UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service

United States Department of Agriculture, University of Arkansas, and County Governments Cooperating

Dairy Digest

Newsletter of the Arkansas Dairy Improvement Program

Vol. 16, No. 2 May 2008

Contents

Arkansas Is Our Campus

Visit our web site at:
http://www.uaex.edu

Can You Afford to Cut Feed Costs?

Michael J. VandeHaar
Department of Animal Science, Michigan State University

When feed costs are high, it can be tempting to feed less or consider cheaper alternative feeds. Sometimes saving money on feeds can mean losing money on milk sold, though. Figuring out the true cost of feed involves considering dry matter content and how much protein and usable energy is in the feed. **When milk prices are low, you can afford to lose a little milk production for a substantial savings in feed costs. However, when milk prices are high relative to feed costs, you are usually better off focusing on how to produce more milk rather than on how to cut feed costs. This article offers case examples for several different alternatives.**

What do you do when corn exceeds $5 per bushel? You might be tempted to feed less or decide that it's time to look for cheaper alternative feeds. However, with alternative feeds, you must consider what you get for your money. Figuring out the true savings of such feeds is not always easy.

The first thing to evaluate is the DM or moisture content of alternative feeds. There is no point in paying for water. Compare all feeds on a 100% dry matter (DM) basis. For example, corn distiller's grain with 90% DM at $160/ton calculates to $178/ton of DM ($160/0.90) or 8.9¢/lb of DM. Wet corn distiller's grain with 30% DM at $50/ton is $167/ton of DM or 8.3¢/lb of DM. Corn grain at $5/bu ($179/ton) and 88% DM is 10.1¢/lb of DM. At these prices, the distiller's grains cost 12 to 18% less than corn grain.

The second consideration is how much useable energy is in the feed. For lactation rations in the U.S., Net Energy for Lactation (NEL) in megacalories (Mcal) is used. The NEL values of feeds cannot be measured accurately, but there is no question that energy intake is a major determinant of the amount of milk a cow will produce. Thus, the feed cost per Mcal of NEL is a better way to compare feeds than simply the cost per pound of DM. If a new ration can be formulated that costs less per Mcal NEL than the ration currently being fed, and if cows eat the same amount of NEL per day and produce the same amount of milk with the new ration, then profit also should be greater with the new ration. Corn grain at $5/bu ($179/ton) and 0.88 Mcal NEL/lb costs 11.5¢/ Mcal of NEL. Dried corn distiller's grains at $160/ton and 0.82 Mcal NEL/lb cost 10.8¢ per Mcal of NEL. With these prices, the distiller's grain is 6% cheaper than corn grain.

The third consideration is protein. This is where it gets complicated because feed protein supplies both energy and digestible protein for the cow, so we cannot simply consider the cost per pound of protein. One way nutritionists have evaluated the cost of feeds for both energy and protein is by asking "How much corn and soybean meal could be replaced by this feedstuff?" The resulting "Corn-Soy Value" of a feed is calculated based on the economic value of energy and protein using the current prices for corn and soybean meal. If you can purchase an alternative feed for considerably less than its calculated Corn-Soy Value, you probably should consider buying it. For example, using prices for corn at $5/bu and 48-soybean meal at $340/ton, the Corn-Soy Value for dried distiller's grains is $242/ton. If it can be purchased for $160/ton, then it costs only 66% (160/242) of its Corn-Soy Value. In other words, it is 34% less expensive than a corn and soy blend providing the same amount of energy and protein.

The limitation with using Corn-Soy Values is that we often choose feeds in ration formulations for several reasons other than just the economic value of energy and protein.

- How much feed must the cow eat to obtain the energy and protein?
- How much long fiber is in the feed?
- What is the source of the energy (starch, sugar, fiber, fat or protein)?
- How much of the protein will be degraded in the rumen? How much will bypass?
- Does the feed contain valuable minerals or vitamins?
- Will the feedstuff alter appetite?

Most of these questions can be included in our assessment of the economic value of an alternative feed by including the new feed into the formulation of a new, well-balanced diet. This can be done using a computer ration evaluation program such as the MSU Spartan Dairy Ration program. However, even checking the value of feeds in a ration program is not a complete and accurate answer.

Because we cannot predict accurately the impact of most ration ingredient changes on feed intake and partitioning of nutrients to milk, it is often difficult to predict whether an alternative feed will be profitable. For example, if you feed a diet with less corn grain and more corn distiller's grains, the diet will be cheaper per pound. If the cows produce the same amount of milk, you will make more profit. However, if the cows eat less and produce less milk, this potential profit might not be realized. Thus, it is essential to monitor feed intake and milk production responses before and after a diet change. Without monitoring actual intake and milk production, you will never know if the new feed ingredient was profitable or not. Corn distiller's grains may look like a great buy on paper, but they contain 10% oil. A higher ration oil content often reduces feed intake, and in the end may decrease profits.

Conclusions

So, what could happen when replacing expensive corn grain with an alternative feedstuff? It's not easy to know for sure. Chances are that the cows will not eat more of a ration with the alternative feedstuff. It's possible, though, that they might eat the same or even eat less. The only way to know for sure is to monitor what happens before and after the ration change. Feeding a ration that is cheaper may lower feed costs, but if it lowers milk yield, that could be an expensive mistake! When milk prices are low, you can afford to lose a little milk production for a substantial savings in compared feed costs. However, when milk prices are high relative to feed costs, you are usually better off focusing attention on how to produce more milk rather than on how to cut feed costs. The March milk:feed ratio of 2.05 was a record low.

Survey of Legality of Raw Milk Sales

Of the 50 states, 29 states authorize the legal sale of raw milk, in some specified manner, for direct human consumption. The remaining 21 states prohibit the sale of raw milk to consumers.

Of the 29 states where raw milk sales are allowed in some form, 17 states restrict legal sales to occur only on the farm where the milk is produced; two of these states (MN, WI) further restrict sales to only incidental occurrences (i.e., occasional; not as regular course of business; no advertising); **four states (AR, KY, MS, RI) restrict sales to goat milk only**, with two of these (KY, RI) also requiring a prescription from a physician. One state (SD) allows farmers to deliver direct to consumers, but not to stores. One state (OR) allows on-farm sales of raw cow's milk only from farms with fewer than three cows (no more than two milking); only goat milk is

allowed at retail off farm. Thus, OR is also counted among the states allowing retail store sales below. Three states have a coliform standard for milk sold only on-farm (MA < 10/mL, SC < 30/mL, TX < 10/mL).

Thirteen states allow the sale of raw milk at retail stores separate from the farm (AZ, CA, CT, ID, ME, MO, NH, NM, NV, OR, PA, UT, WA). One of the 13 (UT) requires the store to be owned by the producer, even though it can be located off the farm. One of the 13 (OR) allows retail store sales of goat milk only. Of these 13 states, 11 have a total coliform standard: (1) seven states have a coliform standard of < 10/mL (AZ, CA, ME, NV, PA, UT, WA), (2) three states have a coliform standard of < 50/mL (CT, ID, NM), (3) one state has a coliform standard of < 100/mL (MO), and (4) two states have no coliform standard (NH, OR).

The Cheap Can Turn Out to Be Expensive: Stick to the Basics

Virginia Ishler, Penn State Cooperative Extension

Everyone is feeling the crunch of high fuel and food costs, and the dairy industry is no exception. In the last few months, it has become very expensive to feed cows. Every dairy operation has its unique set of challenges; however, there are a few management and nutrition options that can help maintain profit (income over feed costs).

1. **Excellent forage quality is the foundation on which good rations are built.** Some producers are harvesting first cut hay crop silage. Make sure that the moisture content is appropriate for the storage structure so as to avoid issues with improper fermentation. Harvesting at the correct stage of maturity will increase the odds of highly digestible forage. With increasing corn and soybean prices, strategies to improve forage quality should allow higher forage rations and less grain to be fed.

2. **Examine the big picture when evaluating commodity or grain prices.** Best cost rations tend to be more profitable than least cost. Know what you are buying. Evaluate the nutrient analysis and physical appearance. If a commodity is priced cheap and it is inconsistent in analysis and/or has an extremely dark color (possibly indicating heat damage), then the commodity may turn into a very expensive purchase. Cows may drop in production and/or components, which ultimately may lead to lower profits.

3. **If you are not doing so already, start monitoring income over feed costs (IOFC).** This measurement will help in deciding when it is time to make some ration changes. If a particular feed is increasing in price, but cows are performing well and IOFC is still meeting or exceeding the benchmarks, then it may not be time to remove that commodity from the ration.

4. **In order to control costs, know what and how much your cows are consuming.** This requires checking dry matters on all high moisture ingredients on a daily or at least weekly basis and adjusting rations accordingly. Producers cannot afford to be overfeeding forages and risk running out of inventory or overfeeding concentrates at today's current prices.

5. **Environmental issues related to water and air quality are not diminishing.** There are some nutritional strategies that can help improve IOFC and improve the environment. If appropriate, removing inorganic phosphorus sources from the diet would be a simple change. It may only make a difference of a few cents per cow per day, but it will be money in your pocket. Formulating diets for the cow's requirement for protein is timely right now. However, if feed management practices are not good, then lowering protein in the diet to meet the cow's requirement may end up negatively affecting IOFC. It is extremely important to work with a good nutritionist or consultant before implementing this option.

Right now is the time to be asking questions on how to maintain profits. **Think about strategies that can be implemented on the farm to control costs. Put a pencil to any changes and see how it might affect your bottom line.**

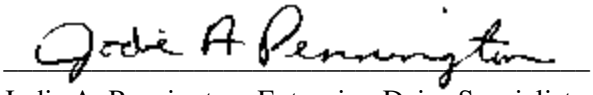
Short Notes

(1) Although milk prices are relatively high, feed prices have been relatively higher. The March milk:feed ratio of 2.05 was a record low, down from 2.24 in February. It is important to review your management practices to determine if there are ways to improve your profits. Emphasize producing high quality forages so that grain purchases can be minimized. For many, summer annuals such as millet or sorghums may provide a less expensive source of feed. Contact your county extension agent to see if he can provided assistance in planning your summer forages.

(2) The Arkansas Youth Dairy camp will be Thursday-Friday, June 12-13, 2008, at the new Benton County Fairgrounds at Highway 12 and 279 near Vaughn. Four-State Dairy Days will be following the Dairy Camp on June 13-14, with the dairy quiz bowl and fun-fun-fun activities on Friday and the different breed shows on Saturday. To register, contact your local extension office for Dairy Camp or Tim Crawley for Dairy Days at 479-524-2893 or evenings at 479-291-4552 or tlcrawley@centurytel.net.

(3) The revisions to Regulation No. 5 should be official before the end of April. The annual continuing education has been changed to a three-year cycle from the previous yearly meeting. In the past, adding new application acres meant going though a formal permit modification and public notification. Now permitted application acres can be transferred between permits provided the permits are for the same animal species without any public notification or letters to the neighbors. Also, unless more animals are being added, new land can be added to the permit without public notification. However, adjacent landowners will need to be notified. ADEQ's web site, www.adeq.state.ar.us, provides access to the regulation. A revised Extension fact sheet will be available in May.

Printed by University of Arkansas Cooperative Extension Service Printing Services.



Jodie A. Pennington, Extension Dairy Specialist