

# Texas Dairy Matters

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## CONSISTENCY PAYS

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Consistency, consistency, consistency. Whether it's feeding, milking, or moving cows, the dairy herd responds to consistency. But how much does consistency mean?

Nutritionists constantly work with feed managers to try and get the ration they formulate delivered and consumed by the cows. They know that no matter how good a ration looks on paper, if the cows don't consume that ration, performance may suffer.



Many producers have switched to feeding total mixed rations (TMR) to provide a uniform supply of nutrients throughout the day. When feeding a TMR rather than grain in the parlor and forage outside, rumen pH remains more stable so rumen microbes can thrive. Keeping that consistent rumen environment aids in rumen function and improves how efficient nutrients are utilized.

Mixing times and order, mixer wagon maintenance, silage dry matter variation, ingredient nutrient variability, and weighing errors – all impact the consistency of the

delivered TMR. Recently researchers at the University of Guelph evaluated how daily variation in the ration delivered influences some standard productivity measures.

The researchers visited twenty-two commercial herds seven days in a row during both the summer and winter months. All herds were housed in freestalls and were predominantly Holstein genetics. During each visit they collected freshly delivered feed and the weigh backs (refusal rate) from the highest producing group. Weigh backs averaged 3.5 percent. Particle size distribution, dry matter, and chemical composition were then determined on the samples. They also collected group averages for daily dry matter intake (DMI), milk yield, and milk components.

The coefficient of variation (CV), expressed as a percent, was used to determine the daily ration variability between what was fed and formulated. Only dry matter, crude protein, total digestible nutrients, and net energy of lactation (NE<sub>L</sub>) varied by less than five percent. Acid detergent fiber, neutral detergent fiber, ash, calcium, phosphorus, magnesium, potassium, and non-fiber carbohydrates varied from five to ten percent. Sodium, iron, manganese, zinc and copper varied from 11.6 to 52.4 percent.

As the variation in feed refusals increased and the amount of variation in long particle length and NE<sub>L</sub> decreased, milk yield and 4% fat corrected milk (FCM) yield increased. For every 20-percentage-point increase in refusal rate CV, 2.9 pounds per day more milk or 2.6 pounds per day more FCM was produced. Since farms with the greatest variability in refusal rate also had the lowest refusal rates (less than two percent), this association may be indicative of farm management practices aimed at decreasing weigh backs, while maximizing productivity.

When the variability in NE<sub>L</sub> increased by 0.5-percentage-point (CV), milk yield declined by approximately seven pounds per day. Finally as the percent of long particles increased 5-percentage points (CV), 2.6 pounds less milk was produced daily.

From these results, it is apparent that reducing the variability in TMR composition can provide returns in the form of increased milk production. Develop herd specific standard operating procedures based on the feed, labor and equipment available to reduce variability. Then regularly monitor variability to detect any drift. Your cows will pay you back.

## References

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