exposed to each of two treatment diets (over 35-d periods) in a replicated crossover design. Treatment diets were: 1) control TMR, and 2) control TMR plus $1x10^{10}$ cfu/head/d live yeast (*Saccharomyces cerevisiae* CNCM I-1077; Levucell SC20; Lallemand Animal Nutrition, Montreal, QC, Canada). Milk production, feeding, and rumination behavior were electronically monitored for each animal for the last 7 d of each treatment period. Milk samples were collected for the last 6 d of each period for milk component analysis. Data were analyzed in a general linear mixed model. DMI (28.3 kg/d), eating time (229.3 min/d) and rate (0.14 kg DM/min) were similar between treatments. With yeast supplementation, meal criteria were shorter (20.0 vs. 25.8 min; SE = 2.3; $P = 0.04$), translating into cows tending to have more meals (9.0 vs. 7.8 meals/d; SE = 0.6; $P = 0.07$), which tended to be smaller in size (3.4 vs. 3.8 kg/meal; SE = 0.2; $P = 0.09$). Meal length (33.9 min) was similar between treatments. Yeast supplemented cows also tended to ruminate longer (570.3 vs. 544.9 min/d; SE = 13.2; $P = 0.08$). Milk yield (45.8 kg/d) and efficiency of production (1.64 kg milk/kg DMI) were similar between treatments. There was a tendency for higher milk fat % (3.71 vs. 3.55%; SE = 0.08; $P = 0.09$) and yield (1.70 vs. 1.63 kg/d; SE = 0.04; $P = 0.1$) when cows were supplemented yeast. No differences in milk fatty acid composition were seen, with the exception of a tendency for a greater concentration of 18:2, *cis*-9, *cis*-12 fatty acid (2.71 vs. 2.48% of total FA; SE = 0.13; $P = 0.08$) when cows were yeast supplemented. Yeast supplemented cows had lower mean ruminal temperature (38.4 vs. 38.5°C; SE = 0.01; $P = 0.02$), spent less time with rumen temperature above 39.0°C (353.1 vs. 366.9 min/d; SE = 5.5; $P = 0.001$), and tended to spend less time with rumen temperature above 38.0°C (693.9 vs. 780.0 min/d; SE = 29.1; $P = 0.06$). The results suggest that live yeast supplementation had a beneficial impact on rumen fermentation as evidenced by improvements in meal patterns and rumination, milk fat production, and rumen temperature.

Key Words: live yeast, rumination, meal pattern

1609 (M323) The effect of supplementing dairy cows with a hydrolyzed yeast product (ProgutRumen) on milk production and somatic cell scores.

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The object of this study was to determine if supplementing Holstein-Friesian cows with hydrolyzed yeast product (ProgutRumen) had an effect on milk production and somatic cell score (SCS). Holstein-Friesian dairy cows ($n = 248$) were balanced for DIM, pre-experimental milk yield, and milk composition and assigned to either a control ($n = 127$) or hydrolyzed yeast (Progut, $n = 121$) treatment. Cows were put into two large pens and after each milking the cows were rotated into a new pen to account for environmental effects in the shed. Cows were individually fed the Control and Progut Rumen (10 g/cow/day) treatments in the milking parlor during the morning milking. Therefore, the cow was considered the experimental unit. The trial was performed over two seasons (for a 10-wk period and a 8-wk period) and on weekly intervals milk yield was recorded and milk composition (fat yield and %, protein yield and %, lactose yield and %) and somatic cell score was determined. The dataset was divided in three ways for the analysis; the entire dataset, all cows with an average daily milk yield > 24kg, and finally all cows with an average daily milk yield > 30kg. All data were analyzed in SAS with a repeated measures mixed model with the appropriate covariance structure determined by Bayesian Information Criterion. The fixed effects included treatment, season, parity (1 to ≥ 5), and week and the interactions between treatment and parity, and treatment and week with a random effect included for cow. There were no significant differences between the Control and Progut Rumen treatments for the milk composition traits. There was a significant increase in milk yield for the Progut Rumen treatment in the entire dataset ($P < 0.01$), > 24kg dataset ($P < 0.01$) and the > 30 kg dataset ($P < 0.05$). There was a significant decrease in SCS for Progut Rumen compared to the Control treatment in the entire dataset ($P < 0.01$), > 24kg dataset ($P < 0.05$) and the > 30 kg dataset ($P < 0.05$). In conclusion supplementing dairy cow diets with Progut Rumen did not alter milk composition, however it increased milk yield and decreased SCS indicating possible beneficial effects on the dairy cows' immune system.

Key Words: hydrolysed yeast, milk yield, somatic cell score

1610 (M324) Effect of live yeast vs. sodium sesquicarbonate supplementation on milk yield and milk components in dairy cows.

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The trial objective was to determine the effect of supplemental live yeast (LY) ($10x10^9$ cfu/cow/d; *Saccharomyces cerevisiae* CNCM I-1077) vs. sodium sesquicarbonate (SS) (227 g/cow/d) on milk yield, milk components, and DMI. Four pens of Holstein cows (200–230 cows/pen) in a freestall barn were paired as follows: Parity 1 and Parity 2+. Each pair was balanced pre-trial for parity, DIM, milk yield, and milk components. One pen per pair received LY and one pen per pair received SS. The study was 16 wk in length with 12 wk of diet adaptation and 4 wk of data collection. Parity 1 and Parity 2+ diets were similar except Parity 2+ contained 25% BMR corn silage and forage NDF was higher (24.26 vs. 23.45%).