

WHAT MAKES SOYCHLOR® SO CONSISTENT?

The level of oversight and care embedded in each bag of SoyChlor is born out of a constant concern for the animals we are feeding. There are so many nutritional variables on the farm that affect DCAD management success, including the diet of the pre-fresh cow. Our team promises that the nutrient content of SoyChlor will never be one of those variables.

Every ton of SoyChlor is produced by a small group of employees at our fully-automated manufacturing plant in Jefferson, Iowa. Our team follows rigorous steps to ensure every bag or every ton we ship to your herd is the same, every time. We know it makes caring for your cows easier.

SoyChlor consistency is the result of a carefully designed manufacturing process, one that is defined by constant product testing, the scrutiny of both internal and external auditing, adherence to reputable certification standards, and the commitment of a team crafted from a culture of quality.

Chloride is the most important nutrient in an anionic supplement like SoyChlor and it's critical we get it right for your herd. We test frequently using the rapid, sensitive, and accurate silver chloride titration method.

Last year, we performed 1,816 of these tests on our finished product; that's almost one test every hour. We are proud to say, every single result came back within our self-imposed quality specifications.

Every day is routine at our SoyChlor plant. Following the internationally recognized quality management standard set by ISO 9001, we manufacture using the same practices and procedures day in and day out. No matter who is on shift, we all make SoyChlor the same way.

We know we aren't just manufacturing SoyChlor. We are keeping dairy cows healthy. Your cows. That's a privilege our team seeks to honor by delivering unwavering consistency and quality inside every bag.

"Ensuring high quality and consistent practices is more than just a to-do item on a checklist for our employees. It's the baseline expectation."

- Quality Systems Audit Coordinator Connie Hoyle

"It's nice to have the certificates on the wall, but it's the people we have who aren't just doing the work, but caring about the work, who make all the difference."

- SoyChlor Operations and Manufacturing Manager Kevin Grundmeier



The SoyChlor production team, including Brett Beebe, Kevin Grundmeier, production manager; Paul Lowry; and Mike Wenger, works to deliver unwavering consistency and quality inside every bag.

SOYCHLOR®

Ask to see the results of SoyChlor analyses. All test results are made available to customers to verify consistency.

Sponsored Editorial - Remove and retain for permanent reference

Seven tips to streamline DCAD management for pre-fresh cows

Why fresh cow problems still haven't gone away

"Treatment of milk fever in cattle has changed within the past few years and a reliable remedy has at last been found," wrote Veterinarian W.C. Fair in The People's Home Stock Book. In 1919, Fair's new treatment — milking out affected cows, inflating the udder via milking tube and bicycle pump, tying off the teat necks and repeating every six hours — would finally cure cows that didn't respond to the previous latest treatment of potassium iodide infusions, which itself had only recently begun to replace the traditional whiskey, ammonia, bromo-potash, mustard, turpentine and blood-letting practiced in the countryside.

So goes the long history of milk fever sure cures.

In all fairness to Fair and those who have followed, today we do understand better the nature of the beast we are up against when curing both acute milk fever and the costlier chronic form, known as hypocalcemia, or low blood calcium levels.

"The causes and prevention of hypocalcemia are no longer a biological mystery," says Tim Brown, Ph.D., nutritionist and director of technical support for Iowa's Landus Cooperative. Researchers have known since the late 1960s that manipulating the chemistry of dry cow and transition rations through a

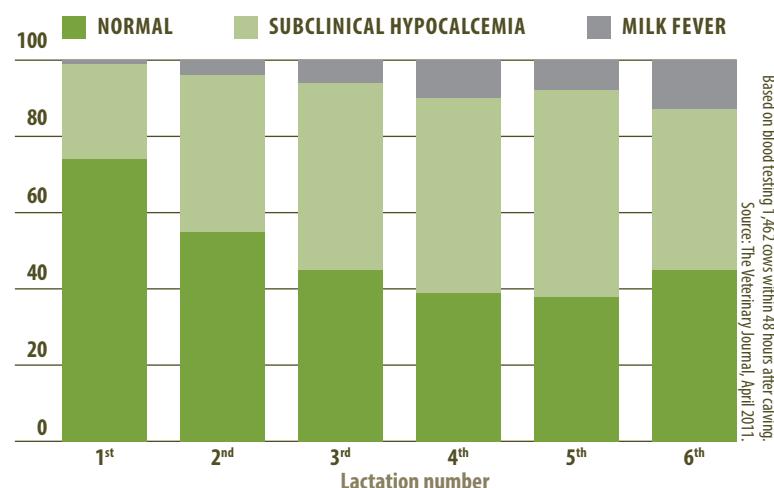
system known as dietary cation-anion difference balancing (DCAD) could fool the cow's system into proactively preparing itself to more efficiently draw on the natural stores of calcium in its bones at those times when demand skyrockets, like calving. The science works. And more than half of all large dairies now use the concept. Still, the industry remains far from making fresh cow problems go away. Inside this special issue you'll find seven ideas to help move the DCAD concept a bit more effortlessly from paper to transition pen.

Hidden costs

Undermanaged hypocalcemia is a costly disease. Here's why.

- Cows with hypocalcemia at calving are 6.5 times more likely to have dystocia.
- Those cows are 3.2 times more likely to have retained afterbirth.
- Hypocalcemic cows are 3.4 times more likely to suffer a left displaced abomasum.
- Risk of ketosis also increases as hypocalcemia predisposes cows to increased concentrations of the metabolites associated with ketosis. Clinical ketosis has been shown to be associated with silent heats, cystic ovaries and infertility.
- Low calcium in the blood also depresses the immune response and the ability to fight infection. Studies have linked a greater risk of metritis with drops in blood calcium.
- A 2014 study showed that although low calcium status didn't affect stillbirth or failure to transfer disease protection through the colostrum, calves born to cows with low calcium nevertheless suffered an increase of 50% in scouring.
- Cows with hypocalcemia at calving have been shown to produce up to six lb. less milk per day during the first four months of lactation.

Percent of fresh cows with low calcium levels



Cows breaking down from obvious milk fever represent just the tip of the costly iceberg that low blood calcium levels cause in most herds.



DCAD management can start small, says North Carolina producer Andrew Lail(left), who transitioned to control of hypocalcemia-related problems by using a phased-in “partial DCAD” program.

And research also shows that, once those cows become hypocalcemic at calving, dosing cows after calving with oral or injectable calcium supplements can't undo the negative effects of the hypocalcemia that existed briefly on the day of calving.

Brown says, “I'd urge producers to focus their attention on whether or not cows have achieved the necessary acid-base status rather than wasting time talking about the amount of calcium in the diet.”

2. Test feedstuffs right

Because potassium interferes with the metabolism that controls calcium, the most logical, and likely the most economical, first step in preventing hypocalcemia is to reduce potassium in feedstuffs.

Manageable DCAD begins with reliable forage analysis. Accuracy counts, says Tom Overton, Cornell dairy professor and one of the world's leading authorities on transition management. Mineral analysis by wet chemistry, not by the more commonly used near-infrared analysis, is important. Another consideration is to adjust for the minerals present in drinking water. Not all are necessarily nutritionally available, he says, but water high in cations or anions could affect the DCAD.

3. Ease into the program

North Carolina's S&L Riverside Dairy manager Andrew Lail had fed traditional anionic salts to balance DCAD in the past, but by early 2015 as many as one in three freshening cows were having trouble with milk fever, retained placentas or metritis — all reliable indicators he had subclinical hypocalcemia going on.

So Lail scrapped the anionic salts for a commercial anionic supplement in his “partial DCAD” program. Partial DCAD is a more moderate implementation of the DCAD concept that's much less management-intensive. Three weeks before calving he moves his grazed dry cows into a transition pen. There, he top-dresses and lightly hand-mixes 2.5 lb. of the commercial chloride supplement, onto about 35 lb. of his lactating Total Mixed Rations (TMR) for each cow. He limits feeds sufficiently that cows slobber up the bunk before the next day, and they round out their daily intake with free-choice oat hay. The partial DCAD program eliminated Lail's clinical milk fevers and most metritis, and brought down the incidence of retained placentas.

4. Use urine monitoring; don't just do it

The whole purpose of feeding anionic supplements and manipulating the DCAD level in pre-partum diets is to put the cow into a state of mild metabolic acidosis. If you achieve that state,

you're doing DCAD right. And no better tool exists for monitoring that state than the pH of the cow's urine. A necessary low or negative DCAD the last three weeks before calving to prevent hypocalcemia will reliably produce a urine pH around 6.8 to 6.0. Cow- and herd-level monitoring systems put in place and used regularly to benchmark will help quickly spot the need for management changes.

But urine pH monitoring typically fails in the field for one key reason: It becomes just one more chore to fit into an otherwise busy schedule. But it doesn't have to be a chore.

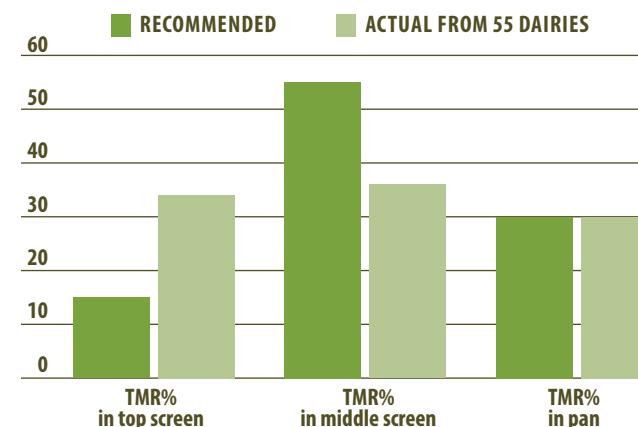
For the first month or so following his operation's change to partial DCAD, Lail and his consulting nutritionist, Jimmy Howard of Star Milling Co., ran urine pH checks on a two- or three-cow sample. Once they adjusted the inclusion rate of their anionic supplement by a half-pound based on those acidity levels, they considered it good to go. They typically don't re-run checks now unless they see a flare-up of fresh cow problems or make a significant change in forage source.

You can be as sophisticated as you want in urine pH monitoring, but Howard's protocol is typical, particularly for smaller operations. If metabolic disorders pop up above benchmark levels, even if it's just a mental benchmark, or what you consider acceptable for your dairy, renewed pH checks can be brought back in to check for some DCAD drift outside the target, and adjustments can then be made. With that end in mind, Overton advises, it's always the pH trend that matters, not the absolute.

5. Manage the feeding

According to Overton, one of the common breakdowns in a program comes at the bunk. A

Particle separator recommendations vs. reality



DCAD doesn't work if cows aren't eating the total ration. A 2014 survey of 55 dairies by Cornell's Allison Lawton showed wide difference between particle-size recommendations and what producers actually hit in their pre-fresh TMRs.

DCAD program doesn't work if cows are sorting, and sorting remains the No. 1 problem in getting close-up cows fed right, says Wisconsin dairy veterinarian, nutritionist and producer Gordie Jones. Ensure cows consume the diet as formulated for maximum intake by paying attention to both particle size and moisture content of the TMR, Overton says. Beg, borrow or steal a Penn State particle separator to monitor particle size, a task that field surveying shows too many producers still aren't getting quite right. Low-energy, high-forage dry- and transition-diets have to be chopped. And a wetter ration not only reduces sorting behavior, but also adds the fringe benefit of increasing density.

6. Keep it simple

“That's been the major obstacle to getting people to adopt DCAD management,” says North Carolina's Howard. “It's all just seemed so tedious — the procedures you have to go through, the specific time you have to feed, all the checking of urine pH's. But it's basically pretty simple. Granted, in our cases we're not trying to push urine pH down as low as some people may be ... and we are involved with relatively small herds. [But] we just checked urine pHs and we adjusted rates of inclusion until we got the pH down below 7. And we called it good and just set sail ever since. Once you get things kind of settled out, it's all pretty simple.”

7. Look at the long view

The last 10 to 15 years, Cornell's Overton says, have seen a shift in mindset from dreading the transition cow as a disease opportunity to viewing the transition cow as a production and reproduction opportunity.

“There is no other stage in a cow's yearly cycle than transition to determine our financial success,” concurs Australian nutritional consultant John Lyne. For that reason, Lyne says, transition really begins the day the cow is dried off and lasts until three weeks post-calving. “Much of our failings in the three categories that determine lactation success — milk production, health and fertility — are perpetrated in the dry phase.”

Nutritionist Howard agrees. It all starts in transition. “You get them started out right,” he says, “you don't have retained placentas, you don't [have] dirty uteruses, you're going to get them bred back quicker. And that's just less you have to do later. You don't have to fight the sick cows, the slow doers, the poor doers, the slow starters ... You're not living with a bunch of long-lactation cows. That all has a tremendous payback for what's a relatively small amount of effort in a simple program. It just puts more milk in the tank for the whole lactation.”