

FARM REPORT



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FROM THE PRESIDENT'S DESK: THE SPIRIT OF HEART'S DELIGHT FARM

In 1903, William Miner started Heart's Delight Farm on the Miner family homestead in Chazy NY. The farm grew from a farmhouse and a few barns on ~150 acres into a diversified farm with hundreds of buildings on ~15,000 acres employing over 800 workers while using the latest advances in science and technology to provide food to people in the Northeast and Midwest. Over 100 years later, Miner Institute resides at the Heart's Delight Farm location and works to carry on William Miner's vision of science in the service of agriculture. Through our education and research programs, we strive to change agricultural practices for the better.

As I look at the photos from the early 1900's and today, I am reminded that a lot has changed in 100 plus years, including advances in technology (just look at the difference in the trucks), people come and go, seasons change, buildings are built, torn down or repurposed, work-life balance shifts, and so on. However, one



thing that has stayed the same is the core See **SPIRIT OF HDF**, Page 8



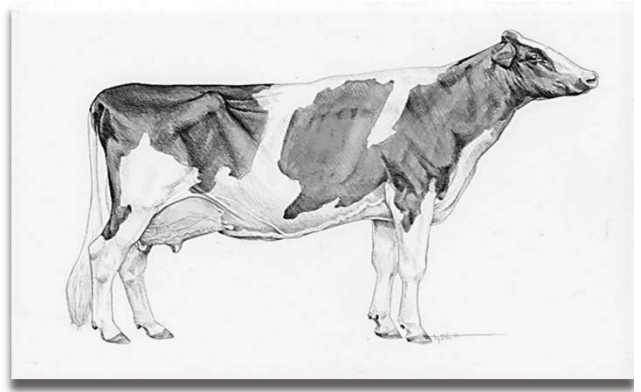
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A PICTURE OR A THOUSAND WORDS?

A common adage says that "A picture is worth a thousand words" but this is agreeable if the picture is painted in all the colors of the thousand words. Sometimes, pictures do justice to convey numerous messages but in other cases, it takes "a thousand words" to paint a complete picture. A look at this picture evokes several words and meanings in the minds of diverse people- a milk factory, a ruminant animal, a pet, a sacred symbol, a source of livelihood, a barbecue recipe, a product label, etc. For a farmer however, this picture says a lot more. The word puzzle below contains fifty (50) terminologies that give a sneak peek into a typical dairy farm operation and an idea of all that makes up this picture behind the scenes.



Hint: the words are arranged vertically, horizontally, and diagonally, and if you can locate the WH Miner Institute, you should be able to find your way around.

There is a prize for the first person who submits all 50 words correctly.

— Gift Omoruyi
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JEFF WILSON: WESTERN DRESSAGE AT THE HEART'S DELIGHT SPRING PREMIER OPEN HORSE SHOW SATURDAY, MAY 25 at 3 PM



A Special Presentation with Morgan Stallions

From Delhi, NY Jeff brings his horses to the Clinton County Fairgrounds to share the beauty of Western Dressage. He will present the flags early on Saturday afternoon and then bring out his stallions at 3:00pm for a lively demonstration and discussion about how he has come to such a productive partnership with his horses. Free admission and dessert!

FREE and open to the public!

This event will be held at the Clinton County Fairgrounds and is sponsored by Layer Eight, Poulin Grain, Duprey's Feeds, and Northern Insuring.

MANURE AND MYCOTOXINS

Got mycotoxins? If you have silage you probably do. One summary of mycotoxin screens on ensiled forages (including corn silage) reported that 80% of the samples tested positive for at least one mycotoxin. However, just because there are mycotoxins in your silage doesn't mean that you have a mycotoxin "problem"; the amount of mycotoxins in most silages is low enough that they're not a concern, with another deciding factor the type of mycotoxin.

That said, mycotoxins are a problem for an Ontario dairy farmer who recently called, asking for my advice on reducing the high levels of mycotoxins, primarily T-2, in both his corn silage and alfalfa silage. He routinely topdresses his alfalfa with manure, doesn't have much choice because of limited land resources, so he uses a mycotoxin binder to minimize the effects of the toxins. Admittedly prevention is better than treatment, but how do we prevent mycotoxins? Which leads to his question: Does topdressing with manure increase the level of mycotoxins in his alfalfa silage?

A good question, too bad I don't have a good answer. T-2 is a natural mold

byproduct of *Fusarium*, a common soil bacteria. These bacteria can produce mycotoxins even with no manure application, so the real question is if topdressing with manure makes the situation worse. I spent a fair amount of time exploring the topic on the internet with absolutely no joy; it appears that no reliable source has any data on the topic. While there's no lack of *opinions*, you know what they say about those...

This question needs some research-based answers, if for no other reason the potential impact of the switch from sicklebar mowers to disc mowers and mower-conditioners. A disc mower is more forgiving than a sicklebar mower if it scalps the soil or hits a stone. Instead of having to change a knife section on a sicklebar mower (been there, done that), a disc mower kicks up a cloud of dirt (and perhaps manure residues) and the farmer goes on his merry way. Using a disc mower as a land-leveler isn't recommended, but farmers quickly realized that disc mower blades aren't easily damaged so started leaving a shorter stubble. As disc mowers became more common there was a steady increase in ash concentrations in all types of hay crop

silages. This may not be entirely due to shorter stubble height; disc mower knives produce a vacuum and may suck up surface debris (including manure residues). Mower blades with an 18° pitch produce more vacuum than 11° pitch blades; think about this the next time you need to change disc blades. A set of blades (knives) should last about 200 acres; if your blades are dull much before this you should consider why. Dull blades increase fuel consumption and leave an uneven cut.

Two years of research many years ago at Miner Institute found that the ensiling process killed a high percentage of the bacteria in a field of alfalfa-grass that was topdressed with slurry dairy manure. However, the use of a disc mower and a decrease in stubble height may combine to produce a much different result. My recommendation to the Ontario farmer was to increase his alfalfa mowing height to at least 3", slightly higher if the crop is alfalfa-grass. Compared to a mowing height of 2" the impact on yield will be small, and the impact on forage quality it will be even smaller. Food for thought!

— Ev Thomas
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NOTABLE QUOTES

- Sometimes I think the surest sign that intelligent life exists elsewhere in the universe is that none of it has tried to contact us. - Hobbes (Calvin and Hobbes, by Bill Watterson)
- If we knew what we were doing, it wouldn't be research. - Albert Einstein
- There are not enough Indians in the world to beat the Seventh Cavalry. - George Armstrong Custer
- What we obtain too cheap, we esteem too lightly. - Thomas Paine, December, 1776
- We wouldn't worry so much about what others think of us if we knew how seldom they do. - Eleanor Roosevelt

— E.T.

DO YOU HAVE EIGHT MINUTES?

At this year's annual meeting of the Dairy Calf and Heifer Association just outside of Denver, CO, the lineup of speakers was rivaled only by the scenic backdrop of the snow-capped Rocky Mountains. Among them was Ashley Machado, a licensed mental health counselor who specifically focuses on providing mental health consulting and support to the agriculture community. A TEDx speaker, wife of a California rancher and mom of two, Ashley began her consulting services when she struggled to find support after the birth of her first child. Then, after observing her neighbors and other dairymen battling with issues like milk prices and heavy rains, she realized that there were also no mental health resources for farmers and other folks in agriculture. "There was, like, one hotline. People in the ag industry are very tough and resilient, and think that everything is 'figure-outable'. So, we tend to push aside all the hard stuff just to make it through, and we're not asking or saying that we need help." The numbers she quoted are sobering: 41.9% of people in ag are struggling with immense stress, 32.6% have diagnosable depression, and farmers are one of the leaders in suicide rates by industry. Ashley's consulting services and workshops address a desperate need through tangible and practical tips for dealing with the daily stressors agricultural workers face.

During her talk Ashley used a presentation tool that allowed the audience (including virtual attendees) to submit answers via mobile phone to question prompts, or ask questions themselves. The anonymous approach let participants feel comfortable answering truthfully, and there were some very candid responses. Common themes were what tools to use to help yourself, and how to best support someone who appears to be having a difficult time. What steps can you take

to get the help you need? If you're an employer, how can you show support to an employee that seems to be going through something? How about if your partner or one of your close friends has suddenly withdrawn? The following are some of my takeaways from this dialogue.

- **Show up for people.** A deliberate, genuine check-in, along with making time for one-on-one interaction, can go a very long way. Be a confidential, reliable, and welcoming presence for someone who is feeling vulnerable. An invitation for coffee, or scheduling time for a phone call to check in, are proactive ways to show someone that you are available and willing to help. And, if they take you up on the invitation, give them your undivided attention. Ashley mentioned that roughly eight minutes of venting to a trusted person helps her work through most things, so within her group chats, the universal code for when someone needs to talk is "Does anyone have eight minutes?" Most days on the farm are busy and long, but eight minutes of your time may be invaluable to employee well-being and retention... or your personal relationships.
- **Focus on what's true.** Ashley's advice for combating the runaway, irrational thoughts that come with anxiety is to ask yourself the question "What do I know to be true?" In a negative spiral, our brains can easily convince us that everything is awful and nothing is going right. Taking a minute to recount all of the things that you know to be correct about what is going on (or about yourself!) can help rein in the untrue thoughts and help you think through things

more clearly. This can also be a great question to ask someone else to help ground them if they're trapped in a spiral.

- **Take care of yourself, too.** Show up for yourself first. Seek the positives in your day, make time for things you enjoy outside of work, eat well, rest, and find a professional or trusted confidant to talk to if needed. Journaling, breathing exercises, or brief meditations (many as short as 5 minutes) invite calm and focus. It is also perfectly reasonable to set work/life boundaries. Ashley and her husband put their phones in a box at the end of the workday so that they can focus on family time and leave work, literally, at the door. Additionally, if you're emotionally tapped out yourself and don't have the bandwidth to be a support for someone else, it's okay to protect your own time by honestly communicating this personal boundary and what you're able to give.

Ashley hoped to help her audience understand that no one should feel like their struggles are unique to them, and them alone. No one in agriculture is immune to the stress and anxiety brought on by the unpredictable challenges of the industry, and that support is always available for anyone who needs it. Reaching out for help does not make you weak or incompetent, it makes you a human being. If you are interested in more mental health tips from Ashley, she can be found @byashleymachado and @mwellconsulting on Instagram, and at www.ashleymachado.com. Her M Well podcast is also available on multiple platforms.

— Cari Reynolds
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DECODING DIRECT-FED MICROBIALS

Probiotics. Prebiotics. Postbiotics. Eubiotics. Symbiotics.

I am sure by now you have come across labels indicating at least one of these terms. You may have seen them on foods you are buying at the grocery store or when looking at a feed label for your animals. Historically, we may have called these broad categories “Foo-foo dust” and questioned the applicability in animal agriculture. Now, I think that story is changing. We have come to know these terms as good, but do we really know why they can be beneficial for us? Do we know in which situations are they most effective?

Part of the confusion I think is in not understanding what the differences are between these terms. Therefore, some key definitions:

Direct-fed microbial (DFM) encompass many products but generally include probiotics, eubiotics, prebiotics, postbiotics, and symbiotic. You could think of DFMs as the overarching umbrella that covers all these different terms.

Eubiotics are feed additives that support gut health and consequently animal performance and welfare. Eubiotics can include organic acids, essential oils, probiotics, prebiotics, postbiotics, and phytobiotics (plant based).

Probiotics are living microorganisms, which when dosed in adequate quantities are beneficial to host (animal) health. These can include live bacteria, yeast, or fungal cultures. Prebiotics are substrate that is fermentable but not used directly by the host animal. This category includes oligosaccharides and inulin.

Postbiotics are yeast or fungal products or products of their fermentation. These can include cell-wall products and heat-treated cultures that are no longer living.

Symbiotics are feed additives that work synergistically through multiple modes of action. An example of this would be a probiotic paired with a prebiotic that would naturally work together for an improved outcome. Part of that shift in acceptability is twofold. The first is the push to minimize antimicrobial usage in feed. The second is our deepened understanding of modes of action. One thing is certain, not all DFMs are created equal because they have different modes of action which is specific to individual DFMs. With the varied modes of action there is inherent variability in efficacy which will also depend on the stage of production and the farm environment.

The modes of action are varied and that is often why we observed mixed results when evaluating a general

category like DFMs. Not all DFMs will take effect in the same way but they might also have multiple ways in which they influence the animal. The modes of action include 1) shift in the microbial environment via fermentation end products (pH, short chain fatty acid production) which can influence microbial environment and gut epithelial integrity, 2) competitive exclusion among microbial consortium members for nutrients, substrates, and binding sites in gastrointestinal tract, 3) increasing production of antimicrobial compounds, 4) reduce systemic inflammation, 5) stimulate growth hormones and inflammatory pathways of the host, or 6) a combination of any of these factors together. This topic was covered very well in a recent Invited review by Jeni et al., 2024 in the Journal of Dairy Science. The authors also summarized the current knowledge in dairy cattle production settings.

One thing is for certain, there continues to be opportunity to further understand what all these terms mean and the implications for how they can improve health, productivity, and efficiency. Some of the work Miner is doing in this area is feeding Kefir (probiotic) to calves in the preweaning period and other DFMs that you are likely to find on the market.

— Sarah Morrison
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Is there something you'd like to know more about?

Email article suggestions to dutil@whminer.com

EVOLVING THE REPLACEMENT PROGRAM

A few weeks ago, from April 9th to 11th, Cari Reynolds and I attended the 2024 Dairy Calf and Heifer Association’s annual conference in Westminster, CO. We spent three days attending talks by experts about all things youngstock from birth to calving. We also gained resources from company representatives at the DCHA trade show. Overall, this was a valuable experience that provided important insight into the industry standards for raising youngstock.

The dairy industry continuously evolves, and expectations for raising healthy, hearty youngstock are no different. A frequently-discussed topic at the DCHA conference was how our mindset behind raising animals is shifting. Traditionally farms saw heifers as an expense; they must be raised cheaply because they will not make the farm money until their 2nd lactation. Now, more and more farmers see youngstock as an investment. Calves have significant potential to succeed in the herd and management is the primary factor in maximizing this potential. Furthermore, heifer survivability is directly linked to total farm profitability. We need to consider that improving efficiency and profitability for the future starts with today’s replacement program.

Aside from the mindset shift, the growth targets for youngstock are evolving. In Farm Report articles from October and November 1992, Dr. Charles Sniffen wrote a series called “Fine-Tuning the Replacement Program” where he shared industry benchmarks related to heifer average daily gain (ADG) and overall growth. These benchmarks have been summarized and listed below, along with the current DCHA Gold Standards updated in 2023:

| | 1992 Growth Benchmarks | 2023 Growth Benchmarks |
|--|-----------------------------|---|
| ADG weaning to 1st breeding | 1.8-2.0 lb/day | 2.2 lb/day, weaning to 90 days old 2.3 lb/day, 90 days old to 1st breeding 55% of mature body weight (BW) at 1st breeding |
| ADG breeding to calving | 1.5-1.7 lb/day | 1.8 lb/day |
| Body weight as a % of mature weight around calving | 80% of mature BW at calving | 95% of mature BW just before calving 85% of mature BW after calving |
| Body Condition Score around calving | 3.5 | 3.25-3.5 |

When comparing these benchmarks, note that ADG from breeding to calving has stayed similar while today’s target for body weight around calving is much higher than in 1992. Today’s heifers are not gaining the extra body weight as adipose tissue (because the 2023 targets err toward a lighter body condition); rather, they have a larger frame size. This can be achieved by first ensuring that calves are weaned at double their birth weight, targeting 5 inches of height gain, and then increasing ADG before breeding. The benchmark for gain between weaning and breeding has increased by up to 0.5 pounds per day, so this period shows a lot of potential for frame growth. Finally, targeting 55% of mature body weight at first breeding ensures that heifers are biologically ready and on track to hit their target weight by calving.

If this still seems unreasonable we must remember how our expectations for cows have changed in the last 30 years. Firstly, cows are a lot larger now. Mature cows from the Cornell research herd averaged 1,472 pounds in 1993; in 2016 they averaged 1,710 pounds. At Miner Institute the average weight of a mature cow in our research herd is 1,650 pounds. We also expect higher milk performance. The average yearly milk production per cow has increased by 60% since 1990, as per the USDA. Our first lactation group is averaging almost 90 pounds of milk per day with some heifers peaking at over 115 pounds. My point: To have cows that meet today’s standards, we must raise heifers to today’s standards!

How does your replacement program compare against these targets? Of course, the first step is to weigh your youngstock. This may seem obvious, but I recently learned that only 36% of heifer raisers in the U.S. record body weight and average daily gain. If you are currently looking for more from your cows but do not measure their growth as heifers, I would challenge you to invest in a scale and look toward your replacement program. You can’t analyze what you don’t measure, so you will not know the potential for improvement without a bit of data collection and record-keeping!

— Alexandria Bartlett
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SPRING MAINTENANCE

As we look ahead to the coming summer months, our maintenance team here at Miner Institute has been busy not only doing spring cleanup around the grounds, but also focusing some necessary time and attention on the fans in our barns.

As the temperature climbs, the fans will be heavily used to help mitigate heat stress on our cows.

Not surprisingly, the fans get very dirty. The buildup of sawdust, dirt, bird poop, and any other particles floating around the barn can cause wear and tear on the fan parts, but also create a fire hazard as the electric motor in the fan can overheat and cause a fire.

Our team inspects and cleans all the fans each spring. It is a time-consuming job, but a really important component of maintaining our facility and ensuring the safety and well-being of our animals and staff. We use our bucket truck to safely reach the fans to work on them. It typically takes approximately four



hours per pen for a two-person team to complete.

The first step is to always remove power to the fans by either locking out a safety disconnect or breaker or by unplugging the power cord to the fans.

An unintended start up during this maintenance can be very dangerous. It's a good idea to also inform other farm staff of what you are doing and which pens you'll be working in.

We use pressurized air to remove most of the sediment from the fan blades and parts. Then each fan is brushed down. This job sends all kinds of particles flying, and a dust mask is necessary. All the belts on the fans are checked to ensure that everything is in good working order and no parts are broken or loose. We also ensure that the motor pulley and fan pulley are lined up correctly. If they are not in alignment, that could throw the belt off and cause problems.

Routine maintenance is an important component to the productivity and efficiency in any business and should be built into your farm schedule. It is better to replace a fan belt and make other repairs in May before the summer heat sets in and that broken fan becomes a real emergency.

— Rachel Dutil
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HUTCH-RAISED VS. NURSERY-RAISED: DOES TERMINOLOGY IMPACT CONSUMER PERCEPTION?

At the Dairy Calf and Heifer Association beef-cross panel discussion, the topic of calf housing inevitably came up. Large-scale consumers (grocery stores, for example) don't like the hutch-raised model and want to instead opt for paired or group housing models. An interesting point was made - should we change the terminology from 'hutch-raised' to 'nursery-raised' when marketing the dairy and beef industries to household consumers? The idea is that this term summarizes how we raise calves in a way that is better understood and related to by consumers. I had not heard this phrase before and found it interesting food for thought.

What do you think? Would this or another phrasing help to bridge some of the understanding between producer practices and consumer perception? Would it further complicate matters? In general, should we pay more attention to the way we phrase things when marketing our industry? I am still pondering these questions and would love to hear your feedback!

— Alexandria Bartlett
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NORTH AMERICAN MANURE EXPO 2024

The North American Manure Expo visits the Northeast in 2024. Join us July 17-18 in Cayuga County near Auburn, NY. Experience the thrilling demonstrations and engaging exhibitors of the Expo in the heart of the Finger Lakes region. Tour local facilities to witness the best in manure innovations of the Northeast. See spreaders, agitators, separators and other technology side-by-side – and witness the manure expertise that separates the Manure Expo from every other farm show!

Early bird registration rates end June 15, 2024.

<https://www.manureexpo.ca/>



SPIRIT OF HDF, Continued from Page 1



values established by William Miner in his “Spirit of Heart’s Delight Farm” message. Employees were reminded of their expectations while working at Miner’s farm with a large sign that hung outside the Storehouse No.1 building.

The sign read:

The Spirit of Heart’s Delight Farm

Do right because it is the right thing to do.

Be courteous: you thereby honor yourself.

Be industrious: otherwise you cannot respect yourself.

Be efficient thus gaining the respect of others.

Try to realize the value of time, your real capital.

Be honest thereby attaining true happiness.

Constantly improve in mental, moral and physical quality.

Be fair-minded: shun prejudice and jealousy.

Be loyal and cooperate cheerfully with others.

Today, the sign still hangs outside the original Storehouse No.1 building that serves as the home of our Heritage Exhibit that pays tribute to William Miner and the farm that he built. The Spirit of Heart’s Delight Farm serves as the guiding principles of Miner Institute. These principles influence the way we feel, act, think and make decisions. The Spirit of Heart’s Delight Farm is really our core values that establish a personal standard for our attitude and behavior on a daily basis. Also, it plays a role in decision-making and daily operations even when Miner Institute evolves over time. The themes of integrity, kindness and caring, and personal growth that it portrays shape our culture and contribute to our success.

— Heather Dann
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ORAL VS. SUBCUTANEOUS CALCIUM SUPPLEMENTATION AFTER CALVING

Subclinical hypocalcemia (SCH) is estimated to affect roughly 50% of cows in their second lactation or greater. Cows that develop SCH after calving have decreased blood calcium concentration but don't show physical signs of milk fever and are at greater risk for developing other transition cow diseases such as metritis and displaced abomasum. There is also an increased risk for compromised reproduction function, lower milk production, and culling during early lactation. The lack of physical signs can make it difficult to diagnose SCH, for this reason farmers tend to take more prophylactic treatment approaches, such as the administration of calcium orally or subcutaneously. Both approaches are commonly used on farms to provide cows with a source of calcium until calcium regulation can return to normal; however, the ways in which they affect the calcium concentration differ.

A study published in the *Animal Journal* by M. Jahani-Moghadam and colleagues evaluated the short- and long-term effects of supplementing calcium immediately after calving via an oral bolus or subcutaneously. The study was conducted with 36 Holstein multiparous cows on a commercial dairy farm. Cows were assigned randomly to one of three treatments: 1) CON- no calcium supplementation; 2) SUB- subcutaneous injection of 500 ml 40% calcium borogluconate immediately after calving or 3) BOL- oral supplementation of a bolus containing 45g of calcium immediately after calving and 24 hours (h) after calving. All cows in the study were fed the same prepartum diet containing anionic salts and a negative dietary cation-anion difference of -100 mEq/kg dry matter (DM). The researchers

found both calcium treatments had greater serum calcium during the first 48 h after calving compared to the CON group ($P = 0.0004$). When comparing the SUB and BOL groups, the researchers saw that the SUB cows had normal calcium during the first 6 h after calving but the concentration then fell below the threshold of SCH, 2.125 mmol/L, at 36 and 48 h after calving, while the BOL cows maintained normal a calcium concentration the entire time. In fact, SUB cows had the lowest calcium of any treatment at 36 and 48 h after calving.

In a recent study published in the *Journal of Dairy Science* (JDS) Communications, Frost and colleagues supplemented cows with no calcium, an oral bolus containing 43 g calcium immediately after calving and 24 h later, delayed oral supplementation of a bolus containing 43 g calcium at 48 and 72 h after calving, or with one subcutaneous injection of 500 mL of 23% calcium borogluconate immediately after calving. Similar to the results observed by Jahani-Moghadam and his colleagues, these researchers found that the differences in calcium concentration were most notable after 32 h after calving with the cow receiving subcutaneous calcium having a lower calcium from 32 to 64 h compared to the control, 32 to 96 h compared to cows receiving an oral bolus after calving and 24 h later, and 40 to 64 h compared to cows receiving delayed calcium supplementation. Delaying administration of calcium bolus to 48 and 72 h after calving did not affect calcium concentration differently than administering a bolus at calving and 24 h later.

These studies, and many others, have proven that providing cows with

a source of calcium after calving, whether it be orally via a bolus, or subcutaneously, increases blood calcium concentrations and supports cows while calcium returns to homeostasis. But why is the increase in calcium concentration short lived when calcium is supplemented subcutaneously compared to a calcium bolus?

A calcium bolus provides large amounts of calcium over a longer period because they contain a combination of rapidly and slowly absorbing calcium salts. Therefore, it is the rapidly absorbing calcium salts that provide cows with that initial calcium increase, and the slowly absorbing salts that allow for prolonged effect.

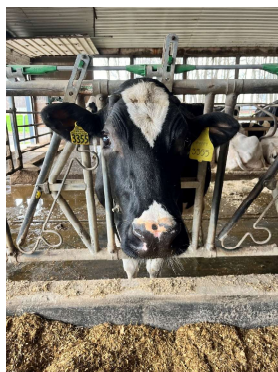
Subcutaneous administration of calcium has a relatively short-lived effect on blood calcium concentrations, in which it typically increases blood calcium concentration for only about 12 h after administration. In a symposium review of calcium homeostasis, Wilkens and colleagues hypothesized that this short-lived effect could be due to lack of parathyroid hormone (PTH) secretion due to rapid increases in blood calcium. This in turn prolongs the time it takes for the body to reach calcium homeostasis. To explain, when blood calcium concentrations are low, PTH is released into the bloodstream and is used to signal receptors that allow for increased flow of calcium via bone absorption. Administering calcium intravenously provides a pool of calcium for the body to pull from and therefore PTH is not released until the pool runs out. Once the pool runs out the calcium concentrations may drop again because the

See **CALCIUM**, Page 10

WHAT'S HAPPENING ON THE FARM

Spring is finally here! Although it has technically been here for a while, you can finally feel and see it here at the Miner Institute. The cows are enjoying the warmer weather and the curtains are open in the barn so they can enjoy the sun more.

We are awaiting the arrival of our 4 Dairy Farm Management Summer Students, they will arrive near the end of May. Their time here will be split between working on and learning about herd health, calves, milking, feeding and crops. They will also all get one heifer to show at the Clinton County Fair in July.



We are very excited to meet them!

Recently we have had a lot of issues with our fresh cows, so we have started feeding them dry hay in addition to

their TMR. Along with working with our herd nutritionist and veterinarian, we seem to have solved our fresh cow issue, which we are all thankful for.

The grass is finally green, which means we are about to start field work for 2024. The crops crew has been cleaning up the equipment this past winter and will hopefully be in the fields shortly. We have also been able to start spreading manure from our manure lagoons to fertilize our fields. Our maintenance department is doing a lot of spring cleaning right now, tidying up around the farm, cleaning up some of the sand and dirt leftover from this past winter.

— Rebecca Sprang
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NITROGEN FERTILIZATION OF CORN: TIMING IS EVERYTHING

I've never been a big fan of preplant N fertilizer for corn, and the higher percentage of total N applied preplant the less I like it. Nitrogen applied in the fertilizer band is about twice as efficient as broadcast N. Also, if the starter fertilizer is low in N (as with a 1-4-4 ratio starter) it may not provide enough N. This is probably even more important if you plant into cold soil (less than 60F) since this may limit the release of the N from organic matter. Some agronomists suggest applying about 30 lbs. of N in the starter fertilizer which sounds about right, though this may be influenced by manure rate and timing.

Also, don't wait too long before you sidedress nitrogen, especially if the amount of N applied with the starter is on the low side. Research has shown that waiting too long before sidedressing reduces yield. And if the nitrogen won't be incorporated via cultivation consider using a nitrogen stabilizer.

— Ev Thomas

CALCIUM, Continued from Page 9

body has been able to rely on the supplemented calcium rather than regulating it throughout the body. Wilkens and colleagues write that this is seen more severely when calcium is administered intravenously but has still been observed to some degree with subcutaneous administration. In addition to investigating the effects of calcium supplementation on serum calcium, Frost and his colleagues also looked at how PTH was affected.

Unfortunately, in their study they did not observe any difference in PTH concentration among treatment groups. The researchers suggested that perhaps their sample size was not large enough to detect differences in PTH, or that calcium concentration did not reach high enough concentrations to disrupt the release of PTH.

Although more research is needed to better understand what is

happening in the body after calcium supplementation, it's important for farmers to have some idea of how the product they use works inside the cow's body. This way they can better understand why they might not see the results they were expecting, and it can help them decide which course of treatment is best for the situation.

— Emily Bourdeau
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Advanced Dairy Nutrition & Management Shortcourse



JUNE 3 - 6,
2024

Cornell University | Ithaca, New York

Presented as a partnership between Cornell University Animal Science and Miner Institute, the Advanced Dairy Nutrition and Management Shortcourse is conducted in even calendar years at Cornell University. This shortcourse is designed primarily for experienced nutritionists and allied industry professionals seeking a more in-depth exposure to selected topics of emerging and continued interest relating to dairy cattle nutrition and management.

Summary

This year's course will feature 2 sessions. You may choose to attend the entire course or just one session. Session 1 will feature nutrition management lectures, similar to previous courses. Session 2 will focus on implementation of the CNCPS and will include case studies in addition to round robin lecture sessions. Both sessions will provide opportunities for attendees to network with each other and with course faculty in informal settings.

Topics

Post-weaning nutrition and management
Forage quality and utilization
Advances in fiber characterization and application
Calcium management in transition cows
Amino acid nutrition and metabolism
Nutrition and environmental programming
Transition cow nutrition and management
Advances and application of the CNCPS biology and more!

Faculty

Dr. Joao Costa, University of Vermont
Dr. Heather Dann, Miner Institute
Dr. Laura Hernandez, University of Wisconsin-Madison
Dr. Sarah Morrison, Miner Institute
Dr. Tom Overton, Cornell University
Dr. Kristan Reed, Cornell University
Dr. Mike Van Amburgh, Cornell University

Registration

Full Course: Monday - Thursday = \$700
Session 1: Nutrition Management Monday - Wednesday = \$450
Session 2: Implementation of CNCPS Wednesday - Thursday = \$350

For more information or to register, visit:

<https://cals.cornell.edu/animal-science/events/advanced-dairy-nutrition-and-management-shortcourse>

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ENJOY!

A team of volunteers from Miner Institute and The Alice T. Miner Museum gathered at the Riverview Cemetery in Chazy on April 27 to do spring cleanup in observance of the United Way of the Adirondack Region's annual Day of Caring.

Closing Comment

Cooking may be easy, but it's not easier than not cooking.

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