



## What Does It Cost You to Feed Your Cows? Donna M. Amaral-Phillips

Managers of dairy businesses should take time to evaluate their dairy businesses and identify areas where change is needed. Then, a game plan for accomplishing these changes needs to be designed and implemented. In a dairy business, feed costs typically represent 40 to 50% of the costs of producing milk, making feed costs the largest cost category. In recent years, feed costs have represented more than 60% of the cost of producing milk when corn and soybean meal prices have been high. The next highest relative costs are labor and interest at 10 to 20% of total cost. Thus, this begs the question—what can I do to keep feed costs down in the upcoming year.

### Goals of a Feeding Program

Feeding programs should be designed to minimize costs while at the same time meeting the nutritional needs of dairy cows for various nutrients, such as protein, minerals, vitamins, carbohydrates and fats. Basically, we want to get cows to milk to their genetic potential this lactation and the next lactation to maximize profit for their owners. At the same time, nutritionists formulate diets that optimize the health and future reproductive performance of cows being fed. Milking cows need certain nutrients to support a healthy immune system which can prevent and minimize the impact of diseases, such as mastitis, and help vaccines produce the best responses to protect against disease. Rations are also formulated to protect the environment where the nitrogen (protein fraction) and phosphorus contents closely meet the cows' needs and are not fed in excess amounts. Sometimes feed dollars spent to achieve these goals do not result in immediate financial rewards in improved milk production. These additional nutrients may be needed to replenish body stores used during early lactation so that they are available for milk production during the next lactation.

### Calculate feed cost per cow and per cwt

The first step in evaluating or reviewing the economics of a diet is to calculate current feed costs, not only on a cost per cow basis but also on a hundredweight of milk basis. An example is shown in the table below. With these numbers, you can compare your costs to your neighbors and to previous years. Also, these calculations can help you pinpoint areas you may want to change.

Ingredient	Amount fed daily (as fed amt)	Ingredient Cost	Cost per cow per day	
<b>Forages-</b>				
Corn silage	65	\$30/ton	\$ 0.98	
Alfalfa hay	6	\$150/ton	\$ 0.45	
Corn	11	\$3/bu	\$ 0.59	
Distillers Grain	6	\$175/ton	\$ 0.52	
Soybean meal	5	\$410/ton	\$ 1.02	
Mineral/Vitamin/Additives	1	35 cents/lb	\$ 0.35	Cost per CWT- 65 lbs milk = \$ 6.17 (\$4.01/65 lbs milk *100)
Consulting			\$ 0.10	
<b>TOTAL</b>			<b>\$ 4.01</b>	

## Should I feed the cheapest ration?

Many different combinations of “forage” and “concentrate” ingredients can be used to formulate diets that meet the goals of successful feeding programs which include getting cows to milk “well”. The key is to provide adequate forages and forage particle size that stimulate cows to chew their cuds and provide adequate nutrients to support realistic milk production levels for the genetics of the herd and their stage of lactation. This combination must also fit the feeding system on the farm itself.

When evaluating the costs of a diet being fed, evaluations need to be based on income over feed costs—not feed costs alone. Spending a little more in feed cost may make you more profit as long as the cows milk better, rebreed quicker, or are healthier. One key point to remember is—NEVER give up milk. As shown in this example, 5 lbs of milk goes a long way at increasing the net income of an operation.

At \$15.00/cwt milk	Potential Daily Milk Income per cow	Feed cost/cow	Income over feed cost	Increased income \$0.49/cow/day or \$1470/100-cow herd/month
65 lbs milk	\$ 9.75	\$ 4.01	\$ 5.74	
70 lbs milk	\$ 10.50	\$ 4.25	\$ 6.25	

## Ways to reduce feed costs and maximize returns over feed cost

1. Purchase ingredients in larger lots through cooperative purchases with your neighbors (that you know can cash flow the purchase). Your neighbor does not need to be a dairy farmer – other livestock or crop enterprises also utilize feed commodities or other products that can be purchased in larger amounts for a discount.
2. Shop around for the best price. Be careful that you are comparing prices for equivalent ingredients and that they are “quality” ingredients. For example, the ingredient has not been overheated to render the protein unavailable to the cow or that it contains mycotoxins (wet corn or whole cottonseed). Also, be careful to account for the moisture content of various by-products when doing a price comparison.
3. Contract for a certain amount of an ingredient or complete feed at a set price for a set time frame from a supplier.
4. If you are purchasing ingredients as needed, evaluate their nutritive value using the “Feedval” spreadsheet from the University of Wisconsin. You can then evaluate if you should discuss changing ingredients of your cows’ diet with your nutritionist. (<http://www.uwex.edu/ces/dairynutrition/documents/FEEDVALComparativeweb.xls>)
5. Minimize shrink or feed that “blows away” on windy days when it is loaded into the TMR wagon or grinder mixer.
6. Feed a consistent feed mixture to your cows. Cows are creatures of habit and their rumen bacteria perform better when they see a consistent mixture of nutrients. When feeding a TMR, the dry matter content of forages and wet-by-products needs to be measured at least weekly. Small changes (or in the example below major changes- which I have seen this year) can change the nutrients supplied and the health of cows. Without adjusting the amount of silages or wet by-product for changing dry matter (or moisture content), these cows could become acidotic, go off-feed, and drop in milk production.

Amount of wet by-product to add to 100 cow mix twice daily (5 lbs Dry matter/cow/day)	
@ 40 % dry matter	625 lbs per batch
@ 70 % dry matter	360 lbs per batch

7. Properly mix and deliver the ration to your cows. Cows should be fed the amounts of dry matter listed on the balanced ration. If your cows will not eat the ration supplied or forages have changed, contact your nutritionist to reformulate the diet.
8. Balance rations for your heifers and dry cows and feed them the appropriate amount of grain and composition of that grain mix. Gone are the days when heifers are just fed 4-5 lbs of grain.
9. Make sure that silos stay covered and that bags of silage do not get holes from rodent or bird damage. Air exposed silage deteriorates quickly and cows should not be fed spoiled silage.
10. Purchase high quality forages, i.e. alfalfa hay, based on forage analysis not "appearance". As you assess your forage program for 2010, what can you change to improve the quality of forages that you have to feed your cows?

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### **Dairy Farming and Dairy Cows in France** **Jack McAllister**

A recent trip to France in November 2009 provided an opportunity to visit several dairy farms and view dairy cattle of two French breeds, the Montbéliarde and Normande, and to interact with and exchange scientific information with dairy cattle breeding colleagues from France, Italy and Belgium. The visits to the dairy herds were organized and sponsored by the Montbéliarde and Normande breed associations with representation of affiliated AI organizations. France has almost 3.8 million dairy cows of which 2.5 million are Holstein (66%), 650,000 are Montbéliarde (18%) and 443,000 (13%) are Normande. The latter two breeds were of interest because sires of these breeds are now being used in the US.

The farm visits and the interaction with dairy farmer/breeders, breed personnel, AI personnel and dairy geneticists gave us an opportunity to compare and contrast many aspects of the French dairy industry with ours here in the US. Some of the more interesting points are:

- About 85% of the French dairy cattle are AI bred compared to an estimated 73% for US dairy cattle (NAHMS, 2009).
- At least 95% of AI breedings are done by technicians whereas in the US only about 41% are done by technicians and 52% are done by the owner/operator (NAHMS, 2009).
- The Montbéliarde breed is the predominant dairy breed in the limestone plateau east-central region of France which has long history as a high quality cheese producing region. Many cheese plants producing officially branded cheeses require milk from the Montbéliarde breed and specify the feeding and production system which must be used to produce that milk. For example, the primary forage must be pasture with possibly some grass silage and there is limited grain feeding (generally < 12 lbs.). The herd somatic cell count (SCC) must be < 200,000 (the legal SCC limit in France is 400,000). Cows are bedded in winter with

straw in either free stall barns or on bedded packs. The farmers are paid a premium price for their milk because of its use for producing these branded cheeses with the current milk price being about \$30 per cwt. The Montbéliarde breed averages 17,039 lbs. milk with 3.89% butterfat and 3.27% protein for mature equivalent production on 415,000 milk recorded cows. The total merit index (ISU in French) used in selection programs is: 1 Protein yield + 1 Protein % + 0.2 Fat yield + 0.5 Fat % + 0.25 Somatic cells + 0.25 Fertility + 0.25 Longevity + 0.25 Type. This index gives the following % emphasis to traits in the index: Protein yield (35%), Protein % (7.5%), Fat yield (5%), Fat % (2.5%), Fertility (12.5%), Longevity (12.5%), SCC (12.5%) and Type (12.5%). The two primary French AI studs for the Montbéliarde breed do progeny testing now supplemented with genomic testing and have a specialized program to identify diversity within the breed and prevent an increase in inbreeding. Approximately 150 young sires are progeny tested each year. Herds are encouraged to have at least 15% of AI matings be to young sires grouped by their genetic profile for different traits.

- The third most populous dairy breed in France with nearly 274,000 milk recorded cows is the Normande breed. The predominant area in France where this breed is located is in the Normandy region on the northwest coast along the English Channel. This breed is known for both its milk production and meat production. On the milk production side, this breed has the highest protein percent of any French dairy breed. The mature equivalent production averages of milk recorded Normande cows are 16,566 lbs. milk with 4.29% butterfat and 3.45% protein. The higher protein and casein content of the milk of this breed and specific genes associated with cheese yield and curd formation positions this breed well for cheese production. This breed is associated with the production of branded Camembert and other cheeses. Herds of Normande cattle were observed in pasture-based production systems as well as those with stored feed and grass and corn silage. The Normande breed also has a progeny testing program which progeny tests almost 200 young bulls per year. From these, 15 sires are certified as proven sires after the completion of the progeny test.

Dairy production circumstances in France had many similarities as well as many differences from that in the US. We saw purebred herds whose owners were proud of their cattle and their production systems. They were open and readily answered many questions about their dairies. Each, in their own way, seemed to be adapting their dairy farm businesses and the mix of enterprises on their farms to the economic and production circumstances in which they found themselves.

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