

TECHNICAL BULLETIN

Analysis of MILK2024 Implications

Background

First introduced in 1990, the MILK index has helped compare corn silage hybrid nutritive value since its debut. A major decision point for both dairy and beef producers, this index provides both milk/ton and milk/acre, energy content and energy yield values, to review across hybrid options.

Prior to MILK2024, MILK2006 was the latest iteration of this model. MILK2006 was a great development building upon the then-known National Research Council's energy equations for 10-15 years. Historically, fiber content and fiber digestibility outputs explained Milk 2006 outcomes.

Overview

The MILK models' deep influence in prioritizing hybrids with energy levels have made them a vital piece of the translation between agronomists, nutritionists, and seed industry representatives. These field teams have continued to utilize the MILK2006 index well into the 2020s. However, nutritionists and forward-thinking, early-adopting dairy producers have moved away from MILK2006 in the last five to 10 years. MILK2024 stands to rectify this, potentially ushering both groups back together over a forage - specifically corn silage for the time being - milk per ton index.

Details

2021 marked the release of the National Academies of Sciences, Engineering, and Medicine (NASEM), formerly known as the NRC, Nutrient Requirements of Dairy Cattle, Eighth Revised Edition. This brought new information on nutrients and dairy nutrition to the forefront.

- MILK2006 utilized now-outdated Total Digestible Nutrients (TDN)-based equations to estimate the aforementioned values.
- Fiber content and fiber digestibility outputs largely explained MILK2006 values.

- The updated MILK2024 model utilizes both fiber AND starch digestion values, specifically laboratory-measured starch digestibility.
These include 7h starch, 240h uNDF, and NDFD
- Milk 2024 is based on a basal diet, to match NASEM dietary energy estimates.
- Milk with 4.0% fat, 3.1% true protein, and 4.8% lactose is predicted by MILK2024 vs. the previous index utilizing 3.5% fat-corrected milk.

Discussion

The updated MILK2024 model is much closer in line with how a nutritionist will integrate the data and apply energy equations in current ration building. With this new prediction, seed genetics higher in starch will likely stand out and shine.

MILK2024 is more sensitive to accurate *in situ* starch digestibility measurements, and as such, Rock River Laboratory clients are more capable than ever of selecting the seed genetics they need.

Former MILK2006 users should get some experience trying out the new MILK2024 model. Management and fertility will still be key pieces best derived from plots, but this index provides a great complement to that information.

Conclusion

MILK2024 stands to improve forage selection decisions - assisting all involved with such decisions - across the industry. This tool not only complements the various analyses and trials that producers, their nutritionists, and agronomists rely upon, but it offers an opportunity for greater confidence in such decisions thanks to updated model contributions that accurately reflect the latest research and where the industry is heading.

(References provided on back)

References:

[Diepersloot, Shaver, Lauer and Ferraretto. 2024. MILK2024 – Background and Guide](#)

National Academies of Sciences, Engineering, and Medicine. 2021. Nutrient Requirements of Dairy Cattle: Eighth Revised Edition. Washington, DC: The National Academies Press.