

Strategies to Deal with Volatility and Increased Dairy Feed Costs



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Introduction

Prices for corn grain, soybean meal, and other commodities used in grain mixes have increased dramatically over the past month or two. Much of this cost increase has resulted from lower carryover from stockpiles of last year's corn crop (lowest in 16 to 17 years), drought conditions that have limited or prevented pollination and/or development of corn kernels, drought conditions limiting soybean production in South America, and uncertainty of this year's crops in the United States for both corn and beans. In July, the USDA decreased projected yields of corn grain by 20 bushels to 146 bushels/acre, the lowest in seven years. Because prices of all feed commodities are tied to the prices of corn and soybean meal, major increases also have been seen in these. Milk prices seem to be improving, thus offering a bright spot in a very trying situation.

One key for surviving these very trying times is to step back from the situation and think through ways you can make the best of the cards being dealt. This article covers some areas you might want to consider.

Steps Dairy Farmers Can Take to Lessen the Impact of Fluctuating Prices

Be proactive.

Reexamine your dairy's feeding program, not only from a standpoint of *what you are feeding your cows* but also *how you feed and manage your cows*. There are things you can do to make a difficult situation better, such as:

- **trying new feedstuffs** in your dairy herd's diet,
- **reexamining how you do things**, and

- **listening to suggestions from neighboring farmers and industry personnel** and seeing how you might incorporate these suggestions.

Plan now for your upcoming fall and winter forage needs.

- **Step 1: Test all forages.** If you have not already done so, sample and test the nutrient content of all of the forages which you have to feed for the next year. This includes forages that are targeted to be fed to the dry cows and heifers. Cost savings may be realized through feeding programs for heifers and dry cows. In this financial climate, small savings in multiple places can help cash flow. Also, nutrient content of forages will definitely vary with drought-stressed forages on your farm.
- **Step 2: Sort forages by their quality.** Energy is the most difficult nutrient to provide to lactating dairy cows. Thus, they need to consume the higher-energy forages available. Within the milking herd, the highest-quality forages should be fed to the early-lactation cows, high-producing group, and/or fresh cows. This may mean feeding more than one ration to your herd or more rations if you already feed different TMR to various groups. Sorting the available forages by quality allows you to target these for animals with higher nutrient needs or times of the year when more cows are in early lactation. Within a particular forage type, increases in the content of acid detergent (ADF) or neutral detergent fiber (NDF) result in two outcomes: cattle eating less of the feed and getting less energy from what they consume. Thus, this results in less milk and growth per unit of feed.
- **Step 3: Inventory available forages that have been separated by their quality,** and share these inventories with your nutritionist.
- **Step 4: Develop a plan for using available forages,** considering where they are best suited based on their quality. Now is the time to identify shortfalls and develop a plan to purchase forages if needed. Western and local alfalfa hay is already projected to be in short supply, and prices are increasing. Some farmers have replanted both corn and/or sorghum-sudangrass for additional crops this season. Unfortunately, planting dates (before August 1) for these crops have passed. Options for crops you might consider for grazing, hay, or silage are identified in Table 1.

Table 1. Forages that can be planted after mid August with adequate rain for germination and growth in the central US

<u>Cereal rye</u>	<ul style="list-style-type: none"> • Can provide fall and spring growth if planted from mid August till Sept 1st • Low chance of fall growth for harvest or grazing if planted after October 1st • Can be planted up to November 1st for spring forage
<u>Spring oats</u>	<ul style="list-style-type: none"> • Plant in mid August till Sept 1st for fall forage • Can yield 1.5 to 2.5 ton/acre of hay

	<ul style="list-style-type: none"> • Does not survive the winter- only fall forage
<u>Cereal Rye and turnips</u>	<ul style="list-style-type: none"> • Plant mid August to mid September • Fall grazing- rye and turnips • Spring grazing—just cereal rye (turnips die over winter)
<u>Spring oats and turnips</u>	<ul style="list-style-type: none"> • Plant mid August to mid- September • Fall grazing only
<u>Annual ryegrass planted in fall</u>	<ul style="list-style-type: none"> • Plant in fall and harvest next spring • Compared to other annual spring crops, it grows longer in the spring

Review cow production and management records.

Identify cows that should be culled or dried off early. Cows with longer days in milk and short bred, problem breeders, and/or those with milk production below the level needed to cover at least feed costs may need to be culled or dried off early. For example, if it costs on average \$7.18/day to feed the average cow in your herd, cows would have to produce over 40 lb/day of milk (assuming \$18/cwt milk) to cover feed costs alone (Table 2).

Table 2. Example to calculate feed costs

65 lbs corn silage @ \$45/ton = \$1.46

5 lbs alfalfa hay @ \$250/ton = \$ 0.62

24 lbs grain @ \$425/ton = \$5.10

Amount of milk needed to cover average feed cost

@ \$18/cwt milk = 40 lbs milk (\$7.18/0.18)

@ \$20/cwt milk = 36 lbs milk

* Dairy farmers should use their own prices to calculate feed cost. This is an example for illustration purposes only.

Review feed storage methods to minimize losses (reduce shrink).

Feed losses can quickly increase feed cost. Use the following feed management practices to help minimize these losses.

- **Properly cover silage.** Improperly or uncovered silage structures result in excessive losses of dry matter (DM). A study with uncovered bunker silos showed a 75% loss of dry matter of corn silage within the top 10 inches and 25% losses within the next 10 inches of surface area on top of the bunker compared to bunkers properly covered with plastic and tires. For a 30 ft by 100 ft bunker, approximately 50 tons of silage would be lost, equal to \$2,250 of silage (worth \$45/ton silage). These losses are substantial and are not seen

unless the difference between the amount of silage entering storage and fed out of a structure is measured.

- **Pack bunkers and piles well**, especially the top 6 inches of silage and then cover with plastic. Tires should be placed on top of the plastic not only to hold the plastic in place but also to exclude oxygen. Tires should touch one another to achieve these goals and minimize spoilage and DM losses in the top layers of silage. Upright silos should be leveled off and also covered with plastic.
- **Limit access by raccoons and other wildlife** that can dig holes in the surface of plastic and greatly increase spoilage. With bags of silage, it is important to prevent birds and rodents from damaging the bags.
- **Manage the face of bunkers, bags, and upright silos** to minimize silage heating by maintaining a clean face between feedings and adequate daily feed-out rate. Silage removed from the packed surface and left unfed will heat and decrease consumption by cattle. Silage from bunkers should be removed using a silo defacer or carefully from the top down with a tractor bucket.
- **Prevent losses when storing concentrates and/or commodities.** Losses can occur when they are loaded into the grinder mixer or TMR wagon in unprotected locations (wind and rain losses). Rodents also need to be controlled to prevent losses. Assuming a dairy herd with 100 milking cows is fed 22 lb/day of grain mix, a 2% additional loss of this concentrate mix to wind, rodents, and wasted feed amounts to over 1,300 lb of feed monthly, \$276 wasted for a grain mix valued at \$425/ton, or enough grain mix to feed two cows for a month.
- **Check scales on the grinder mixer and/or TMR mixer** to make sure they are working properly and the mix contains the correct amount of each ingredient.
- **Routinely measure DM content of ensiled forages.** Routinely adjusting amounts fed will be critical this year as some silage was harvested wetter than normal.

Consult your nutritionist.

Ask your nutritionist for suggestions regarding your dairy's feeding program. Nutritionists serve many dairy farms in your area and get many questions on how to get milk from cows with cheaper feed costs. They may not have time to stop by and visit unless they are specifically invited. By taking the time to communicate with them, you are showing that you are not only concerned but want to look at other options which may lower feed costs while maintaining production. Be willing to listen to their suggestions and investigate ways to make their suggestions work. Most of all, remember the expression "you catch more flies with sugar than with vinegar." Your nutritionist has probably lost as much sleep as you have trying to figure out ways to deal with this situation.

Constantly review balanced rations for the milking dairy herd.

The dry weather pattern has greatly changed the quality of forages available to feed the milking herd. Early reports are showing that drought-stressed corn is lower in energy than anticipated.

In addition, commodity prices are fluctuating widely. For example, some commonly used grain or by-product commodities are seeing prices increase 20% to 50% from July 2012 to August 2012. Working closely with your nutritionist is very important to capitalize on any available feed savings. To deal with these rapidly fluctuating feed costs, dairy farmers will need to balance and evaluate feeding programs more frequently than in previous years.

Consider replacing some corn and soybean meal with lower-priced commodities in diets.

Dairy cows and heifers need nutrients, not ingredients, to support body maintenance, milk production, and growth. Replacing some of the corn, soybean meal, or other high-priced commodities in the diet can reduce feed costs. Commodities and by-products often increase in price alongside increased prices seen for corn and soybean meal. Computer programs, such as FeedVal (http://dairymgt.info/tools/feedval_12_v2/) can be used to calculate the feeding or nutritional value of these feeds. If these feeds can be purchased more cheaply than their price based on nutritional value, they may be able to partially substitute for higher-priced ingredients (Table 3).

Table 3. Break-even price.

Note: If you can purchase a commodity for less than this price (\$/ton), consider purchasing or substituting this feed into diets for dairy cattle. This table assumes 3% waste for dried commodities and 10% for wet.

Commodity	Corn \$8/bu SBM \$ 525/ton	Corn \$9/bu SBM \$ 575/ton	Corn \$10/bu SBM \$ 625/ton
Bakery product, dried	\$ 303	\$ 341	\$ 379
Barley	\$ 298	\$ 333	\$ 369
Brewer's grains, wet (22% DM)	\$ 77	\$ 85	\$ 93
<u>Corn gluten feed</u>			
Dried	\$ 350	\$ 386	\$ 423
Wet (49% DM)	\$ 177	\$ 195	\$ 214
Cottonseed meal, 41% CP	\$ 459	\$ 502	\$ 545
<u>Distillers grains with solubles</u>			
Dried	\$ 381	\$ 413	\$ 453
Wet - Bourbon (28% DM)	\$ 108	\$ 119	\$ 141
Wet - Ethanol (34% DM)	\$ 131	\$ 145	\$ 159
Wet - Ethanol Modified (50% DM)	\$ 192	\$ 213	\$ 234
Hominy	\$ 283	\$ 319	\$ 355
Rice bran	\$ 314	\$ 345	\$ 377
Soyhulls	\$ 282	\$ 316	\$ 350
Wheat bran	\$ 291	\$ 322	\$ 354
Wheat grain	\$ 306	\$ 343	\$ 379

Wheat middlings	\$ 336	\$ 372	\$ 408
Whole cottonseed	\$ 398	\$ 443	\$ 488

Every week, the University of Missouri updates a price list with potential vendors and the availability of common by-products (<http://agebb.missouri.edu/dairy/byprod/bplist.asp>). Shipping costs should be added to the prices listed. In addition, check to make sure you understand the nutrient content of the product you are purchasing. For example, some dried distillers grains have the oil removed and contain less energy than those containing the oil. This listing also contains some ingredients not typically included in dairy rations, such as bakery feed and cereal, but may be a good addition depending on other nutrients in the ration. Rice hulls should not be used in dairy feeds and are used as bedding in poultry houses.

As an example, for the week of July 19, 2012, the University of Missouri by-product feed price listing had two sources of cottonseed meal averaging \$390/ton (\$360/ton plus assumed \$30/ton shipping cost). Using the previous table, it would be economical to investigate using cottonseed meal as a substitute for soybean meal in dairy cow diets (generally substitute less than 50% of soybean meal assuming whole cottonseed is not being fed) at current corn and soybean meal prices.

Summary

Testing the nutrient content of forages, allocating forages based on their quality, and using these results to balance rations for dairy cattle can have these benefits:

- helping to keep feed costs in line,
- effectively using forage and financial resources, and
- ensuring that heifers grow properly and milk production is adequately supported.

Like the milking herd, dry cows and heifers fed the proper amount of nutrients do not need to be fed certain ingredients, i.e., corn or soybean meal. Dry cows have specific needs for energy and protein and should not be overfed or underfed. In this economic climate, we may be able to save some feed dollars on dry cows and heifers and use the higher-quality forages to feed the milking herd—the current income generators.