborn calves were enrolled in this study. Calves were fed a gallon of colostrum at birth and tested for bovine viral diarrhea virus (BVDV). Only BVDV test-negative calves were eligible for participation in the study. Calves were housed in individual hutches and fed a mixture of pasteurized hospital milk and milk replacer twice per day. Calves were monitored twice each day for diarrhea and assigned a fecal score of 0 - 4 (0 = normal, 1 = softened stool, 2 = mild diarrhea, 3 = moderate diarrhea, and 4 = severe watery diarrhea).

Calves were monitored until weaning at 56 days. Body weights were collected on calves at birth, initiation of treatment, five days post treatment, and at weaning. Calves with diarrhea were assigned randomly to one of two commercial ORS products and fed the products according to label directions.

Results

There were no significant differences in treatment failure, mortality rates or dehydration scores between the two treatment groups. However there was a significant improvement in fecal scores by the fourth treatment for calves fed Diaque™ when compared to calves fed RE-SORB™ ($P < 0.01$). Additionally Diaque™ calves required one less treatment for a calf to reach recovery than calves fed RE-SORB™ ($P < 0.001$). There was also a statistically significant advantage for Diaque™ calves with respect to ADG. Calves fed Diaque™ had an ADG of 1.17 lb (0.53 kg) and calves receiving RE-SORB™ recorded an ADG of 1.12 lb (0.51 kg) ($P < 0.04$).

Significance

One of the most important observations in this study was that electrolytes could be fed in the milk with positive effects. ADG was significantly improved when feeding Diaque™; however, the biggest advantage came with one less treatment and in the reduction of labor and time if the calf does not need to be visited an additional two times a day when treated for diarrhea. For this dairy, a savings of \$8.27 was realized on calves that were treated with Diaque™.