

Effect of yeast supplementation on health and growth of milk-fed veal calves

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The objective of this study was to investigate the effect of one specific strain of yeast, *Saccharomyces cerevisiae boulardii* CNCMI-1079 (SCB), on the growth performance, and health of veal calves. A total of 84 animals (6 ± 3 days) were enrolled in an experiment at a commercial veal farm for a total of 7 weeks. Calves were randomly assigned to one of two treatment groups; half of the animals (SCB group) received milk replacer (MR) meal supplemented with SCB (10 × 10⁹ CFU/d), and the other half (CON) were fed a 5 g placebo. Individual feed intake and body weight were monitored on a daily and weekly basis. Fecal samples were collected at arrival to the veal facility (wk 0) and additional samples were taken on d 14 (wk 2) and d 49 (wk 7). These samples were subjected to real-time quantitative PCR to quantify *Saccharomyces cerevisiae*. The significant increase of *S. cerevisiae* in the feces of SCB calves at wk 2 and wk 7 compared to wk 0 (respectively 1.7 × 10⁷, 1.2 × 10⁷ and 2.2 × 10⁵ copy number of *S. cerevisiae*/g of feces) indicates a successful engraftment of SCB. Supplementation of SCB did not improve overall growth performance with regards to average daily gain (ADG), final body weight and feed intake. Nevertheless, a total of 69.1% of non-supplemented calves had diarrhea and 28.6% experienced severe diarrhea, whereas 50.0% of the calves supplemented with SCB had diarrhea and 9.5% experienced severe diarrhea. With respect to antibiotic use, 89.7% of the diarrheic calves recorded in the CON group were treated, whereas only 66.7% of the SCB diarrheic calves received antibiotic. In addition, diarrheic calves supplemented with SCB maintained an ADG similar to non-diarrheic animals, whereas the CON diarrheic calves had a significantly lower ADG in comparison to non-diarrheic CON calves.

The results derived from this study could increase the confidence of producers to use probiotic products in dairy replacement and veal calves, thereby improving animal welfare and productivity in Canada.