

Press Talk



QLF Dairy Product Manager

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Commentary on May 25, 2007 HOARD'S DAIRYMAN article.

[My big five feeding challenges – HOARD'S DAIRYMAN](#)

This article details Dr. Hutjens five biggest feeding challenges. While reading the article, you will note liquid supplements can be beneficial in addressing each challenge.

1) Feed Consistency

Improving consistency of feed delivered to the cow is accomplished through careful bunk management, including uniform feed processing and TMR mixing times. Liquid supplements improve consistency of feed consumed by the cow through decreasing sorting of long forage particles. In addition, carefully monitor ingredient inventories to ensure all feeds are available for daily inclusion in the diet.

2) N and P Excretion

Dietary molasses inclusion has been shown to decrease Rumen Ammonia, MUN, and improve N efficiency (Broderick & Radloff, 2004). Rumen microbes utilize the sugar in molasses for energy to fuel growth and capture Rumen Ammonia, preventing it from escaping the Rumen and excretion as MUN. In addition, remember that phosphoric acid, commonly used in liquid supplements, is a highly bioavailable source of phosphorus.

3). Rumen Function and Optimization

Liquid supplements enhance rumen function by providing sugar and soluble protein to fuel microbial growth. Prevention of sorting through liquid supplement use decreases risk of SARA. Also, additives that stimulate rumen fermentation such as Diamond V XPC™ Yeast Culture may be formulated into QLF liquid supplements.

4). Transition Feeding Risks

Minimizing transition metabolic disorders is accomplished through careful facilities, cow, and ration management. A current ration approach to minimize metabolic disorders is a straw-based "Bird's Nest" dry cow ration. Including a Dry Cow Optimizer in a Bird's Nest diet provides sugar and soluble protein to aid forage digestion, as well as all supplemental macro & micro minerals & vitamins. Dry Cow Optimizer helps to minimize ration separation and adds palatability to the Bird's Nest diet.

5). Building Rations

Dr. Hutjens points out that on-farm ration mixing is less precise and more variable than ration formulated on paper. Liquid supplements have convenient on-farm storage tanks, precise meter and pump systems, and delivery that begins at the "flip of a switch."

In summary, the nutritional and physical benefits of liquid supplements can help overcome today's feeding challenges!



My big five feeding challenges

A SURVEY of veterinarians, feed consultants, and educators revealed what they listed as future feeding challenges (September 25, 2006, issue, page 625). This column includes my list of challenges that was completed before the survey results were received. Actually, I did not include the most frequently mentioned area of concern in the survey (forage quality), and my list added two that were not rated highly.

There are no right or wrong answers in an exercise like this. Plus, there's always room for individual interpretations. Here are my five focus areas in ranked order with reasons why I included them on my list.

Feed consistency is the top focus or concern on my list.

- Feed bunk management includes uniformity of the ration. That means not having slugs of unprocessed hay or having fewer cottonseeds or soybeans in areas of the bunk. These can serve as "marker feeds" in a TMR. Another problem is lack of consistent mixing time. A lot of people have no idea how long their mixer runs. There also can be wide variation in actual feed delivery times. They should be within 15 to 30 minutes every day. And, of course, there can be wide variations between feed composition in the feed bunk compared to the paper ration.

- Sorting contributes to a lack of ration consistency in the bunk. Learn to look for signs of sorting, causes of sorting (ration too dry, particles too long, poor quality forage, and too much feed at one time). To reduce sorting, add water or molasses, reduce particle size, and improve forage quality.

- Inventory control is part of feed consistency. Plan ahead so you don't run out of corn silage, for example. Control shrink due to errors in adding of feed, general waste, wind losses, and inconsistent feed weigh backs.

Nitrogen and phosphorous excretion is Number 2 on my list. This involves environmental concerns, as well as unnecessarily high feed costs.

- Idaho is defining and measuring nitrogen losses by air emissions.

- Nutrient plans may be required dictating manure applications and acreage needed to spread manure.

- MUN (milk urea nitrogen) tests could become a benchmark to determine environmental risk, loss of on-farm nitrogen adding to feed costs, and breeding problems.

- Wisconsin workers indicate crude protein levels below 16.5 percent can support high levels of

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milk production based on amino acid and rumen nitrogen models.

- Additional research may lower dietary phosphorous below 0.38 percent of dry matter.

- As by-product feeds are included in more rations (especially corn distillers grains), we can expect higher levels of phosphorous and protein.

- Nitrogen efficiency (percent nitrogen capture as milk or tissue protein) could become a benchmark for evaluating feeding programs.

Rumen function and optimization is my Number 3 focus area.

- Feed efficiency (pounds of 3.5 percent fat-corrected milk per pound of dry matter consumed) continues to be an economic indicator of successful feeding programs. Good rumen function is a key to getting values over 1.5.

- Microbial protein yield can provide more than 60 percent of daily amino acid requirement and over 80 percent of energy as volatile fatty acids (VFA).

- Rumen acidosis or SARA (subacute rumen acidosis) continues to be the number one field metabolic disorder leading to lameness.

- Feed additives including buffers, ionophores, direct-fed microbials, and yeast products continue to be economically justified based on research.

Transition feeding risks is my fourth focus area.

- More than 20 percent of cows culled leave during early lactation, according to DHI data from several states. This represents a huge economic loss.

- Canadian workers reported that metabolic disorders can be identified several days before calving based on dry matter intake and other metabolic indicators.

- Genes "turned on or off" (genomics) at the University of Illinois indicate that changes at the cell level may be a way we can anticipate problems in the future.

- Strong immunity in transi-

tion cows can play a big role in disease resistance.

- Stress (pen crowding, feed bunk spacing, heat stress, mixing of pregnant heifers with older dry cows, and pen moves) has been implicated in feed behavior modification.

Building rations was my fifth area. That did not receive many votes in the survey.

- While computer models can predict rumen bacterial yield and small intestine absorption, we need stronger field values to characterize feeds, predict model responses, and develop better models.

- Making use of NDFD (neutral detergent fiber digestibility) values continue to challenge us. Values vary from lab to lab, and many different tests are available (12-, 24-, 30-, and 48-hour tests). Some nutritionists have dismissed this useful test as having too much variation and being of limited value.

- Some labs report three to five net-energy-for-milk values for corn silage. This causes confusion and begs the question, "Which one is right?"

- Ration software programs and models predict nutrients to the nearest gram, while mixing accuracy on farms is much more imprecise and variable.

- Do we really know how to feed free stall cows that peak at 180 pounds when research is conducted in tie stall research units with cows producing 80 pounds?

Finally, I assigned responsibilities to groups on the farm based on my five areas of future feeding challenges.

Number one (feed consistency). This is the main responsibility of the dairy owner or manager or his or her person responsible for feeding. The nutrition consultant or feed supplier share some responsibility for ration formulation.

Number two (nitrogen and phosphorous excretion). You need input from your management team, researchers, environmental regulatory staff, and feed suppliers.

Number three (rumen function). Primarily, this is the owner/manager/herdsperson's responsibility. He or she has the tools and guidelines to implement what is needed.

Number four (transition cows). We're still looking for answers from researchers and their funding agencies. We need to know more.

Number five (ration formulation). This also remains a research priority as more data is needed. Extension representatives and feed consultants need to be more uniform in their recommendations and interpretations. 🐄



"We're raising hybrid crops to make hybrid fuels to power hybrid cars. No wonder the purists aren't happy."