Straight to the Bottom Line
By: Steve Martin
Feb 01, 2014
Title- Valuable milk with cheaper feed… It's been a while!

The first quarter of 2014 is shaping up pretty nice for dairy producers with milk prices that are sure to please. Feed prices look closer to normal for the first time in a while as well. Margins have a chance to look good and offer an encouraging start to the year. Alongside all of this, the task of formulating dairy rations is one that is influenced both by these economics and of course, science. It is the balance of these two that keep this job challenging. In the dairy business, a changing economic situation is normal, but the science side stays mostly unchanged. With the exception of a slow climb on nutritional science advancements, the science portion of feeding cows stays pretty constant. The opportunity of positive margins or the too frequent realities of thin or negative margins do not change the basic tenants of nutritional science. However, using the basics of science and the variety of correct diets we can feed, we can use science to match the current economics.

We talk often in this column about the US dairy industry's addiction to starch. This is our chosen way to produce milk in the US and the result is that the price of corn is perhaps the most important cost-side variable for dairy profitability. With starch comprising around 25% of most dairy diets, and with corn grain containing 70% starch, these diets contain 36% corn grain. That is around 20 lbs of as-fed corn grain in a normal diet when including corn from silage and processed grain corn. In some cases, this starch is supplied by other sources like milo, wheat or byproducts, but clearly, corn is the driver. In view of this, it is amazing to think that this ingredient has dropped from more than $300/ton not so long ago to a current delivered and processed cost of less than $200/ton in some markets. That is a game changer for sure! So, how does this large drop change the formulation of the diet?

The short answer is probably not much. I suspect most diets remained on the upper end of starch feeding guidelines even at higher prices. The value of a marginal pound of milk keeps these high-lactation diets pretty well topped off in most situations. However, I am sure that those limits will be pressured to go even higher with cheaper corn. This is where the economics and the science are on a bit of a collision course. Producers will perhaps encourage, suggest, or pressure their nutritionists to push these levels up as much as possible. Perhaps, some will cross the line. The issue is that starch feeding and cow health can be inversely correlated. In other words, as starch rates go up, cow health may go down. This is not necessary, but will happen in many cases.

The reality of $20 plus milk only increases the chance of this possibility. With cheap corn and high milk, cow health is always at risk. So, we must lean on the science, not the economics, to know when to apply the brakes. One way to accomplish this is to attempt to increase corn feed rates while not necessarily reducing the forage and roughage in the diet that is needed for cow health and butterfat production. The feed rate loser in this tension of milk income and cow health is the various byproducts we often use in lactating diets. The two competing ideas are the need for a minimum amount of roughage and the desire for a maximum amount of energy, usually from starch. When corn is expensive, various lower cost byproducts tend to fill space as formulators attempt to manage input cost. Though many of these opportunity ingredients bring some protein along with them, they often take up valuable space that could be filled with a higher energy ingredient without a reduction in roughage. For example, wheat midds or corn gluten feed that might have saved money a few months back can now be replaced with corn plus the needed protein. The resulting diet will support more milk, and the roughage part of the diet can remain unchanged.

Remember that the starch portion of the diet certainly has an upper end that must be respected, but the maintenance of the roughage portion is the primary driver of cow health. Also, as starch rates increase, it becomes more important to attempt a variation in starch rate. Including an alternate starch source such as wheat or milo as well as various processing techniques for the corn are good ideas.

One must remember the smaller details in the ration like soluble fiber, fat levels and, of course, the whole protein side of the diet. These must be managed correctly. In fact, as the corn price changes corn feed rate, the protein fractions will need to be adjusted accordingly. We can't simply feed corn and hay. But, the cost of corn seems to be the central issue on the approach for the whole ration.

We will see what ingredient and milk prices do for the remainder of 2014. One thing we have learned in recent years is to never think the future will be predictable. Protein prices have remained high but could be helped by a strong South American harvest. As well, planting intention, winter moisture, planting conditions, the value of the dollar and world markets will keep us guessing. The other variable looking for direction is the overall price of roughage. New crop hay markets are still a bit uncertain. And don't be mistaken; the price of corn impacts this value as well! With all of that uncertainty in play, the basic science of feeding a dairy cows stays mostly the same. The best plan is to not make wide swings in the way you feed your cows in response to ingredient price changes. To be sure, adjustments can be made to participate in some ingredient opportunities. However, chasing short term gains will usually come back to bite you. In a balanced fashion, watch the price of feed inputs and the value of milk while never forgetting your cow sense.