

Optimizing dairy performance

Ten years of the TMR Audit®

Overview



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- Since 2008, Diamond V has conducted about 10,000 TMR (total mixed ration) Audits
- TMR Audits improve the efficiency of feeding operations, helping to reduce feed shrink as well as fuel and labor costs
- Top areas of attention during TMR Audits include cows running out of feed and worn mixing equipment
- Making feed more available to cows and better silage storage and feed out management go straight to dairy's bottom line
- For many dairies, the capital investment is in place – TMR Audits help optimize that investment

Details

A decade ago, Diamond V introduced a unique, systematic approach to measuring the operational efficiency of a dairy's feeding operation.

It's called the TMR Audit®, a process that monitors and improves the cattle feeding process, as well as the consistency and homogeneity of the ration consumed by each animal, optimizing productivity. Since January of 2008, Diamond V has conducted roughly 10,000 audits on farms around the world, helping producers increase dairy efficiency.

Early on, Diamond V Dairy Advisors focused much of their work with the TMR Audit on fine tuning the diet preparation and identifying areas for improvement. While they continue to focus in that area, more recently they have devoted a significant amount of attention at the feedbunk with time lapse cameras. The TMR Audit is a dynamic process with ongoing opportunities to improve in the future, especially in the area of feed management software.



Lessons learned

There are any number of issues on a dairy farm that can impact dairy productivity and efficiency. After a full decade of conducting TMR Audits, here are our Top 5 areas of attention:

1. **Cows running out of feed or not being able to reach feed. Often, we see cows out of feed for as long as four to seven hours.** More frequent push up of feed allows better access by the cows.
2. **Mixer wear, such as knives, kicker plates, augers, and liners.** Worn mixing equipment will increase the amount of time it takes to mix properly and decrease the quality of the mix – creating an increase in fuel costs. Monitoring and repairing these items as needed, such as kicker plates, is essential to maintain a high quality TMR.
3. **Inadequate mix time after the last ingredient is added.** After the last ingredient is added, there is a tendency to quickly move the TMR to the bunk before it is adequately mixed. Increasing the final mix time will allow for TMR to be properly blended.
4. **Low auger speed on vertical mixers.** Tractor or truck engine speeds should be raised to increase auger speed and get better mixing action.
5. **Inadequate hay processing to avoid sorting.** Processing hay and straw into smaller particle sizes will help decrease sorting by cows.

Typically, the first TMR Audit on a dairy farm results in a significant milk production increase and often an increase in milk fat content. Subsequent TMR Audits don't always see changes in milk production, but they continue to improve the efficiency of feeding operations, resulting in reduced feed shrink, fuel and labor costs.

The bottom line

So, especially in a challenging milk market, what are some of the top priorities of producers to improve their bottom line?

1. **Make feed more available to cows.** Every pound of dry matter eaten results in two pounds of milk produced. Making sure cows have the nutrition they need will ultimately pay long-term dividends for a dairy operation.

2. **Reduce feed shrink by better silage storage and feedout management.** Minimizing exposure to air, keeping silage coverings in place, ensuring a dense silage pile pack, maintaining a smooth feedout face and managing removal rates based on times of the year are all examples of efforts that can significantly reduce shrink.
3. **Use on-farm premixes to reduce feed shrink, reduce TMR loading times, and improve overall efficiency of feeding.** The use of on-farm premix allows for the rapid loading of TMR mixer boxes. The ultimate goal is to load a TMR in 15 minutes or less.
4. **Blend faced silages into a well-mixed uniform pile prior to loading into the TMR.** This approach has a significant impact on TMR consistency and helps keep dry matter intakes more consistent.
5. **Exercise routine maintenance on feed-mixing equipment.** Routine maintenance and servicing are crucial to keeping feed-mixing equipment operating properly.
6. **Properly training the “feeding team,” those employees involved with pushing up feed and push out of feed.** Recruiting, training, and managing the labor responsible for ensuring the accurate and consistent delivery of feed has a big impact on a dairy’s overall performance and profitability.
7. **Initiate better use of feed software.** Using the feed software to its fullest potential to gather and evaluate feeding-related information – like a herd’s daily dietary routine – can help feeders improve and become more efficient.

ROI

For many producers, the capital investment associated with operating a dairy is already in place – but is that investment being properly utilized?

Free stall barns and parlors are huge investments, but if cows can’t reach their feed due to poor push up schedules and milk production declines, return on investment is greatly diminished. The TMR Audit helps dairies improve their feeding efficiency, which optimizes their investment in feed centers and mixing equipment.

Staging high-volume feeds such as corn silage, haylage and hay close to the mixers helps with TMR loading speed. This allows more efficient use of capital investments.

In summary, the TMR Audit is Diamond V’s proven system to measure dairy efficiency – and has helped producers get the most out of their dairy operations for a full decade. Enhancing the consistency of total mixed rations improves cow health and performance – and boosts dairy profitability.

See our “Mixing Factors Scorecard” below, part of the TMR Audit.

Mixing Factors Scorecard

1 = Excellent no change 5 = Needs improvement

1. Mixer wear – overall: _____
 Auger: _____
 Kicker plate: _____
 Knives: _____
2. Level mixer at loading: _____
3. Hay/straw processing: _____
4. Loading position in mixer: _____
5. Final mix time: _____
6. Ingredient mix order: _____
7. Liquid distribution: _____
8. Load size – overall: _____
 Too big: _____
 Too small: _____
9. Auger speed (vertical): _____
 Actual RPM: _____
10. Forage restrictor setting: _____
11. Auger timing: _____