

# Successful Farms Are More Consistent

## Part 2: Feeding Consistency

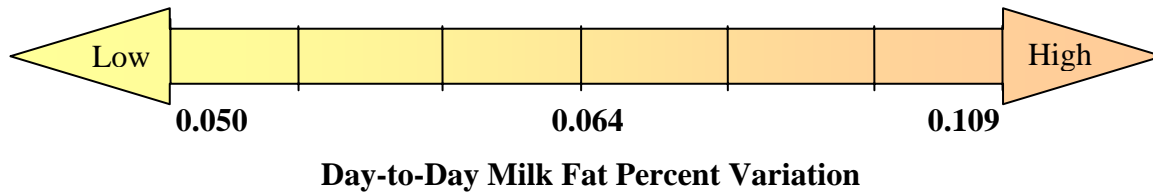
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In Part 1 of this series (Dairy Star Vol. 6, No. 14, September 11, 2004), we explored the impact of consistency on milk quality. This issue we will focus on how study of day-to-day variation in milk fat and protein percent can give you some insight about your feeding management. As is the case with milking, cows love it when diets are the same. They perform best when fed palatable diets that consistently provide all nutrient requirements day after day.

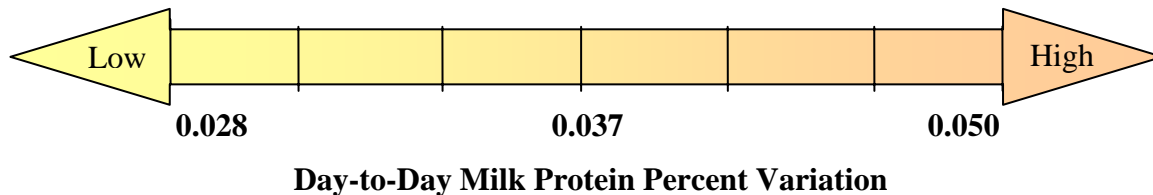


Variation is a measure of process quality, compliance and consistency. Regardless of how well-formulated the diet, it needs to be fed consistently to achieve its desired results. Variation between the formulated diet and that consumed by the cow is common. This variability can be caused by variability in the feeds, the feeder, or the cow. Figures 1 and 2 show the day-to-day variation of butterfat % and protein % for over 1500 Upper Midwest dairies that were studied by the University of Minnesota for an entire year.

**Figure 1. BULK TANK MILK FAT**



**Figure 2. BULK TANK MILK PROTEIN**



### How can you utilize variation data for managing herd nutrition?

As was noted in Part 1 of this series, the Internet service MilkLab uses daily bulk tank fat and protein test results to make a daily control chart plot in which the herd mean and sigma value (a measure of variation) is calculated. Any herd selling milk to LOL, AMPI, and First District

Association as well as any of those dairies whose milk is being tested at the Dairy Quality Control Inc. milk testing laboratory can get this service. If you have not heard of this service, ask your milk plant field representative for further details or log on to [www.dairyperformance.com](http://www.dairyperformance.com) for more information. Otherwise you can calculate and evaluate your herd variation in three easy steps described in Part 1 of this series.

### **How does your feeding consistency rank?**

Using the standard deviation value you have just calculated from your last 20 bulk tank test results or the sigma value from your fat and protein MilkLab control charts, place an **X** on the arrow closest to your farm values. How do you rank? Do you have high, low or average day-to-day variation in daily bulk tank fat or protein? Low day-to-day variation in milk protein and fat implies that a very consistent feeding program is being implemented on the farm. High variation would then imply the opposite is true.

### **What if your variation is high?**

If the variation is high, this suggests a need to improve process compliance and consistency.

### **What if variation is low?**

When the variation is low, the good news is that the feeds, the employees and the cows are consistent. The bad news is that if the cows are still not performing up to expectation, then maybe some things are being done consistently wrong. For example, consistently feeding poor quality forages or routinely over-mixing the TMR.

### **What should be done?**

Take a closer look at how all tasks are performed, take measurements and make observations. Your evaluation should include: bunk space, feed dry matter change, TMR mixing time, manure score, particle size of feed that is fed to the cows and the refusals, just to mention a few. Experience has shown that it is best to start by improving consistency and protocol compliance. This makes it easier to identify true improvement in performance. By first reducing the variation in performance, when changes are made to the procedures used, it will be easier to determine if the implemented changes actually resulted in any improvement in milk quality.

## **Feeding Management Checklist**

### **Improve feeding consistency:**

- is there a feeding protocol that **every person** that feeds the cows on the farm knows and **always** follows?
- is the time and way the TMR is prepared **the same every day?**
  - order in which particular feed ingredients are added to the mixer
  - amount of each ingredient that is added to the mixer
  - mixing speed
  - mixing length
  - minimum and maximum loads are not exceeded
  - time of preparation before feeding to the cow
- is the mixer is maintained and **always** in good condition?
- are the cows fed at the **same time every day?**
- are feed bunks empty at any time (at night or early morning)?
- is the feed pushed up 8 to 10 times a day and are the bunks cleaned daily?

- is the face of the bunker straight and the packaging disturbance of silage bag minimized?
- is spoiled forage removed and not fed to the cows?
- is dry mater of forage tested with a representative sample and ration formulation adjusted every time a new silage bag/silo/bunker is opened or a different hay crop (1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup>) is fed?
- is the concentration of nutrients checked and ration adjusted whenever any of the feed ingredients (brand or supplier) is changed?

**Improve the feeding process:**

- is the time and way the TMR is prepared **correct**?
  - order in which particular feed ingredients are added to the mixer
  - amount of each ingredient that is added to the mixer
  - mixing speed
  - mixing length
  - minimum and maximum loads are not exceeded
  - time of preparation before feeding to the cow
- is the particle size of the TMR/feed **correct** (use a shaker box to particle size the TMR/feed fed to the cow)?
- are cows sorting the feed excessively (use a shaker box to particle size the refusals from the bunk)?
- are the feed ingredients processed **correctly**?
  - use manure screening to look for undigested corn kernels
  - inspect the concentrates for overheating (dark color and caramel smell)
  - inspect your forage for spoilage (smell and color)
- are cows eating within 5% percent of predicted intake?
- is there **adequate** access and supply of fresh water?
- do cows have **adequate** time and space to eat (when milked 3 or more times a day in big groups)?
- do cows have **adequate** conditions to ruminate/chew their cud (cow comfort issues: stall number and dimensions)?

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