Impact of Hydro-Lac® supplementation during the fresh period on early lactation milk production and reproduction in a commercial Midwest dairy field demonstration.

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Background:

The transition period immediately after calving, commonly referred to as the "fresh period," often presents the challenges of metabolic diseases related to negative energy balance, namely ketosis, in early lactation dairy cows. The fresh period also is a time that the dairy cow must replenish lost fluids and heal or repair tissue associated with the calving event. This process also requires extra energy, fluids and minerals in ample quantities to maintain and perform to optimal health status. Ultimately, high production of peak milk levels and fast return to estrus activity for timely rebreeding are the goals for profitable production in commercial dairies.

Hydro-Lac® (HL) is a timed-event nutrition (T.E.N.™) product that is formulated to provide essential nutrients, electrolytes, sugars, and other proprietary ingredients necessary to maintain homeostasis and performance in cattle, particularly during periods of transport and heat stress. Research in cattle supplemented with Hydro-Lac prior to harvest at various rates has shown significant improvements in glycolytic potential (measurements of available energy in tissue), lipid oxidation and water-holding capacity or tissue shrink[2,3]. These improvements in harvest cattle are proven to be applicable to improving energy balance, hydration status and cell repair and ultimate performance preservation during heat stress events[4]. A series of field demonstrations summarized a significant improvement in FreshME and numerically improved metrics in first-test butterfat and milk protein, indicating reduced risk to developing ketosis in cows fed Hydro-Lac in the first 7-30 days of early lactation[5]. Anecdotally, herd-owners have shared perceived improvements in subsequent reproduction of supplemented cows, but no data was previously summarized in dairy cows.

The potential use of Hydro-Lac, therefore, could be a profitable tool in helping the cow cope with the stress endured post-calving to improve animal health and performance.

Demonstration Design and Methods:

On July 20th, 2016, a 450-cow milk herd in central Minnesota started feeding Hydro-Lac to their fresh pen only. Cows entered this pen right after birth and were moved out of the pen between day 14 to 30. Nothing was changed in the diet except for the addition of 0.33 lbs. of Hydro-Lac per cow per day.

Using DairyComp305/DHIA records, all cows that calved from July 20 to September 30 for both 2015 and 2016 were compared for weekly milk production for the first eight weeks of lactation. Comparison data was analyzed and summarized for Week 4 and Week 8 milk year against year and against a standardized dairy performance database[6].

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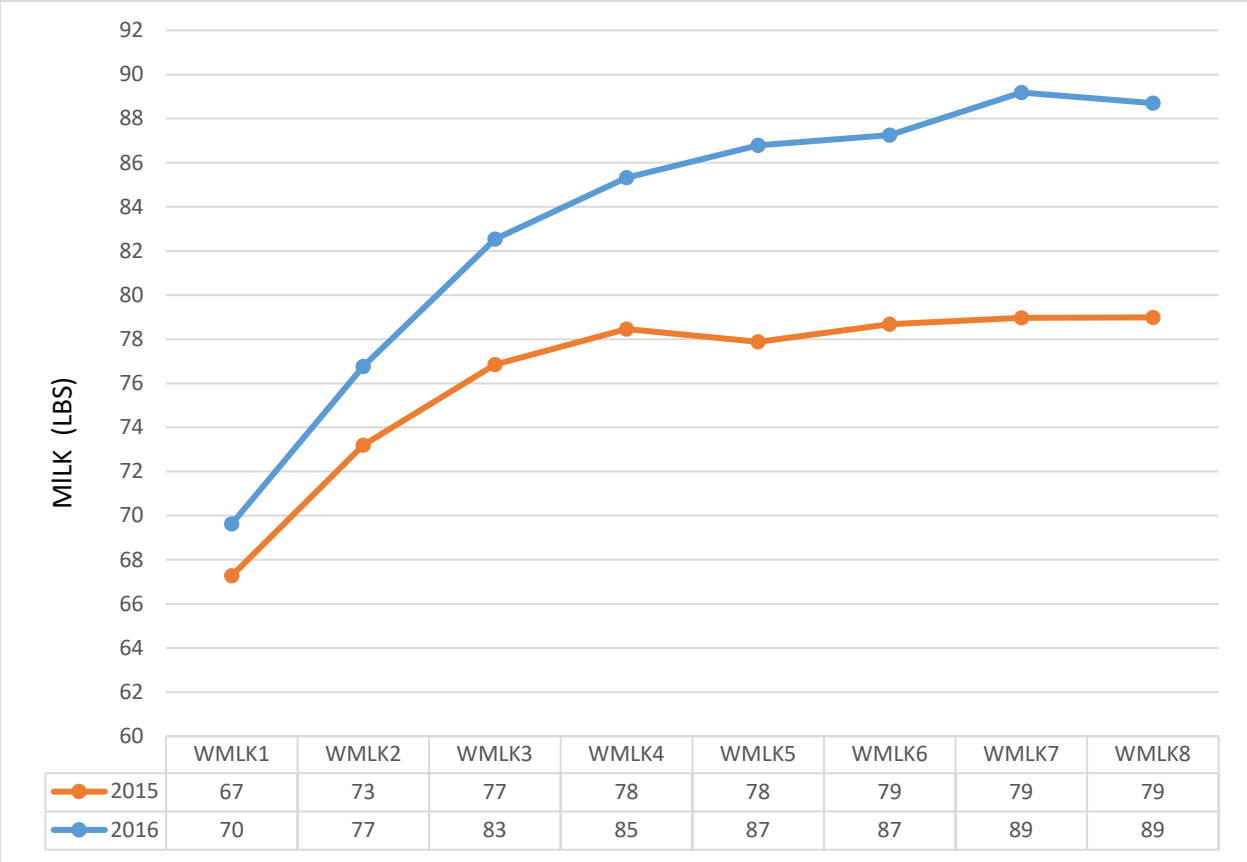
Results & Discussion:

Fresh cows receiving Hydro-Lac recorded a 7-pound increase of milk at Week 4 and a 10-pound increase in Week 8 milk production (Table 1). Based on data summaries[5,6] for every 1 lb. of milk increase at week 4, there is the potential to increase overall milk production by 405 lbs. over the entire course of the lactation. These results would indicate cows supplemented with Hydro-Lac in early lactation could have the potential of producing 2,837 lbs. more milk than the cows that calved during the same time in 2015. This indicates that Hydro-Lac has the potential to provide significant economic opportunity for the entire production curve, by improving initial fresh cow performance.

Summary:

Hydro-Lac supplementation to lactating dairy cows during the fresh period immediately after calving has been demonstrated to improve fresh cow performance as measured by Week 4 and Week 8 milk. Since Week 4 milk is often used as a standardized predictor of lactation curve performance in commercial dairies to evaluate potential production response to changes in fresh cow programs, this would indicate that a high return on investment potential exists for supplementing fresh cows with Hydro-Lac.

Table 1. Week 1-8 Milk Production per cow freshened Jul-Sept 2015 (no HL) vs. 2016 (HL)



	WMLK1	WMLK2	WMLK3	WMLK4	WMLK5	WMLK6	WMLK7	WMLK8
2015	67	73	77	78	78	79	79	79
2016	70	77	83	85	87	87	89	89

For more information, contact Form-A-Feed, Inc., Stewart, MN Ph. 1-800-422-3649 www.formafeed.com