

DAIRYINFO

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Managing nutrient losses in the dairy cow diet...

Nutrient losses can be managed through improving the accuracy of the diet offered, improving digestibility of the diet consumed (thus reducing manure excretion) and reducing the amount of feed waste. The main nutrients of environmental concern are nitrogen and phosphorus.

Nitrogen is a component of dietary protein and is essential in cattle diets. It can volatilize into the air as ammonia, and nitrates can pollute ground and surface water. Phosphorus is important to animals as a key component of bone and cell membranes. However, phosphorus binds to soil and can be carried to surface water. It can cause excessive growth of algae, which uses large amounts of oxygen resulting in fish kills, etc.

Improving Formulation Accuracy: Accuracy of the diet offered to cows can be improved by ensuring that you are meeting, but not exceeding, the needs of the animal. Grouping animals by nutritional factors such as age, production level and body condition will minimize over- or under-feeding valuable nutrients.

An essential part of improving ration accuracy is to work with a nutritionist. Nutritionists should have feeds analyzed for composition routinely (monthly or whenever there is a change), especially forages and by-product feeds in which phosphorus and nitrogen concentrations can vary greatly. They should balance rations to NRC (2001) recommendations for protein and phosphorus, since improvement in lactational performance and reproduction is not observed at higher feeding rates.

For mature, lactating Holstein dairy cows, approximately 1 gram of phosphorus for each pound of milk produced is sufficient. Based on typical amounts of feed intake, phosphorus concentrations in rations would range from 0.32 to 0.38% (dry matter basis). Balancing to the amino acid requirement can further improve the accuracy of the ration by reducing the crude protein concentration.

One way to evaluate status and adequacy of dietary protein nutrition is to monitor milk urea nitrogen (MUN) concentrations. MUN is a general indicator of amount of dietary protein fed in excess of requirement or dietary protein with poor amino acid profile or quality. Updated recommendations state that under typical production situations herd average for MUN should generally range between 10-12 mg/dL of milk for Holsteins.

Improving Digestibility: Any undigested feed nutrients excreted in feces represent lost nutrients and lost profit. Using a processor on corn silage and grinding concentrate feeds can greatly increase the amount of feed digested and therefore reduce nutrient loss.

Although 100% diet digestibility cannot be achieved, the digestibility of the selected feeds should be considered, especially for forages. Commercial feed testing laboratories can test the neutral detergent fiber (NDF) digestibility of forages, which can be impacted by many things including: variety, growing season, maturity, fermentation, preservation and feed out. Measuring NDF digestibility not only provides a means to compare forages, but ration balancing can be more precise and result in more predictable animal performance.

Management Considerations: As milk production increases, dietary nutrient requirements increase at a slower rate, thereby increasing nutrient utilization efficiency per unit of milk produced. Management factors that increase milk production and improve nitrogen efficiency include the manipulation of photoperiod by the addition of artificial lighting and milking three times per day versus two.

Feed closely to the amount the cows are consuming and if possible feed the refusals to other animals. Ensure that the equipment used to present feed to animals is not causing excess feed wastage. This is commonly seen with feed mixers that are overly full and feed troughs that are not large enough to accommodate the amount of feed in them.

Summary: Feeding nutrients in excess of what the animal requires will increase purchased feed costs and the land base needed for manure application. In addition, energy often is required by the animal to get rid of nutrients she does not need. Using a combination of strategies to improve formulation and feeding accuracy, feed digestibility and production will conserve nitrogen and phosphorus. These changes can have a big impact on the environment and on your bottom line.

(Edited from an article by the Faith Cullens, MI State University Extension, present through Dairy Herd Management)

THINK CORN... THINK FORAGE!

It's not too early to start considering seed corn purchases for 2012! Planning ahead can help save money by taking advantage of available discounts this coming fall, as well as helping to better ensure you get the hybrid(s) you want. You may also want to begin thinking about and planning for late summer/fall seeding opportunities to improve forage inventories. Products such as TRITICALE varieties (and others) can have a positive impact on your forage program. Check it out... and plan ahead for optimum results! It can pay big dividends.

*Interested in discussing topics in this newsletter, or want to do a better job feeding and managing your cows? Call me! From calves to heifers, dry and lactating cows, my goal is to help you.
That's Renaissance's commitment!*

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THE TEAM FOR RESULTS

FIBER~FORCE™

Renaissance recently announced this exciting new product! It is formulated to provide the ultimate combination of fiber-digesting enzymes, minerals and probiotics targeted to stimulate the growth of rumen fungi and bacteria, causing faster and more complete fiber fermentation in the rumen. The advantages of improved fiber digestion are numerous! Improving fiber digestion will reduce the "heat of fermentation", helping the cow maintain a lower the body temperature. This is especially important during these hot summer months. Additionally, good fiber digestion can also improve the butterfat percentage in milk during summer months where a decline is normally seen. Get the facts. Include **FIBER~FORCE™** in your rations this summer and all year-round... for a positive difference!

BEWARE of Silo Gas!

Silo gas forms after chopped green forages are harvested, placed into storage and begin to ferment. While this is more commonly associated with corn silage, it can also occur with hay and grain-crop silages. Nitrogen oxide (NO) is one of the gases present in silo gas. NO combines with oxygen to form Nitrous Oxide (NO₂), a corrosive and very toxic gas that is heavier than air. Because silo gas is heavier than air it tends to settle on the silage surface and flow down the silo chute in upright silos. When inhaled, NO₂ mixes with water present in the human body producing nitric acid, which causes burning/scarring of the lungs and respiratory system. The condition is known as silo filler's disease. It can result in serious, permanent lung injury and even death. Symptoms of exposure to silo gas include coughing, burning, chills, fever and nausea. Producers who suspect that they have been exposed to silo gas should seek medical assistance immediately. Silo filler's disease can be prevented by the following practices (and several others): (a) do not enter the silo for 2-3 weeks after silo filling has been completed; (b) run the silo blower for 30 minutes before entering the silo and leave it running while you are in the silo; (c) ventilate the silo room before and during entry. Get ALL the facts and precautions before your start ensiling this summer/fall! (Edited from an article by M. McFadden, MI State University Extension)



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CHECK IT OUT!