



FROM THE PRESIDENT’S DESK: HIGH OLEIC SOYBEANS

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Feeding high oleic soybean to dairy cattle is the hot topic of the season based on the number of popular press headlines, research articles, and industry meetings that I have seen focus on it recently. It’s also on our minds at Miner Institute as we discuss feed costs and opportunities for producing more pounds of milk fat and protein. I recently heard Tom Overton share his thoughts about feeding high oleic soybeans in dairy diets at the Cornell Nutrition Conference. Here are some key points that I have taken away from his presentation as well as other meetings and discussions that I have been a part of:

High oleic soybeans offer the opportunity to feed more soybeans with less risk for milk fat issues. Soybeans are a commonly used oilseed in dairy cattle diets as they provide protein and energy in the form of fat to the cattle. However, feeding too much fat, especially polyunsaturated fatty acids like linoleic acid (C18:2), can have a negative effect on milk fat synthesis. Soybeans are a rich source of linoleic acid. Too much linoleic acid in the diet along with other factors that shift the ruminal biohydrogenation pathways used by the bacteria can result in more linoleic acid getting converted to the milk fat depressing trans-10, cis-12 conjugated linoleic acid (CLA) rather than the cis-9, trans-11 CLA. It only takes a few grams of trans-10, cis-12 CLA to reduce milk fat. Thus, nutritionists have limited commodity soybean use along with other oilseeds and supplemental fat sources to keep dietary Rumen Unsaturated Fatty Acid Load

(RUFAL) values in range (typically <3.5% of dry matter). The high oleic soybeans have been developed to have higher oleic acid (C18:1; ~70-75 vs. 20-25%), less linoleic acid (~7-10% vs 50-55%), and less total polyunsaturated fatty acids than commodity soybeans. Thus, allowing the opportunity to feed more high oleic soybeans. At Purdue, Jackie Boerman’s group found no detrimental effects of feeding high oleic soybeans on milk yield with an increase in milk fat concentration, fat digestibility, and fat deposition compared to a control diet.

High oleic soybeans offer the opportunity to reduce feed cost or more importantly improve income over feed cost. Recently in the Journal of Dairy Science, Kevin Harvatine and his Penn State group evaluated the economic impact of use of 5% high oleic soybean in diets for dairy cattle. They calculated milk income less feed costs (MILFC) with the assumptions of increased milk fat production based on 5 previous studies and increased cost of a diet containing high oleic soybeans. The response was generally positive with a financial benefit ranging from \$0.05 to \$0.25/cow per day with a conservative milk fat response of 0.1 lb (45 g)/cow per day under various scenarios. Some studies have seen a much larger increase in milk fat. Interestingly, Tom Overton pointed out that using high oleic soybeans might be more of feed cost opportunity than milk fat opportunity since some of the studies

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USDA ANNOUNCES \$11 MILLION FOR DAIRY RESILIENCE

In early October Secretary of Agriculture Tom Vilsack announced the USDA's reinvestment in the Dairy Business Innovation (DBI) program. Based within the agricultural marketing service branch of the USDA, the DBI program splits the country into four groups covering the Northeast, Southeast, Midwest, and West, with each hub based in an agricultural institution in that region. These Dairy Business Innovation Centers (DBIC) award small- to medium-sized grants to dairy businesses in their region for marketing, product innovation, business development, and distribution. So far, the Northeast DBIC (NE-DBIC), operating within the Vermont Agency of Agriculture and Food Markets, has awarded \$31 million to farmers in the Northeast. The USDA specifically uses the term "resilience" to describe the nature of these grants.

The NE-DBIC has funded projects to revamp marketing for specific brands, to increase awareness of the dairy industry in rural and urban areas, to bring together new farmers with technical assistance providers, to expand infrastructure for milk storage and handling, and much more. The grants all revolve around dairy production, processing, and management, but also have an element of community embedded in them. These grants go to projects not just to expand a dairy's ability to produce and sell, but to expand their impact in their town, and across

their food system. In doing so, they reiterate the worth of the dairy farming community in those systems. Here's where the resiliency piece comes in – the idea with this funding is not just to support projects and keep dairy ventures in operation in the immediate term, but to stimulate growth and development in a way that protects the future of dairy in the region.

To me, the term resilience would mean that the funding is going towards programs that work to create a dairy food system that can thrive into the future, providing jobs, nutritious food, and protecting the working landscape of the area. A grant supporting resilience would fund projects that increase the wider community's interdependence on the existence of that dairy business. They would fund projects that steer dairy businesses to operate in a way that makes them able to change with the world around them.

There's a current trend in government allocation of funds towards resiliency projects; last year the USDA announced almost half a billion dollars would go to funding the Resilient Food Systems Infrastructure program. This program was created to strengthen the middle of the food chain, similar to how the DBIC program supports processors, not just producers. Similarly, when describing the reinvestment in the DBIC program, Secretary of Agriculture Tom Vilsack

described resilience as the program's multiplicative effect. This program won't just pay for more marketing plans but will "build new markets and expand economic growth in rural economies." Both the DBIC program and the Resilient Food Systems Infrastructure program are designed to maximize the impact of the dollars going out into the food system.

I'm curious to see how resilience will play a role in the long-term relationship between government bodies and American farmers. Is resilience the buzzword of the time, and will soon be dropped for the next word that inspires some hope? Will the principles of resilience, the ability to absorb change and come out alive, work their way into how we view agriculture in America? Maybe most realistically this focus on resilience will fund some exciting projects, some of which will go on to create long-lasting change in their sectors. I hope that the intention of resilience – the drive to create something that can last through changing climates, governments, and eras – will be left from these resilience programs. In the meantime, the NE-DBIC will be administering \$3.45 million to dairy businesses in the Northeast and spreading the concept of resilience in big and small ways. Interested parties can find out more about the NE-DBIC program at nedairyinnovation.com.

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IS PHOSPHORUS READY FOR ITS CLOSE-UP?

Hypocalcemia, also known as milk fever, is a well-known transition cow disorder that occurs when a cow has difficulty maintaining calcium homeostasis after calving. The prevention, management, and treatment of this disorder has been highly researched due to hypocalcemia being a predisposing factor for other common transition cow diseases as well as impaired reproduction and productivity. This research has led to the clinical form of this disorder no longer being a major concern, rather the recent focus has shifted to subclinical hypocalcemia (SCH). Subclinical hypocalcemia is estimated to be experienced by approximately 50% of cows in their second lactation or greater and it is difficult to diagnose under field conditions.

In an effort to reduce the incidences of SCH, our industry has been reviewing the strategies we use to prevent milk fever. The prevention of milk fever is mostly done through nutrition by feeding a close-up diet that is low in calcium, has a negative dietary cation-anion difference (DCAD), or by the use of a calcium binder. All of these nutritional strategies work by creating a low blood calcium environment before calving, thereby increasing calcium mobilization from the bone. This essentially allows the body to pre-adapt to hypocalcemia and helps cows after calving because their body is already used to mobilizing calcium from the bone to meet demands.

A study published in the *Journal of Dairy Science* reported that feeding a restricted phosphorus diet during the close-up period also stimulated calcium mobilization from the bone. Walter Grunberg's research group conducted a study in 2020 where

cows were either fed a diet with adequate phosphorus content (AP; formulated for 0.30% P in DM) or low phosphorus content (LP; formulated for 0.15% P in DM) for at least four weeks before calving. During the close-up period, daily feed intake was restricted to 25 lb of DM per day (normal close-up diets are formulated for 27-28 lb of DM). Feed restriction was used to ensure that cows on the LP diet did not consume more than 20 g of phosphorus per day. Following calving, cows were fed the same lactating cow diet with adequate phosphorus content ad-libitum. After calving, blood samples were taken throughout the first 7 days in milk (DIM).

In this study, feeding the restricted phosphorus diet pre-partum successfully increased blood calcium compared to cows on the adequate phosphorus diet, and it also reduced the severity of clinical and SCH. Cows on the low phosphorus diet had numerically lower incidences of clinical and SCH compared to cows on the adequate phosphorus diet (1/15 cows with clinical and 8/15 cows with SCH vs 3/15 with clinical and 10/15 cows with SCH, respectively). Of the cows that did experience SCH, the cows on the low phosphorus diet only experienced low blood calcium for 2 days at most, while cows who were fed adequate phosphorus experienced low blood calcium for at least 3 consecutive days. There were significant treatment and time effects with a treatment by time interaction on blood calcium values ($P \leq 0.009$). On days +0, +2, and +4 after calving, cows on the low phosphorus diet had significantly higher blood calcium values. Plasma CrossLaps, a marker for bone reabsorption, was also measured in the blood. The researchers found that there was

a significant treatment, time, and treatment by time interaction for plasma CrossLaps ($P \leq 0.05$) where cows who were on the low phosphorus diet had higher values on days +1, +2, and +7 after calving. This means that cows on the low phosphorus diet were mobilizing more bone after calving, which makes sense considering the results seen in blood calcium and incidences of disease.

So, should we all start feeding our cows a low phosphorous diet during the close-up period? Achieving such a low level of phosphorus to see these results can be difficult to do in a diet without some kind of assistance from a product. Hypophosphatemia, which is common during the first week of lactation and is when blood phosphorus values decrease, is a concern with feeding a low phosphorus diet. The dip in plasma phosphorus at calving was not mitigated in either treatment, and this can be concerning as it is believed to be associated with negative effects on health and reproduction of high producing dairy cows. This current study only followed cows until they reached 7 DIM, therefore, there may still be possible effects of a low phosphorus diet that could be seen later in lactation. With all that being said, cows fed a low phosphorus diet during the close-up period mobilized more bone and had higher blood calcium values after calving. More research is needed to determine longer-term effects of this diet, as well as how milk production and other parameters might be affected, and to compare such a diet to our current strategies.

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2024 CORNELL NUTRITION CONFERENCE: IT'S BEEN A YEAR ALREADY

Time flies! It doesn't feel like it was a year ago when I wrote about my experience at the 2023 Cornell Nutrition Conference (CNC), and here I am sharing my feedback from the 2024 CNC that was held from October 22-24 at East Syracuse, NY. This conference afforded me the opportunity to meet with dairy experts from within and outside the US, and to learn from the seasoned speakers and panelists that shared some insightful information. Most of the sessions focused on transition cow health and management, nutrient use and efficiency in lactating cows, pre- and postnatal calf nutrition, and greenhouse gas emissions from dairy production. One of the panel sessions was titled "Sustainable dairy plans to reduce livestock methane: How do we moo've in the right direction to achieve positive global impact?" It involved representatives from the consumer-packaged goods industry (Anshuman Bhatia from Mars Inc, Guillermo Schroeder from Cargill, Ryan Smith from Danone North America, and Rebecca Manning from Ben and Jerry's) who shared the various strategies and investments they are making to ensure sustainability in agricultural production. These include provision of funding to conduct research on farms to reduce methane, providing more education to farmers on reducing greenhouse gases, creating more partnerships to address this concern, and including this environmental aspect in their decision-making process. This session was informative, and it would be great for both small, medium, and large-scale industry players to incorporate and prioritize sustainability in their overall goals and mission.

The panel discussion tagged "Dairy farming and greenhouse gas emissions: How do we get started?" was also

enlightening. The panelists were Kirsten Workman (Cornell CALS PRO-DAIRY), Lauren Ray (Cornell CALS PRO-DAIRY), Dr. Mike Van Amburgh (Cornell University), and Dr. Olivia Godber (Cornell University). The session was moderated by Karl Czymmek (Cornell CALS PRO-DAIRY). The key points I noted from the panelists include the need for farmers to get the footprint data of their farms as soon as possible (i.e. knowing the environmental footprint of their farm operations) which can serve as baseline data so that as new technologies are evolving to reduce greenhouse gas emissions, they can determine if these technologies are effective. The panelists mentioned some current progress with the use of the Cool Farm Tool as an inventory tool, and with time they anticipate more adoption of the tool by farmers to determine their footprint. It's important for stakeholders like milk cooperatives, policy makers, financial institutions, and other key players to be included in the discussions involving strategies to improve the environmental footprint of the dairy industry. This is because the activities of the various sectors in the industry contribute to the total environmental footprint, hence, every actor in the value chain should be involved in proffering solutions.

The panelists affirmed that they're currently having discussions with these stakeholders. With time and as more collaborations are made these discussions will become more robust and fruitful. The panelists also suggested that dairy nutritionists should work more synergistically with agronomists on farms to make the best use of the forage resources available on these farms. The panelists noted that there is still a gap in communication between nutritionists and agronomists,

but they hoped that this gap would close with time. Finally, the process of data collection from farmers to develop and improve inventory tools should be easy and more streamlined, and the integrity of such data should always be guaranteed. The status quo is that there is no compromise with the farmers' data that the panelists are working with, and they pledged to maintain this data integrity. Farmers and nutritionists should aim for feed efficiency, i.e. feeding and managing cows to get the best out of them, knowing that most of our cows have the potential to produce more than they are currently doing. Over the years, we have observed an increase in the milk fat content and milk yield of dairy cows, and there is still room for more increase as we enhance feed efficiency.

The highlight of the conference for me was my presentation as the recipient of the 2024 Dr. Charlie Sniffen Graduate Student Award sponsored by Kemin Animal Nutrition and Health. I presented on the effect of feeding cold extracted cashew nutshell extract with varying concentrations of starch and sugar to post-peak lactating Holstein cows. We conducted this study at Miner Institute, and our reason for including cashew nutshell extract as a feed additive is due to previous studies that have shown its potential to reduce enteric methane emissions and increase propionate production. However, the results from this study did not corroborate previous studies as the feed additive showed a reduction in propionate production and no effect on methane (CH_4) emissions [production in g/day; intensity in g CH_4 /kg of energy corrected milk (ECM); and yield in g CH_4 /kg of dry matter intake (DMI)], but it had a positive effect on

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NE REGIONAL DAIRY CHALLENGE COMES TO MINER INSTITUTE

Seventy-eight students with an interest in dairy from 12 universities from Maine to Michigan gathered in Clinton County Oct. 17-19 to participate in the Northeast Regional Dairy Challenge event, hosted by Miner Institute.

The three-day event includes team-building activities that develop communication and teamwork skills. Students are assigned to aggregate teams and analyze financial information, herd health and management records, facilities and feed and forage data for local farms who generously participate in the event.

Students visit the participating farms and get to network with mentors and ask questions of the producers.

Students then present recommendations for the farm to improve efficiency or management to a panel of judges including dairy producers, agribusiness professionals, veterinarians, financial specialists, and nutritionists.

The event is a great opportunity for students to deepen their understanding of all aspects of dairy farming and also to network with a wide array of industry professionals. The event is made possible by generous industry sponsorships and the participation of local farms in whatever region the event is held each year.



This image, taken by Dairy Farm Manager Steve Couture shows the 78 students from 12 universities who participated in the Northeast Regional Dairy Challenge event at Miner Institute in October.

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body weight and body condition score. We also used two concentrations of starch and sugar as the base diets in this study, a high sugar diet with low starch (5.9% sugar and 23.5% starch), and a low sugar diet with high starch (3.6% sugar and 26.8% starch). Previous studies have shown an increase in DMI, milk fat, milk protein, milk yield, and butyrate production when high sugar diets were fed, but from this study, we only saw a positive effect of the high

sugar diet (5.9%) on milk fat and dry matter intake. Our results demonstrate the need for more investigation into the efficacy of cashew nutshell extract in reducing enteric methane from dairy cows.

In a nutshell, my take-home from the various sessions is that while we are working to improve the health and productivity of dairy cows, we should also keep paying attention

to the environmental impact of our endeavors and keep making more connections across the supply chain to collectively mitigate greenhouse gas emissions from the dairy industry. This conference was a worthwhile experience, and hopefully the time flies by as fast again for us to have the 2025 CNC.

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LEADERSHIP LESSONS FROM A HISTORICAL LENS

I'm currently in the second year of LeadNY, a leadership development program for those in the agriculture and food sectors of New York. We recently completed a session in Washington DC that ended with a visit to Gettysburg, PA. In Gettysburg we had the opportunity to spend the day not only learning about the history of that battle but being led through a leadership workshop led by several folks from "Diamond6 Leadership and Strategy". Diamond6 was founded by retired U.S. Army Colonel Dr. Jeffrey McCausland, and we were led through the workshop by Dennis Volpe from the Leadership Research Institute and Tom Vosler, a Licensed Battlefield Guide and retired U.S. Army Colonel. The leaders of this workshop are all very experienced and I found it to be one of the most interesting days we've had in the program to date. I wasn't expecting to be able to take away so much from an event that occurred 161 years ago in the U.S. Civil War. However, as they stated during the workshop, a crisis brings out both the best and worst in leaders and we can still learn from them today.

I won't get into many of the details of the battle, as I won't do it justice compared to Tom Vosler, but I hoped to capture some of my leadership take-homes from the day. We started out by being asked to consider the following four things in each exercise we went through: time, resources, risk, and space. These should be considered in any decisions being made.

Mission. The first take-home for

me was how important it is to have a clear mission and vision. If the overall objective has been clearly communicated across the institution/farm/company etc., then there is no question of what the task at hand is. As a result, there is little room for interpretation and people can work within the priorities and expectations that have been set to accomplish the task at hand. They have something they are working toward. Added onto this is knowing what is at risk. Certainly, with the example of Gettysburg a battle, life and the fate of a country were at risk. However, this is likely not the case in everyday life, but is something to consider. In your own work do you and your team have a clear mission? Have you set your expectations and outlined the priorities your team should work with?

Communication. Clear, concise, compelling, and complete. How do you promote communication across your team? It is important to keep in mind that communication is not one directional. Information should be communicated up, down, and across the hierarchy. Some issues to be aware of- Is there room for interpretation in your request? Is there any information asymmetry? Maybe there are certain people that hold information to themselves and hinder the common goal. Whereas, if that information were to be shared, it could help the common collective. How do you encourage more input from those around you and make people feel heard? A large component of communication is listening. Are people being heard? You will likely get more buy in from

across the team if their input and concerns have been heard.

Trust. Trust is the glue that makes everything happen. Do you have buy-in from across your team? Trust will be likely gained when both mission and communication are implemented well but it needs to be the foundation in which every team should be built. Have you trained your replacements and taken on that mentorship role to facilitate someone to take the lead if needed? Being able to have communicated the mission and mentored others to be able to continue that goal, even if the intended people are taken out of action.

Change. What is the ability of you and your team to adapt to change? The example given at the battlefield was the evolution of weapons they were using. The soldiers were using rifles during the battle but were still using military tactics from when muskets were used. This led to a high number of casualties because the rifles were more accurate, but soldiers were ordered to line up in formations that were shoulder to shoulder in open ground. Technology innovations are great but are we adjusting our tactics to effectively use them and adjust our strategy in response to changes? Hopefully some of these topics are things that you have found important for your organization and that you find ways to promote them. If not, now would be a great opportunity to work on them!

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TRACEABILITY: WHERE DID YOU COME FROM, WHERE DID YOU GO?

Technically, yes, this is a lyric from the popular Cotton Eyed Joe tune, but beyond that it's a question that consumers and producers are asking about the livestock cycling through various operations. There's an increasing demand for transparency and accountability, especially in food systems, from both producers and consumers. Whether we like it or not, the days of dusty filing cabinets and handwritten records are swiftly coming to an end, as we transition to more accessible and universal systems. Entities such as the USDA Animal and Plant Health Inspection Service (APHIS) are striving to implement a modern animal traceability system to fulfill this demand.

What is traceability? It's the ability to track the movement and history of individual animals throughout their lives. This information includes their birth date, breed, health records, previous locations, vaccines, and any treatments or medications they have received. For consumers of animal products, this translates to confidence in where their milk or meat are coming from and

how the livestock were raised. On the production side, traceability can relate directly to herd health, management, and regulatory compliance. As food systems become more globalized, the need for a standardized traceability system continues to grow.

With the growing concern of contagious, zoonotic diseases such as Highly Pathogenic Avian Influenza (HPAI H5N1), a need for a uniform traceability system has become glaringly obvious. According to the Center for Disease Control, on March 25th the first bird flu virus was found in cows in Texas. It quickly spread to at least eight additional states, leaving state and Federal organizations scrambling to retrace the steps of the contamination. According to the USDA, continued transmission of the virus in dairy cattle points to the single spillover event in Texas through movement of cattle, people and equipment. Clearly, a national ID system would have expedited the tracking process and reduced the panic within the dairy and beef industry.

This recent event brought to light the

nationwide movement of livestock through the production cycle. We know the benefits of what a standardized national traceability system can bring, but how does this translate to the real world? Change takes time, especially on this scale, however, there are many organizations and bodies pursuing this cause. For example, the USDA is leading this effort by providing tags to producers free of charge. Information on obtaining these tags can be found on the APHIS Animal Disease Traceability webpage. This is just one of many efforts towards the adoption of a universal tracking system, as there is not yet a single accepted technology to be used for the cause.

Despite the many challenges which stand in the way of a universal, accepted, and used traceability system, the industry is battling towards it. When will we get there? What will it look like, specifically? Those questions remain to be answered, but many powers are diligently working towards them.

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suggested that one might only expect a milk fat response when there is some milk fat depression with elevated linoleic acid supply and availability before using high oleic soybeans. The feed cost saving is likely to come through less use of expensive fat supplements.

High oleic soybeans should be processed to improve the feeding value. Adam Lock and his group at Michigan State fed cows diets containing commodity soybean meal, raw high oleic soybean meal or roasted high oleic soybean meal and found that inclusion of high oleic

soybean meal improved intake and yields of milk and milk components. Roasting the high oleic soybeans improved milk production responses compared with the raw soybeans. This isn't surprising given the common practice of heat-treating commodity soybeans to increase the rumen undergradable protein (RUP) content as well as denature a trypsin inhibitor that could otherwise decrease protein digestibility in the small intestine. A challenge of effectively using high oleic soybeans is getting them processed on-farm as feed mills are not routinely sourcing and segregating high

oleic soybeans.

Although there appears to be some benefit to using high oleic soybean in diets, Miner Institute is not planning to use them until we have extra crop acres to grow them or find a local source for them. Not surprisingly, growing and use of high oleic soybeans will be a farm-specific decision influenced greatly by geographical region and market factors.

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USING BEEF GENETICS ON DAIRY HERDS

Using beef genetics on dairy farms has become a popular practice, driven by economic benefits and market demands. By crossbreeding dairy cows with beef bulls, farmers can produce calves that command a higher market price than purebred dairy calves. For example, data from 2022 show that beef-dairy crossbred calves, such as those with Angus genetics, often sell for \$125 to \$254 per head, whereas purebred Holstein calves might sell for as low as \$15 to \$150. Research I led in 2022 showed that using beef semen in Jersey herds can increase net returns by \$67 to \$69 per calf. Additionally, raising these crossbred calves to 180 days boosts the return to \$219 per calf sold. Prices for day-old beef-dairy calves have more than doubled since 2022 further increasing the economic gains for farmers.

This approach not only increases the income from calf sales but also allows

farmers to control the number of replacement heifers more efficiently. With technologies like sexed semen, farmers can focus on generating enough heifers for herd replacement while breeding the remaining dairy cows with beef semen. This selective breeding reduces the cost of raising excess heifers, optimizes resources, and generates higher-value crossbred calves.

Moreover, beef-dairy crossbreeds tend to have improved growth rates, carcass quality, and feed efficiency. Studies have shown that crossbred calves, like Jersey crosses with Angus or Simmental, exhibit better daily weight gain and carcass characteristics than purebred dairy calves. For instance, Jersey-Angus cross calves tend to have higher hot carcass weights and better marbling scores, making them more desirable in the beef market.

Adopting this strategy also aligns with the environmental goals of the livestock sector. Crossbred animals can reduce the overall carbon footprint of beef production by utilizing the same resources as dairy herds, thus contributing to a more sustainable beef supply. For example, beef from dairy-origin cattle has been shown to generate up to 29% less greenhouse gas emissions per pound of meat compared to traditional beef production systems.

In summary, integrating beef genetics into dairy herds offers dairy farmers a profitable way to manage surplus animals, enhance the market value of their calves, and contribute to sustainable beef production. This approach not only supports farmers economically but also aligns with environmental and industry goals.

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MARCONDES JOINS MINER TEAM

In late October, Marcos Marcondes, Ph.D. joined the team at Miner Institute as a dairy research scientist. His primary research focus will be dairy nutrition.

Marcondes comes to Miner from Washington State University where he was an assistant professor for nearly four years. Marcondes has a Bachelor of Science and a Master of Science degree in animal science from the Federal University of Viçosa-Brazil. He was a visiting scholar at Texas A&M University before going on to earn his Doctor of Science in animal science at the Federal University of Viçosa-Brazil. He then did a post-doctoral appointment in dairy economics at University of Florida-Gainesville.

Marcondes says he looks forward to focusing his attention primarily on research, which is his passion. His research interests include dairy calf and heifer nutrition and economic feasibility. With ongoing education programs throughout the year, Marcondes will still be involved in mentoring and teaching undergraduate and graduate students. “It’s the best of both worlds,” he said. He also looks forward to the outreach component of his role and networking with regional dairy farmers and professionals in the dairy industry.



WHAT'S HAPPENING ON THE FARM

It's crazy to think that it's already November. The middle of fall always proves to be a tough transition in weather patterns. Here in Northern New York it's not uncommon to see very cold days, ranging in the 30s and 40s, followed by days in the 70s. Due to the variability of these weather conditions we've been experiencing some mild cases of pneumonia in our calves and cows.

Most of our cases have been in our heifer transition barn, where approximately fifteen of our newly weaned calves, specifically between the ages of three and five months, have been treated for pneumonia in the past two weeks. Symptoms our animals have been experiencing range from mild coughing spells all the way to high fevers. With our youngest animals we are treating primarily with Liquamycin® LA-200 as a subcutaneous injection, accompanied with Banamine® Transdermal for fevers over 104 degrees Fahrenheit. If 48 hours have passed and there's no improvement and they seem to be worsening, we will switch to Draxxin®KP as a subcutaneous injection. We like to use Draxxin®KP on these tougher pneumonia cases because it contains the antibiotic tulathromycin, which is targeted to hit bovine respiratory diseases, along with ketoprofen which substantially lowers fever and inflammation associated with fever and pneumonia. Our calves have been recovering well with their respective treatments.

Our cows are being treated first off with Excede®, which is specifically

indicated to treat bovine respiratory diseases and does not present itself into the milk of the treated animal, making it a convenient treatment. With fevers over 104°F, treatment will also consist of Banamine® as an intravenous injection, which does present in the milk of the treated animal. Meaning, these cows will need to have red bands placed on their legs and moved to the treated group to ensure their milk does not go into the tank for consumption. In 48 hours, if symptoms have worsened, we will switch over to Liquamycin® LA-200 as an intravenous injection. Liquamycin® LA-200 is a very broad-spectrum antibiotic indicated to treat bacterial pneumonia. If fever persists outside the 48-hour window, the animal will receive another dose of Banamine®. Supportive treatment alongside will consist of IV fluids, appetite stimulants, and coaxing eating with flakes of hay. We are working very closely with our veterinarians to ensure our vaccination and treatment protocols are fit for our herd.

The other challenge we have been faced with is an increase in both subclinical and clinical milk fever (hypocalcemia). Milk fever happens mostly commonly when calcium demands to create colostrum and milk exceed the calcium reserves in the body, presenting early as unsteadiness and sometimes the inability to stand up (a "down" cow). Milk fever most commonly happens in multiparous fresh cows. We unfortunately are seeing these problems even though we supply them with a Bovikac® bolus at the time of calving, especially for our

third lactation and higher cows. If milk fever is suspected, a blood sample will be taken and ran in our new Catalyst One IDEXX machine. In 9 minutes we'll have the results for the blood calcium, phosphorous, and magnesium concentrations. With low calcium concentration, depending on the stage we can supplement the animal with either: another Bovikac®; subcutaneous Calcium Gluconate 23%; or, if the concentrations are very low, intravenous Calcium Gluconate 23%. For low phosphorus concentration we'll supplement a phosphorus drench administered orally. For both low calcium and phosphorus concentrations, we can administer a CMPK solution subcutaneously or intravenously. CMPK contains the minerals: calcium, magnesium, phosphorus, and potassium. All these minerals combined makes it an effective treatment. After initial treatments the cow is usually instantly feeling better. In more severe cases, another treatment is necessary the following day to ensure levels are in a safe area. We are currently working very closely with our nutritionist to make sure our diets in our pre-fresh and fresh groups are correct given our recent forage changes and looking forward to getting out of the calving slug that has left our dry pack overcrowded.

Ensuring the health, wellness, and management of the animals is our top priority as herdsman. We are hoping to get a better handle on these situations before winter arrives.

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VT DAIRY PRODUCERS CONFERENCE: FEB. 18, 2025

Registration opens in early January 2025

For more information, visit vtdairyconference.com

DAIRY DAY AT MINER INSTITUTE

DECEMBER 11, 2024

10 am - 3 pm

Join us for our annual day-long dairy outreach conference! This event is FREE and open to the public, no pre-registration required. Lunch will be available for purchase for \$5.

2024 Speakers:

- John Brouillette, Lallemand – *How to feed what was grown and harvested in 2024*
- Dr. Kate Creutzinger, University of Vermont – *Demystifying cow-calf contact on commercial dairy farms*
- Dr. Heather Dann, Miner Institute – *Management Opportunities for 2025*
- Dr. Marcos Marcondes, Miner Institute – *The use of beef semen on dairy herds*
- Dr. Sarah Morrison, Miner Institute – *Direct-Fed Microbials Strategies to Support Growth and Health of Calves*

Dairy Day will be held in the auditorium at the Joseph C. Burke Education and Research Center at Miner Institute, 586 Ridge Road in Chazy, NY. For more information, contact Wanda Emerich at emerich@whminer.com or call 518-846-7121, ext. 117.

THE NEW ENGLAND MILKSHED COMMUNITY PROJECT AIMS TO ENHANCE REGIONAL LIVESTOCK DISEASE PREPAREDNESS

How prepared is the dairy community for an emergency animal disease outbreak such as HPAI or foot-and-mouth disease?

Dairy farmers, milk processors, service providers, dairy cooperatives, and dairy industry allies are critical links in the milk supply chain. The New England Milkshed Community Project is focused on the adaptability, resilience, and survival of dairy livestock farms if the country or region is ever faced with an emergency disease.

Dr. Julie Smith at the University of Vermont and Nathan Suter from BUILD Consulting are seeking project participants for a series of

monthly discussions, to explore regional information needs before an emergency disease outbreak. The goal is to seek viable pathways to meet the information sharing goals of all stakeholders.

If you identify with any of the following categories of milkshed stakeholders, your participation would be greatly appreciated:

- State animal health officials and other agency directors.
- Dairy producers.
- Dairy cooperative field representatives.
- Milk transportation coordinators and other cooperative management.

- Receiving plant quality assurance managers.

How to Participate

The project will run for about five months beginning in November 2024, with online Zoom meetings held once per month. We anticipate funding stipends for farmers who join the project.

Let us know about your interest in the project by filling out an information form, and we will get back to you - <https://go.uvm.edu/participant-form> If you have any questions, please contact us by email at sfsne@uvm.edu. We look forward to working together on this important project!

SHORT CORN AND FALL SEED CORN ORDERS

Short corn: Short corn is nothing new to farmers, occasionally the result of poor weather and Things That Go Bad In The Night. But Bayer and Corteva are among several large seed companies that are breeding short-statured corn hybrids, with the goal of maintaining high grain yields while reducing lodging losses due to weather, diseases and insects. About 30,000 acres of Bayer's short corn hybrids were planted in the Midwest in 2024. The company has been developing short corn hybrids for over 20 years and expects to ramp up commercial production beginning in 2027. While the main advantage of shorter corn hybrids is less lodging from high winds, it could also make it possible for farmers to get into fields later in the growing season to apply supplemental N and fungicides.

When short corn hybrids become commercially available it's likely that the first hybrids will have Relative Maturities that are too late for most farmers in the Northeastern U.S. Which is OK since we'll be able to watch how our Corn Belt brethren fare with this new technology. And don't hold your breath waiting for research results on the performance of short-stature hybrids when harvested as whole-plant silage. To what extent will an increased

grain-to-stover ratio compensate for what's likely to be reduced whole-plant yield? Farmers may be able to plant higher populations of short corn hybrids; how much will this offset lower yield per plant? At this point my advice is to stay tuned, following progress via seed company reports and university research results. But at least for grain production, short-stature corn looks like it may be a Big Deal.

Seed corn orders: Some Halloween displays will still be up when seed company reps arrive on farms, order books in hand. Some 2025 seed catalogs have been available since late summer, but very little 2024 yield and quality data will be available until later this fall. Until then rely on the "Something old, something new" approach: By now you should have a good idea of how the hybrids you planted this spring performed: at least for yield, and for hybrids chopped for silage perhaps an early indication of quality. (Miner Institute samples every corn field chopped for silage as it's being ensiled, submitting samples for NIR analysis. They don't use the results for ration-balancing, but this provides a good idea of the milk production potential both by field and by hybrid.) You could also review 2023 silage

trial results including the NY-Vermont report available online, and sort out one or two hybrids that combined good yield and high milk production potential.

Don't forget another good source of hybrid information: Your seed company representatives, who should have up-to-date information on their product lineup including new hybrids. During the many years I ordered seed corn for Miner Institute I relied on several trusted seed company reps who occasionally gave me a heads-up on new hybrids at least a year before university trial data were available. During the 1980s the first Pioneer 3925 seed corn planted in Northern NY (and perhaps in the U.S.) was sold to my dairy farmer friend Dutch Rovers and me by his uncle, a Pioneer seed dealer. We'd stopped for a visit at the uncle's farm in Ontario on our way to a farm show in Ottawa, and he told us about a "hot" new hybrid that just became available up there. It took a year or two before Pioneer 3925 became available in the U.S., a hybrid that enjoyed a long life as one of the top sellers in its maturity range.

— Ev Thomas
ethomas@oakpointny.com

Advanced Dairy Management – residential course offered January-May 2025

This course is designed for undergraduate students interested in a career in the dairy industry or allied agribusiness.

Course Goals and Objectives include:

- Provide students with critical thinking skills through engagement with faculty, dairy producers, and agribusiness leaders
- Provide a hands-on learning environment to enable students to assess dairy farm design and management
- Provide tools to assist students in making crop and nutrient management decisions for dairy farms in the Northeast
- Provide students with skills necessary to objectively evaluate dairy, crop and facility issues on the farm
- Provide students with skills to effectively communicate thoughts and ideas in a group and 1-on-1 setting

For more information, contact Dairy Outreach Coordinator Wanda Emerich, emerich@whminer.com
Application (due 11/15/24) available at: <https://www.whminer.org/advanced-dairy-management>

The William H. Miner Agricultural Research Institute
1034 Miner Farm Road
P.O. Box 90
Chazy, NY 12921

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**Congrats
Ella and
Emily!**



**YOUR NOVEMBER
FARM REPORT
IS HERE
ENJOY!**

Yearlong Dairy Intern Ella Shamus-Udicious (left) and Graduate Student Emily Bourdeau have been awarded the Stephen S. Flanagan, Frances B Flanagan, and Stephen F. Flanagan Scholarship for 2024. The scholarship fund was established in 2014 from a generous donation from the late Stephen Flanagan. The scholarship is named after Mr. Flanagan and his parents, Stephen S. Flanagan and Frances B. Flanagan and awarded annually to a dairy intern and a graduate student at Miner Institute.

Closing Comment

Do you remember before social media, when no one cared what you had for breakfast?
They still don't.

www.whminer.org

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