Eight feeding decisions that can backfire

With today's prices, everyone's trying to cut corners. But some cutbacks will cost you in the long run.

by Michael F. Hutjens

AS HAY prices pass $250 a ton and shelled corn jumps over $5 a bushel, people are looking at ways to reduce feed costs, since milk prices may drop as much as $2 a hundredweight in 2008. The milk-feed ratio in March 2008 was 2.05. When the ratio is over 3, it is a signal that it is profitable to buy feed to support higher milk production.

The milk-feed ratio represents the pounds of a 16 percent mixture of dairy feeds that is equal in value to 1 pound milk. The prices used in the March calculation were $18.30 per hundredweight of milk, $4.83 for a bushel of corn, $11.90 for a bushel of soybeans, and $143 a ton for alfalfa hay.

During times of tight margins, everyone is looking for ways to cut feed costs, but be careful. Here are some "decisions" that can be "economically wrong."

Decision: We must lower our feed costs.

Impact: With current milk prices and milk component values, do not sacrifice milk production. In Illinois, the cost of 1 pound of dry matter varies from 9 to 11 cents per pound. Cows can produce 2 pounds of milk per pound of dry matter consumed. If your decision is to reduce feed intake by 1 pound of dry matter, you may save 10 cents and lose 36 to 40 cents a day in milk income. Dropping protein 0.1 percent point will cost you 41 cents in lower milk price per hundredweight.

Decision: Feed additives add to my costs . . . I am going to take out yeast/yeast culture.

Impact: It is important to evaluate whether your feed additives are economically effective for your herd. You should answer the key question . . . what can I expect these additives to do in my herd? Published research results with yeast/yeast culture products report a benefit-to-cost return of 5:1. If a yeast product costs 6 cents, the research indicates you can expect a 30-cent return due to higher feed intake during the transition period, higher milk yield, improved rumen environment, and fewer metabolic problems. Feed additives that are "slam dunk" recommendations, in my opinion, include buffers, monensin, yeast culture/yeast products, silage inoculants, organic trace minerals, and biotin. Suggested additives to consider "on an as-needed basis" include protected choline, niacin, direct-fed microbials, mycotoxin binders, and propylene glycol.

Decision: I can't afford fuzzy cottonseed at $340 a ton.

Impact: Using break-even-price software programs, fuzzy cottonseed is too expensive based on its nutrient profile and nutrients delivered. But, fuzzy cottonseed provides other important factors that computers do not consider, including functional fiber (estimated to be 75 percent of the total NDF as forage NDF), slower release of unsaturated oil (which reduces negative effects in the rumen), plus it complements high corn-silage-based rations. Be sure to replace oil and NDF that is removed if you do take out fuzzy cottonseed. Cows do not "read" the paper-based ration. Some people have reported pulling fuzzy cottonseed this winter and not seeing a drop in milk. Be sure to monitor body condition. Thin cows may not breed as efficiently nor milk as well in the next lactation.

Decision: I am going to add 5 pounds of straw to the ration to reduce forage needs.

Impact: Straw can replace long forage and provide functional fiber (rumen mat formation and cud chewing). One guideline is 1 pound of straw dry matter can replace 3 pounds of hay/hay silage dry matter due to its higher lignin content and longer rumen retention time. But, if you add too much straw, it will affect total dry matter intake reducing nutrient levels and milk yield. Before adding straw, evaluate the current ration levels of NDF, lignin, and ADF and determine what the straw will add. I recommend adding 1/2 pound of straw to the ration and monitoring cow response — milk yield, milk components, and manure score — for one to two weeks. If the response is favorable, consider adding another 1/2 pound. Adding more than 2 pounds of straw may be too much.

Decision: Hay at $260 a ton is too expensive.

Impact: While hay prices are high, be aware that hay can improve rumen digestion and microbial growth. Adding 5 pounds of high-quality hay (170 relative feed value) could improve milk yield by 3 to 5 pounds. If milk is worth 18 cents a pound, each pound of hay would be worth 11 to 18 cents a pound or $220 to $360 a ton. Monitor responses in your herd when adding or removing hay. Make changes gradually by 1-pound increments.

Decision: Urea is cheaper than plant protein. How high can I go?

Impact: Urea will be cheaper per unit of nitrogen compared to vegetable protein sources, but rumen bacteria must convert urea nitrogen to microbial protein. The following factors should be considered before shifting to urea:

- Check the level of soluble protein in your ration. If it is more than 34 percent of total protein, the substituted urea will be excreted in the cow's urine. If the level of soluble protein is less than 30 percent of the total protein, urea can be beneficial while reducing feed costs.
- The level of added urea should be less than 0.25 pound per cow per day.
- To capture the nitrogen as microbial protein, you must feed adequate rumen fermentable carbohydrates (25 percent starch, 5 percent sugar, and/or 10 percent fermentable fiber such as pectin). One guideline is 1 pound of urea plus 6 pounds of shelled corn equals 7 pounds of soybean meal based on energy and protein content.
- Monitor milk urea nitrogen (MUN) levels to determine whether the urea is captured as microbial protein. MUN should not go up more than two to three units.
- Another alternative is to use a slow-release urea commercial product to improve nitrogen capture.

Decision: I am going to split my herd and mix a lower-cost TMR for the low-group cows.

Impact: To analyze this decision, we balanced two rations for 80 and 60 pounds of milk using current Illinois feed prices. For cows producing 80 pounds of milk, daily feed costs were $5.10 per head per day, cows consumed for 49.6 pounds of dry matter, and the cost was 10.2 cents per pound of dry matter. For cows balanced at 60 pounds of milk, the feed cost was $4.01 per cow per day, cows consumed 44.9 pounds of dry matter, and ration costs were 9 cents per pound of dry matter. Based on these computer results, you can save some money providing cows DO NOT DROP in milk yield when being moved to a lower group. Keep these guidelines in mind:

- Cows may drop 4 to 7 pounds of milk when shifted cows in midlactation due to social interaction of cows and lower feed intake. (These cows do not return to their earlier, higher milk yield.) This lower milk yield can cost 80 cents to $1.20 less in income per cow per day.
- Cows normally eating less with lower milk yield results in savings without you having a second ration. In other words, fewer pounds of the more expensive 80-pound milk ration are consumed. In our example, the 4.6 pounds less dry matter consumed could save 46 cents a day due to less feed intake compared to the $1.09 savings by shifting cows to the lower nutrient ration with correcting for potential milk yield.
- High-producing cows will need extra nutrients to regain lost body weight and allow younger cows to grow.
- Consider body condition score (BCS). Cows that exceed 3.5 BCS in midlactation will need to be moved to a lower diet to avoid metabolic risks in the next lactation. Generally, 10 percent of cows may be in this category.

Decision: What benchmarks could I monitor when making ration changes?

Impact: Here are guidelines that can be used to determine whether you made an economic correct or wrong decision.

- MUN: Target MUN values are between 8 and 14 milligrams per deciliter.
- Ratio of milk protein to milkfat: Ayrshire, 0.82; Brown Swiss, 0.82; Guernsey, 0.74; Holstein, 0.82; and Jersey, 0.78. For example, the Jersey value of 0.78 is based on 3.54 percent true protein divided by 4.57 percent milkfat.
- Feed efficiency: Your goal should be more than 1.5 pounds of 3.5 percent FCM (fat-corrected milk) per pound of dry matter consumed.
- Feed cost per pound of dry matter: It ranges from 9 to 11 cents per pound in Illinois, but it will vary by region.
- Feed cost per 100 pounds of milk: We like to see less than $7 per hundredweight in Illinois. Again, this will vary by region.

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