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The effect of feeding XPC[®] yeast culture on pre and post weaning performance of Holstein dairy calves

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The inclusion of yeast prebiotics in feeds benefits the host cattle with already developed rumen by increasing palatability, stimulating cellulolytic bacteria, and thus the rumen fermentation, and improving nutrient digestibility. In previous studies yeast culture has increased feed efficiency (FE), rumenpH and ruminal butyrate and acetate production when included in calfdiets. This experiment was conducted to evaluate the effect of feeding XPC[®] on pre and post weaning performance of Holstein dairy calves.

Thirty-eight Holstein calves were randomly assigned to one of 2 treatment groups (control vs. XPC[®], yeast culture from Diamond V company, USA). Dietary treatments were administered in 2 phases. In each phase control group received basal diet and treatment group received basal diet plus four grams of XPC[®]/head/day in phase one (last two weeks pre-weaning) and eight grams of XPC[®]/head/day in phase two (first two weeks post-weaning). Dry matter intake and weight gain was recorded daily for individuals. Data were analyzed as repeated measures using theMixed procedure of SAS (2003).

There was no difference in body weight between experimental groups in first week of experiment but XPC[®] group had higher body weight comparing to control group from second week of experiment onwards. Calves in XPC[®] group had higher DMI comparing to control group except in second week post-weaning. Adding XPC[®] to diet improved feed efficiency in first week post-weaning. The dairy calf begins its life as a simple stomached animal and microbial community of the rumen is essentially undeveloped in the neonate. Rumen development and establishment of microbial community takes place over the time. Improvement in studied parameters during final stages of this study can reflect the process of rumen development and increasing susceptibility of microbial community to yeast culture based products.

Keywords: XPC yeast culture, Calf, Growth, Feed efficiency