



by Steve Martin

The dangers of anecdotal nutrition

WE OFTEN talk about the art versus the science of building diets for dairy animals. It takes skill in both areas to have consistent successful results. Milk production, cow health and reproduction goals will be best met when the detailed science and quirky art are included in every formulation project.

There is tension between these two competing aspects of dairy nutrition. I also suspect that the lactating dairy cow demands an appropriate helping of each with more gusto than other types of livestock. This is why most dairy nutritionists need both art and science, but they probably have a tendency to lean one way or the other while striving for the best balance.

The science of dairy nutrition continues to grow as new information is generated from both industry and academia. It is a nutritionist's job to keep up with (stay informed about) that expanding database.

The art side, though, is a bit less tangible. It's not as much about numbers and data as it is about gut feelings, intuition, and good versus bad experiences. Maybe we can call it the school of hard-knocks. In either case, the art of feeding cows is really the conduit to allow the science to meet the cow at the bunk.

Science gives protection

The science is carefully guarded by individuals who care about p-values, r-squares and treatment design. Those efforts keep us from wrongly interpreting information and thus poorly serving the cow or the client's profit and loss.

The art side has no such accountability. It has more to do with years of trying different approaches to apply the science to the bunk. It is confused by things like weather, emotions, forage production issues, cow comfort, our comfort, and what we want to be true.

It's not that the science part doesn't have its own risks. Although there is an army of mostly academic gate-keepers that make sure only de-

pendable, peer-reviewed information is published, the application of some of the results may fall short. Just because a feeding technique looked like a world-changer in a 3-cow callan gate study at a university doesn't mean it's a good idea to use on a 2,500 cow dairy.

Sorting these things out is critical. Maybe that sorting out process is part of the art of building the ration.

These two concepts don't stand alone. They are carefully intertwined for the benefit of the cow and the balance sheet. There is a risk, though, that probably relates more to the art side than the science side. It is driven by past experiences and it can have impact on the future, but with mixed



results. This risk is what I will call "anecdotal nutrition."

As with most things, balance is the key. Utilizing past successes and failures to help make future plans is good. This is natural. Assuming that what worked in the past will always work in the future is not.

When we manage a cow for producing milk, I like to think about coming alongside other consultants and the employees at the dairy and all of us turning a myriad of dials to fine-tune everything. Some of these relate to fine-tuning nutrition, others insure cow comfort.

Maybe it's literal in the dial that turns on fans and misters when a preset temperature is reached in the barn. Perhaps it's figurative in a ration model that supplies the correct

amount of rumen degradable protein to match the specific carbohydrate blend in the diet.

Not only are there adjustments that we know a lot about, there are others that are not so clear. Does turning it down or up make things better? And here's the kicker: Since a dairy cow is a biological organism and not an engineering equation, there are layers of complications that we don't even understand.

In fact, there are layers of complications that we don't even know exist. Here is the point: These layers of detail that we don't know how to manage or even know we need to manage are also full of "dials." They set themselves in response to various

influences mostly out of our management control. At times, it is how these uncontrolled dials are set that impacts the performance of the cow.

What worked once...

This is a long way of saying that just because something worked really well in the past doesn't mean it will necessarily work again in the future. The real path for success is probably how those dials are set in relation to each other. It's the confluence of those inputs in the animal that determine her response.

Here is where the anecdotal nutrition principle can really go afoul. The strong opinion of a nutritionist or a producer for a particular approach may be a very poor option based upon other influences in place at the time.

As an example, a producer may have had very good luck in the past with flaked corn, but not ground corn. Based upon that past experience the nutritionist may be pressured to use flaked corn. However, if the lab analysis and ration in place at the time is already supplying abundant fast carbohydrates, changing to flaked corn would likely see poor results. That is a dynamic we understand.

At the same time the discussion about flaked versus ground corn is dominating the conversation, there are likely other factors in play in the cow that will also have an influence on the potential success of changing to flaked corn.

Perhaps there are different fatty acids in the background fat in the diet that could make the faster starch a really bad idea. Or maybe there are interactions between the rumen available carbohydrates and peptides in the rumen that may work significantly better with ground versus flaked corn.

This is a dynamic we kind of understand, but there are other dynamics in play that we don't even know to worry about!

I encourage dairy owners and nutritionists to work better together as they attempt to combine past experiences to plan for a future of successful milk production. Those past experiences are valuable as we add new science to the mix and work for improvements in economic results. What we need to guard against is improperly combining these experiences in a mismatch of sorts that will not serve the needs of the cow.

As a nutritionist or a producer, don't rely only on anecdotal nutrition to feed cows. But do use your experience and skill in the art of understanding the finer principles of feeding cows.

Always be considering new science to help better understand things that were confusing in the past. And approach all of this in a humble manner admitting that there is much about how a cow turns feed into milk that we really don't understand.

Carefully combining all of this with great attention to detail will insure that we are truly feeding for the bottom line. **WEST**

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