



by Steve Martin

Verification pays transition cow dividends

THE ration was a well-balanced dietary cation-anion difference (DCAD) close-up diet. The problem was variable urine pH, and the normal interventions were not helping.

Though this is not an uncommon topic for a dairy nutritionist and their

clients, this particular instance seemed to be more difficult than usual. The commercial DCAD product in the ration seemed to work well at times, and then urine pH would vary widely followed by disappointing fresh cow metrics, including clinical milk fever incidents.

We had gone down the list of the normal interventions that we often turn to when variable close-up cow urine pH is plaguing a dairy. All of the forages and even rations had been tested, mixing errors were studied in the feeding software, and intakes after refusals were calculated.

No red flags were found.

What next? We made the decision to change from one commercial DCAD product to another.

Though the rations looked pretty much the same on paper with the new DCAD product, things seemed to even out when checking urine pH and milk fevers dropped to almost zero. What a smart thing we did by changing from Product A to Product B!

A hidden cause

But wait, there was one more change we made concurrent with the product change. We moved the close-up supplement from bags to bulk, which was put in flat stor-



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age. Both DCAD products were included in a mix from a feed company that also had some protein and the full vitamin/mineral package. The feeding rate was approximately 2.5 pounds.

At this dairy, there are several bagged ingredients containing different types of feed and minerals. After more thought about the similarity of the ration with Product A and Product B, I begin to believe that the issue before was not caused by the formulation or the DCAD product used, but that at times, the close-up total mixed ration (TMR) was made using an ingredient from one of the other bags.

We all know that feeding errors are a part of real-world nutrition. We often do things to try and make these errors less likely, such as labeling bays and bins, educating feeders, and reconciling deliveries and usage rates. Receiving specialty ingredients in bags would usually be considered beneficial in not only reducing shrink but improving feeder accuracy. This time, I think it worked against us.

My guess is that on occasion, the feeder used the wrong bag when making the close-up load. On those days, not only would these cows have not received the correct DCAD formulation, they would have received 2.5 pounds of some other feed ingredient or mineral. The same mistake in the other direction would have caused problems in other animals incorrectly getting a very concentrated DCAD product.

The ability to check urine pH on close-up cows is a unique opportunity in practical dairy nutrition to provide a check that the rations are being fed successfully. This cowside test is an easy and very valuable tool to verify how the feeding team executes ration formulation from the commodity and feeding area and all

the way to the bunk. It is not that having correct and consistent pH guarantees a healthy transition cow, but if urine pH is a problem when feeding a DCAD diet, fresh cow health goals will surely not be met.

Due to the ease of checking urine pH and the sensitivity to small adjustments in DCAD, we should be able to get this right. The downside is that farms are often tempted to overreact to changes in urine pH, making overly aggressive changes in DCAD product feed rates.

Thus, it might be better to include these DCAD ingredients as a part of a higher feed-rate package. This makes for a reduced chance of over-correction. If small changes are needed in the DCAD, the entire package can move up or down a bit to adjust. If the change in feeding rates is continued, the next load from the feed mill can be adjusted accordingly.

Another client was frustrated with a low feed rate of close-up mineral and variable urine pH results. In this case, the fresh cow culling was higher than the farm's goals and needed to be improved. The client asked a good question, "How can we make this ration easier to build correctly for the feeders?" The bagged close-up mineral supplement being used had a 1.5-pound feeding rate, and there was concern that at times it wasn't being added at all.

If simple was the goal, this would be an easy request to fulfill. The current close-up ration had a protein meal ingredient, a few pounds of a by-product ingredient, the mineral, straw, and corn silage. The new ration had an inclusion of 10 pounds of a product mix from the feed company that included the DCAD ingredients as well as the full vitamin and mineral package. The ration was simplified to include only corn silage, ground straw, the

10-pound package, and water.

Simple worked

Soon after, the urine pH settled in and remained very consistent. Over time, as urine pH moved a bit with the normal changes in potassium in forages, we made a half a pound or so adjustment in the DCAD grain mix product to get things back in line once again. No, this is not the cheapest way for this large dairy to feed the close-up cows. I think, though, it is probably the best way.

I often say the most important diet on the dairy is the one fed to the close-up cows. How great is it that it is also the one diet with a near perfect cowside test to verify ration formulation and feeder accuracy? I also suggest not spending too much effort looking for cost savings opportunities in the close-up ration. Instead, devise a plan that allows for the highest feeder accuracy.

Both of these real-world examples of feeding close-up cows remind me that the work is not done after the diet is built on my computer. I read a study recently that made this same point after comparing numerous diets as formulated and then evaluated subsequent cow performance. The best diets didn't predict the best cow performance. The point was made that we often build a ration, send an email, and expect excellent cow health and production.

My point, though, is why would we choose to do one better than the other when we could excel at both? My first job is to build the diet as close to perfect as possible. The next job is to work with the team at the dairy to be sure that what is put in front of the cows is as close as possible to the formulated ration. This teamwork should lead to success for the cows, and thus, the dairy. 🐄

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