Feed Additives in Dairy Rations

The recent Cache County DHIA Awards Banquet was a reminder of the tremendous progress dairy producers have made in recent decades. No longer is it uncommon for dairy cows to produce more than 100 pounds of milk daily for much of their lactation. That exceptional production is a reflection of excellent dairy managers and impressive cows. Dairy genetics, animal nutrition and management have never been better.

A recent presentation at the 2005 Intermountain Nutrition Conference is appropriate for review at this time. Dr. Limin Kung, Jr., Department of Animal and Food Sciences, University of Delaware, spoke of the myriad of feed additives that are being promoted daily by convincing feed salespersons. Kung agreed that many kinds of feed additives improve the performance of dairy cattle, but sometimes they only increase costs. "With so many additives and claims about them, one would expect that dairy cows should have no health problems and all produce 150 pounds of milk daily," Kung said. He offered the following suggestions to determine whether a feed additive is economical on your dairy farm.

Suggestion #1. Before using any dairy feed additive, work closely with your nutritionist and veterinarian to make sure that your rations are balanced on paper. Why? Because, as an example, adding yeast will not solve all your problems if your high cows producing over 100 lbs of milk/d are fed a diet containing only 14% CP.

Suggestion #2. Test feeds regularly to insure that the cows are offered the balanced ration in suggestion #1. Why? Because, for example, we know that forage quality and silage moisture can change considerably between silos and even between days.

Suggestion #3. Determine that your cows are "eating" the balanced rations. Why? Because, as examples, load cells on TMR wagons may need calibration, cows may be sorting the TMR, and insufficient bunk space may limit intake by shy or smaller cows.

Suggestion #4. Evaluate housing and management practices that may be affecting your cows in a negative manner. Why? As an example, perhaps the fact that you are moving your cows 5 times between 3 weeks pre-and 3 weeks post-fresh is one cause of many of your post fresh problems. Perhaps reevaluating this process may eliminate the need for a feed additive.

Kung also said, "It is imperative that you have a good record keeping system that can monitor your herd's performance. Regardless of what the additive should do, having records for milk and reproduction information, body condition scores, SCC counts and health records are a must. Again, without good records, your evaluations will be very subjective.

Monitor the cows (records, behavior, etc.) to be fed the additive closely for at least two weeks prior to using the additive. Start feeding the additive without making any other major simultaneous change to management or the ration formulation. This includes even things like changing silos, feeding hay from a different source, etc. (If you change 10 things at the same time you won't know which change resulted in any observed benefit.)

Based on the recommendations of the product (some products work quickly, some more slowly) identify an appropriate amount of time for which you will "test" the additive. Following cows individually based on daily milk weights is desirable. Have a "control group" and a "test group" of cows that are similar in terms of DIM, milk production, diet fed, and lactation number, etc. Cows can also be followed as groups. Group intakes can be monitored to estimate changes in DM intake, etc. (This certainly is more difficult on small farms.) Look for a treatment effect in the "test group" versus the untreated cows. This manner of evaluation helps to reduce some of the effects that uncontrollable factors may have during the test period.

Remember that during your “test period”, there are several uncontrollable factors that could affect your results. For example, you may have a spell of extremely bad weather (e.g. a heat wave or ice storm). If you are using groups, cows may be entering the group (new fresh cows, moving into different production groups, etc.) or leaving (culling, drying off, etc.). Thus, be sure to take these factors into consideration when making an evaluation.”

Finally, Kung emphasized the need for reviewing independent research supporting the additive’s claims and evaluating the benefit to cost ratio of the proposed additive. “Even if a feed additive is successful in producing an expected response from an animal, dairymen need to determine whether the response makes economic sense. This process is seemingly straightforward if the expected response is one of increased milk production. If a feed additive costs $0.10/cow/d, and if milk is worth $0.12/lb, then a cow must give 0.8 lbs more milk/d in order for you to break even. However, breaking even should not be your final goal. Be aggressive and demand a 2:1 or even 3:1 return on your investment. This is important because not all cows respond to the same extent or even respond at all.”