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BENELAC® YC

DAIRY RESEARCH BULLETIN 2

Effects of Benelac® YC on Production, IOFC and Efficiency in Lactating Dairy Cattle

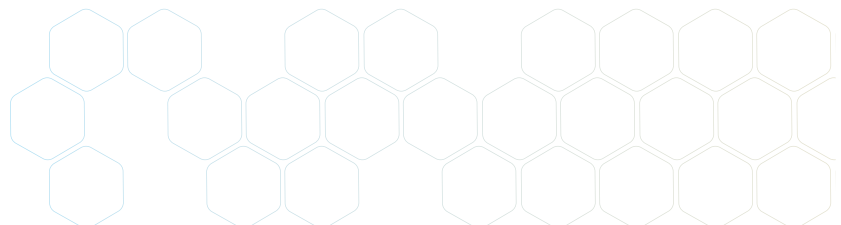
INTRODUCTION

Yeast culture is widely recognized and documented as having rumen-modifying effects. The exact mechanisms have never been fully explained, but it is presumed that the nucleotides and amino acids provide readily available nutrient sources for rumen microbes. This is generally observed as an increase in ruminal microbial efficiency, conversion of feed nutrients into microbial protein, and increase in the number of lactic-acid-utilizing bacteria. Other factors (growth factors and enzymes) may have stimulatory effects on the rumen microbes or digestibility of nutrients. The sum of this activity is a more stable rumen, with higher pH and more nutrients available for the cow to meet her requirements for health and production.

Benelac YC is a 100% *Saccharomyces cerevisiae* yeast culture. The yeast cells and media on which the yeast is grown are harvested and dried directly, without the addition of any carrier. This means that all intrinsic and secreted growth factors, enzymes, peptides, nucleotides and other factors are present at much higher levels than in other yeast cultures.

METHODS

► This study was conducted on a ~4000-cow dairy in Washington state. Starting in December 2017, multiparous cows were added alternately to one of two high groups as they freshened. The groups received the same diet, with the exception that Group 1 received 14 g/hd/day of Diamond V® XPC as a positive control while Group 2 received 7 g/hd/day of Benelac® YC. The treatments were blended into the TMR and delivered twice per day. Only cows that freshened onto the treatments and completed 14 weeks on treatment were included in the analysis. Milk weights were collected once per week and samples taken for analysis of components. Feed intake and refusals were tracked daily using EZFeed. There were 110 cows in each treatment that completed the study. Data were analyzed using the Student's t-test in JASP.



RESULTS

- **Milk and Component Production** – Comparing the average milk and component production across the fourteen weeks, cows fed the Benelac YC produced 1.54 pounds more milk ($P=.003$), 2.38 pounds more energy-corrected milk (ECM; $P<.001$) and 2.41 pounds more fat-corrected milk (FCM, $P<.001$, Figure 1,). Cows fed Benelac YC produced 0.1 pounds more fat ($P<.05$), while protein production was similar between treatments ($P>.05$, Figure 2).
- **Feed Efficiency** – Dry matter intake was not different between the two treatment groups ($\bar{X}= 59.94$ pounds).

With higher milk and fat yields, feed efficiency of milk, ECM and FCM were significantly improved ($P<.05$, Figure 3).

- **Profitability** – We used standardized milk and component prices across the trial period for calculation of income over feed cost (IOFC). Due to the higher milk and fat production by the cows fed Benelac YC, and the lower cost of using Benelac YC, we observed a lower feed cost per hundredweight of milk. All of this together resulted in a \$0.35 increase in IOFC.

Figure 1. Milk Production, ECM and FCM

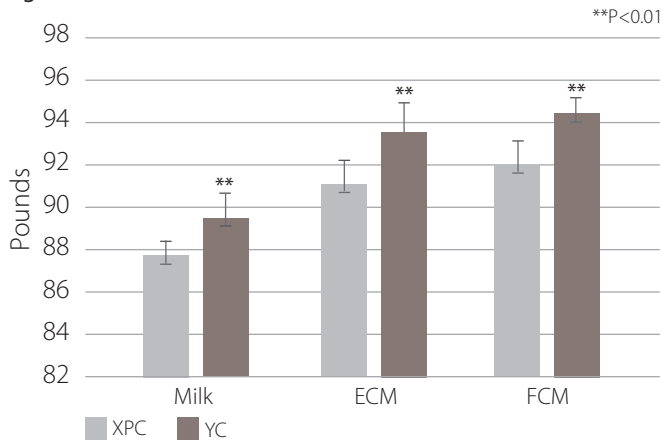


Figure 3. Feed Efficiency

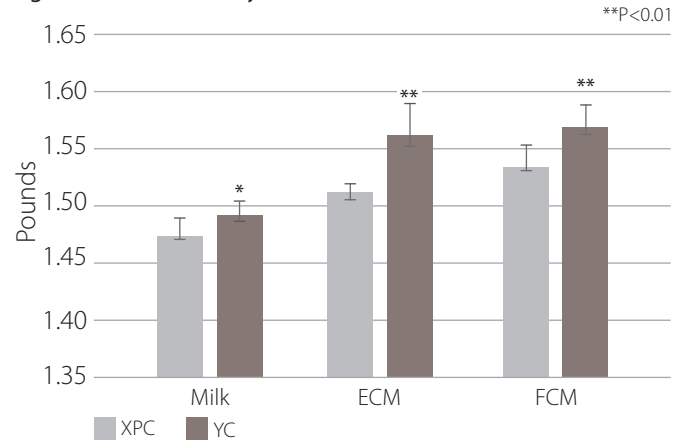


Figure 2. Component Production

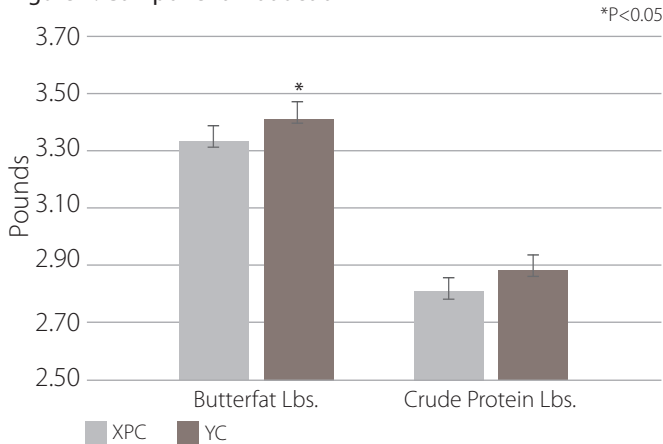
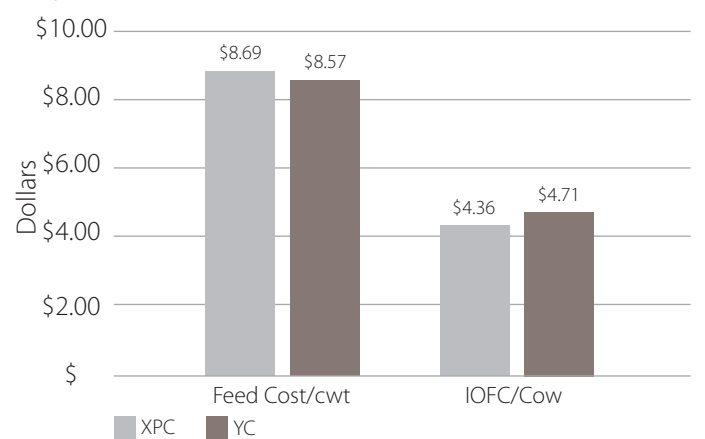


Figure 4. Feed Cost and IOFC



IMPLICATIONS

Benelac YC appears to be an effective feed supplement to aid in improving rumen health and yield of milk and solids, as well as overall profitability of dairy herds. With a significantly lower cost than many yeast cultures on the market, Benelac YC can be a cost-effective alternative for improving your herds' bottom line.



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