Correctly consider ingredient costs

by Steve Martin


Mike Rankin

MY FAVORITE way to describe the basics of my work is to call it a confluence of biology and economics in the setting of a dairy cow. This description fits my heritage.

My grandfather was a Dairy Herd Information Association (DHIA) milk tester and managed the dairy at the Alabama School for the Blind. My dad was an agriculture economics professor at Auburn. I chose animal sciences. When I look at my life and work with a little perspective of time, my grandfather, dad, and I would have made a great business team in the dairy industry.


Martin

I told my father recently that as I have progressed through my career as a dairy nutritionist, I have become, increasingly so, more of an economist. One of the main tasks required of me by my clients is to consider economics as I use a biological model to formulate diets. Correctly understanding the drivers and variables that determine the income side of selling milk and a deep understanding of managing input costs is the way to success.

With the changes in milk pricing and the recent emphasis on cheese, butter, and whole milk powder, we have all changed a few things in the way we feed cows. It is important that we be certain to maximize dairy revenue through the production of higher milk solids.

I wonder, at times, if we have slacked off a bit on really looking at the details of managing input costs. There are numerous technologies, strategies, and products available that provide an acceptable return on investment (ROI), but when considering the bulk of grains, by-products, and forages in a ration, are we looking for every available advantage?

With the emphasis of dynamic nutrition modeling, a nutritionist can get so wrapped up in being sure all of the nutrient pools are synced up and maximized and that every nutrient ratio is correct. Meanwhile, that person might be off by $20 per ton on a key ingredient or be 10 percentage points off on silage moisture, and thus its true cost. I think back to when we worked with clients that had one mixed grain that came to the dairy and one or two forages. I remember selling some of those complete feeds, and I promise you, we were never $10 off on its cost.

Farms are feed mills

We now live and work in a very complex system. Our clients often have intricate on-farm feeding systems with as many as 20 different ingredients available. In reality, these facilities are no different than a commercial feed mill, and in many cases, probably manufacture more tons of feed. This presents a significant job for the nutritionist. We must know what everything costs.

We work with three different systems that have to be in sync. The dairy has the on-farm feeding software that helps the feeders build and deliver the loads. We also have a proprietary model in our group that summarizes all of these diets into one screen. And lastly, we have the formulation model. It is no small effort to be sure that we keep each of these platforms in agreement when it comes to ingredient costs.

I had a client recently tell me that out of all the nutritionists they have worked with, we were the first that seemed to agree with their internal methods for tracking feed cost. If we make a change and either save or invest a nickel or a dime, he was surprised that the communicated feed cost change actually tracked in their checkbook.

Why should this be so difficult?

I remember way back in the mid-1990s working with a California dairy that had moved to Texas to milk cows. It was the first time I had a client who used a dairy-focused accounting firm. I remember the question, "Why do my financials always show higher feed cost than your ration report?" At the time, with maybe five years of nutrition work under my belt, I really had no answer. Now, some 25 years later, I have a page full of potential explanations.

Maybe this difference was shrink. Maybe I had the silage dry matter percent in my model and report at a different level than was really relative to its cost per ton. Perhaps I had the diet mixed at 50 pounds of intake, and the cows were actually eating 55 pounds. Another contributor might be contract versus spot load prices. Take, for example, a farm told me their ground corn contract was $175 per ton, and we were feeding more than they booked. In reality, one third of the loads were coming in at a higher spot price of $200 per ton.

In our consulting group, we have a point person that is in charge of being sure we know what things cost. It isn't an easy job. Each client has a different way of tracking and communicating the prices we need to use as we build their diets.

In some cases, we work directly with the suppliers or consultants that help our clients with feed logistics and risk management. No matter what the system or communication looks like, the point is that we must know what things really cost.

One of the most difficult items to price correctly is forage. It is common now to buy wet forages on a dry matter basis to be sure the farmer and the dairyman are fairly treated. How often, though, do we fail to keep up with these dry matter variations in the way we price the forage in the model? Do we remember to include shrink?

We are usually provided a cost for the silage and have a dry matter percent that fits that price. So, we have a true cost per dry matter ton to work with. This is the correct way.

Every time we design a ration, we have to decide if we will keep that cost and dry matter percent set in the model, even though we know it is in constant flux in the on-farm feeding software. This is fine unless you are using the final moisture of a ration as an important factor in formulation.

At times, to be sure we are using wet ingredients like whey, wet distillers, or brewers to their best fit economically, we must use the actual dry matter percent of the silage. When doing so, we must adjust its as-fed price to be sure it is modeled correctly.

I often get the question, "Why does it matter so much that we be exactly right on forages grown by the dairy?" As well, we have clients that have many different approaches to how they price their homegrown forages. Not only does this impact the goal where my ration report correctly predicts what will eventually be on a balance sheet from the accountant, but it also matters a lot as we let these forages compete with grains and by-products in the ration.

As we get better at using nutrients like undigested neutral detergent fiber at 240 hours (uNDF240) as a tool to let fiber in by-products compete with fiber in forages, it is important that we have forage input costs correct. The fiber that is crucial in maintaining good cow health and good feed conversion is available in forages and various by-products. Accurate ingredient analysis and real costs are necessary to be sure the best value diet is put in front of the cow.

The concept of feeding nutrients, not ingredients, is central to this discussion. If we need to hit a target for starch in a diet, for example, we need to know the correct price for corn silage on a dry matter basis, the correct price for purchased corn, and the costs of a higher starch by-product like hominy or corn gluten. What we need is a certain amount of starch. The model will handle the important question of where it all comes from.

Comparisons drive decisions

One other even more complex topic related to this discussion is spot versus contract prices. Maybe we can call this replacement market versus ownership. If true risk management is in place, an ownership position is not a requirement to feed that position to your cows. Let's say you own a great contract on soybean meal but canola meal competes better in the ration when it comes time to feed. Remembering that we feed nutrients, not ingredients, the best idea may be to sell the soy and buy and feed canola.

To really implement this ultimate flexibility to manage cost in the ration, perhaps we should always use replacement or spot prices when building diets. In this formulation approach, my client is a feeder or a trader, whichever makes the most money. This, of course, should be tempered with good cow sense. We can't change the rations every time the markets move a little, but the concept offers opportunities for improved profit.

Every dairy has a different way of keeping up with and communicating ingredient cost. This is an important step in good nutrition consulting. If we pay enough attention to items like shrink, freight, market moves, contracts, and moisture content, we can be sure we are feeding for the bottom line. *WEST*

The author is the founder of Dairy Nutrition and Management Consulting LLC, which works with dairy producers and heifer growers in multiple Western states.