



North Country Ag Advisor

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North Country Regional Ag Team

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North Country Ag Advisor

Published by the CCE North Country
Regional Ag Team collaborating with Harvest NY

Layout/Design: Tatum Langworthy

"The North Country Regional Ag Team is a Cornell Cooperative Extension partnership between Cornell University and the CCE Associations in Jefferson, Lewis, St. Lawrence, Franklin, Clinton, and Essex counties."

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Our Mission

"The North Country Regional Ag Team aims to improve the productivity and viability of agricultural industries, people and communities in Jefferson, Lewis, St. Lawrence, Franklin, Clinton, and Essex Counties by promoting productive, safe, economically, and environmentally sustainable management practices, and by providing assistance to industry, government, and other agencies in evaluating the impact of public policies affecting the industry."

Field Crops and Soils

Horizontal Silo Feedout Safety Protocols

By James Carrabba, Agricultural Safety Specialist, New York Center for Agricultural Medicine and Health-NYCAMH

Removal of feed from a bunker silo or a drive over silage pile is a daily task on the farm that has a lot of potential for serious injuries. The dangers include: falls, engulfment, runovers, and entanglements, which can result in serious injuries or death. There have been cases where feeders have fallen from the leading edge of a silage face and dropped 15 to 20 feet to the concrete pad below. Another very serious safety hazard is silage face collapse which can happen without warning. Even the most meticulously maintained silage faces can collapse suddenly. Unfortunately, for producers, there are no universal industry standards that can be referred to for horizontal silo feedout safety. The following list summarizes key safety guidelines that could be followed to ensure safety in a silage feedout program.

Initial Filling and Packing

- To prevent overfilling, horizontal silos need to be adequately sized for the amount of silage to be stored.
- If the silo has walls, inspect the integrity and condition of the walls prior to filling.
- Develop written safety protocols for horizontal silo feedout safety and train workers on the protocols periodically. Document all training sessions with a sign-in roster.
- Silage should be packed in a progressive wedge shape. Packing tractors should aim for spreading and packing silage in 4-6 inch layers to achieve proper packing pressures. Silage that is properly packed in this manner may be less prone to face collapses during feedout.
- To prevent overhang conditions, silage should never be piled higher than the reach of the unloading equipment.
- If new silage has been added to existing old silage in a horizontal silo, mark that transition point. The new silage will not be interlocked with the old silage and large sections can collapse unexpectedly when feeding out.
- Do not pile new silage on top of existing silage that has a plastic covering in place; although this may seem in the best interest in forage quality, it can result in an increased hazard of face collapse during feedout. Extra caution is warranted with any activity in these areas.
- Nitrogen dioxide and carbon dioxide are generated after initial filling. Highest amounts of these gasses occur in the first 2-3 days after filling, but can be present for up to three weeks afterwards. In most cases, these gasses will be contained underneath the covering. Use caution around

silo during this period, particularly if removing plastic to add additional forage to freshly piled silage.

Feedout Safety Protocols

- Only authorized personnel should be in the silo area. Keep visitors and children away and post appropriate warning signage such as “Authorized Personnel Only” and “Danger, Keep Out, Silage Can Avalanche”. Post bilingual signs if necessary. Consider fencing off the horizontal silo area.
- Workers should wear high visibility clothing or vests.
- Use the “buddy system” and have a second worker present whenever working around silage. Workers should maintain communication and visibility with each other while working in or near silos.
- Never walk up to the face of the silage. Stay back a distance that is three times the height of the face. Document the face height so that workers can more accurately gauge this distance. You could mark the safe distance from the silage face with safety cones.
- Use a loader bucket to collect silage for samples. Collect the sample from loader bucket when it is a safe distance from the silage face.

Preventing Falls, Face Collapse and Entanglements

- When working on top of the silage, stay back from the leading edge at least 8-10 feet. Wear footwear with non-slip tread. Some guidelines have suggested staying back from the edge as far as the face is tall. Use long handled tools to pull back the tires and plastic from the leading edge. If possible, throw tires and plastic off the sides of the silo.
- Remove tires, sidewalls, gravel bags and plastic or coverings in the daylight. If this must be done at night, there should be adequate lighting provided.
- Minimize spoilage and manage it safely. Make every effort to minimize it through best management practices for maintaining forage quality (inoculants, high density, oxygen limiting plastic, plastic along walls, etc.). If spoilage has to be removed, use equipment operating from the ground level to do so rather than manually removing it by hand.
- Shave down the silage face when removing silage. Keep the silage face as smooth as possible. The silage face could be angled back slightly towards the pile to further reduce overhang situations. To prevent potential overhang

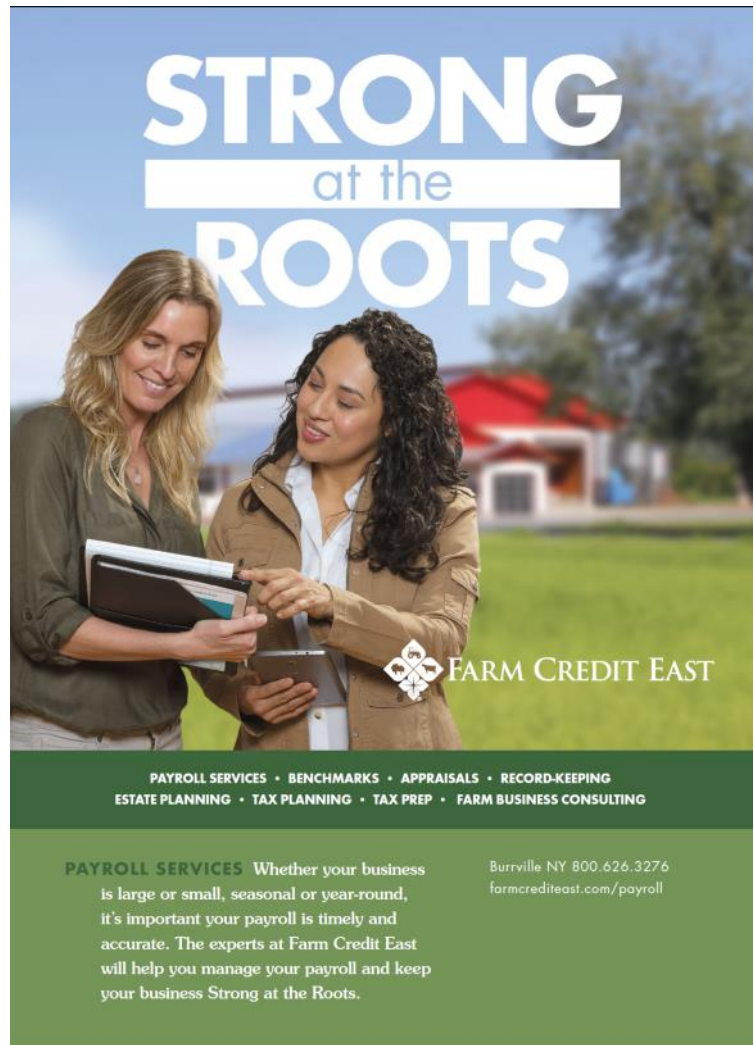
situations, don't engage a loader bucket at the bottom of the silage face.

- Do not drive parallel and in close proximity to the silage face with loaders or other heavy equipment.
- Never park vehicles or equipment close to the silage face.
- Always shut off equipment, such as a silage defacer, prior to servicing or adjusting.

Evaluate your current silage feedout procedures. Are you following the safety protocols listed in this article or are there areas where you can make improvements to keep everyone safer? Take the time throughout the year to regularly train family members and employees on these safety protocols so that you can prevent silage feedout mishaps and injuries.

Information in this article was retrieved from the Silage Safety Foundation, <https://silagesafety.org/> Also, thanks to Karl Czymmek and Joe Lawrence of Cornell PRO-DAIRY who reviewed and shared information used in this article.

For more information on this topic, and for safety resources such as personal protective equipment, retrofit PTO shields and SMV emblems for sale, visit our website at: www.nycamh.com, or call (800) 343-7527. NYCAMH, a program of Bassett Healthcare, funded in part by the New York State Departments of Labor and Health, is enhancing agricultural and rural health by preventing and treating occupational injury and illness.



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Critical Calf Care: Urgent Decision Making for Calf Health



January 5: Recognition & Diagnosis

January 12: Dystocia

January 19: Record Keeping & Economics

January 26: Hydration Status

February 2: Scours & Nutrition

February 9: "911: my calf needs help!"

February 16: LIVE panel discussion

(all sessions 12:30pm EST via zoom)



Managing Corn Rootworm in NY to delay Bt resistance (& save seed costs)

By Elson Shields, Entomology, Cornell Univ., Ithaca

Across the US and within NY, corn rootworm (CRW) is developing resistance to the Bt-RW traits in our genetically engineered (GE) corn varieties, causing increased root damage and decreasing yields. Yield losses from CRW root feeding can surpass 10% without any above ground symptoms, making this type of loss difficult to detect. In addition, corn grown for silage is more sensitive to yield losses from CRW feeding than corn grown for grain. As CRW resistance increases to Bt-RW, the damage becomes more apparent and easier to detect, but losses have been occurring in the field in prior years, going undetected. Increased damage has been reported in NY for all of the Bt-RW traits regardless of company.

Important points about CRW biology: There are two important points about CRW biology which need to be remembered when managing this pest and reducing its potential for developing resistance to any of our management tools. 1) In NY, all eggs are laid in existing corn fields during August, and 2) if the newly hatch CRW larvae in the spring do not find a corn root, they die. Since CRW eggs are laid in existing corn fields in August of prior year, crop rotation is our best resistance management tool. Since the majority of the corn grown in NY is in rotation with alfalfa for our dairy farms, NY has developed CRW resistance to Bt-RW more slowly than much of the rest of the nation.

For our dairy farmers, that grow corn in rotation with alfalfa, corn is typically grown in a field for 3-5 years. The longer corn is grown continuously in a field, the higher risk the field has for economically damaging CRW root feeding and yield losses. After rotating out of a non-corn crop, first year corn does not need any CRW management (or expensive Bt-RW trait costs). A non-Bt-RW corn variety should be planted with a seed corn maggot/wireworm effective seed treatment. This choice in year 1 saves \$15-\$20 per acre in seed costs. In year 2, the risk of CRW loss increases to 25-30% in NY. To offset this risk, a farmer has several options. Many farmers will assume the risk and plant a non-Bt-RW corn variety without any additional protection such as a soil insecticide. A second option in year 2 is to use either a 50% rate of soil insecticide (if insecticide boxes are available), high rate of neonic seed treatment or an insecticide added to the liquid popup fertilizer. The CRW pressure in year 2 is not high enough to recommend the use of Bt-RW in most cases and the option of an insecticide is often a less expensive route to reduce production costs. The deployment of different modes of toxicity in year 2 from Bt-RW significantly reduces the selection for Bt-RW resistance by

CRW. In continuous corn years 3-5, the risk of economic loss from CRW is high enough to merit the use of Bt-RW corn varieties. A second option in years 3-5 of continuous corn is the use of a full rate of soil insecticide, if insecticide boxes are available. Adding insecticide to the popup fertilizer during years 3-5 is not recommended due to unreliable efficacy with the higher CRW populations and increased risk for economic damage.

Strategy 2 for our dairy farmers: Incorporating biocontrol nematodes into their rotation and crop production.

By using the biocontrol nematode technology developed to combat alfalfa snout beetle in NNY, our dairy farmers can reduce their corn seed costs by eliminating the purchase of the Bt-RW traits in their corn varieties. A single inoculation of each field with native persistent NY biocontrol nematodes provides protection from corn rootworm larval feeding by attacking these insects before they damage the corn roots. NY research data indicates a single soil inoculation (\$50-\$60/acre) establishes these NY adapted biocontrol nematodes in the soil profile for many years, where they attack a wide range of pest soil insects across a wide variety of crops. During the corn years, these biocontrol nematodes attack rootworm larvae and during the alfalfa years, attack snout beetles, wireworms, white grubs and clover root curculio feeding on the alfalfa and grass in the field.

If the field is inoculated with biocontrol nematodes during the alfalfa portion of the crop rotation, the farmer can use corn varieties without Bt-RW for the entire corn portion of the rotation. Biocontrol nematodes take until the second growing season after application to become fully established in the soil profile and when applied to the alfalfa crop, become fully established before corn is planted. If the field is inoculated with biocontrol nematodes during the first year of the corn rotation, the corn variety planted in year 1 can be without the Bt-RW trait because rootworm is never a problem in 1st year corn in NY. By the second year, the biocontrol nematodes are fully established and corn varieties can be planted without Bt-RW for the remaining years of the corn portion of the rotation.

However, if the corn field is inoculated with biocontrol nematodes during the 2nd-4th year when rootworm damage risk is higher, the corn variety planted during the year of inoculation needs to have the Bt-RW trait to provide some additional protection while the biocontrol nematodes become

fully established in the field. If the cost of establishing biocontrol nematodes in a field is a one-time cost of \$50-60/acre and the Bt-RW trait adds \$20/acre/year to the seed costs, the breakeven point for the nematode application is year 3 when the Bt-RW trait is not purchased or used. In the years beyond 3-years after application, the seed cost savings will continue to be equivalent to the cost of the Bt-RW trait, which is then an unnecessary expense.

For our cash grain farmers, an annual rotation of corn and a non-host crop like soybeans completely eliminates the need for any CRW management tools. During the corn years, non Bt-RW corn varieties can be safely planted without risk of losses from CRW. The elimination of the Bt-RW trait in the corn planted reduces the seed cost \$15-\$20 per acre and the use of a Bt-RW trait is completely unnecessary. However, a seed treatment for seed corn maggot to protect plant emergence is recommended due to our typically wet cold spring soils. The adoption of cover crops to protect soil from erosion and a history of animal manure applications significantly increases the risk of plant stand losses from seed corn maggot so a control is even more necessary in those circumstances.

Long-term continuous corn fields: The culture of corn continuously in the same field for multiple years using only Bt-RW to control CRW places tremendous selection pressure for the insect to develop resistance to the Bt-RW toxins. This widespread practice across the corn belt has resulted in the documented CRW resistance to all Bt-RW traits and the insect is causing economic losses for farmers adopting these continuous corn practices. Closer to home, Bt-RW failures have been reported in Central NY corn fields, multiple corn growing areas of Ontario, Canada and to the south in Pennsylvania. With no new technology against CRW available for the next few years, these growers have a real challenge on their hands to minimize losses from this adaptable insect, if these farmers continue with long-term continuous corn production without breaking the CRW cycle with crop rotation. Farmers with fields producing corn continuously for multiple years need to seriously consider working a crop rotation into their farming practices. There are well documented agronomic yield advantages/responses from crop rotation over continuous corn, even without considering the reduction in CRW root feeding damage.

However, if farmers insist on growing continuous corn in a field without interruption, there are several issues to consider. The continued use of Bt-RW accelerates CRW resistance and the single field failure becomes the source of highly resistant beetles moving into neighboring fields, causing significant yield losses even in neighboring fields where farmers are utilizing crop rotation to minimize CRW-Bt-RW resistance development and yield losses. The farmer growing continuous corn and

producing highly resistant beetles becomes “a neighborhood social problem” for his neighbors. Some farmers add a soil insecticide over the top of the Bt-RW trait, think this is a solution to the resistance issue. While the corn stands better with less damage at the plant base, selection for CRW Bt-RW resistance continues to accelerate within the root system in areas outside of the soil insecticide treated zone.

The addition of biocontrol nematodes to the continuous corn culture is a way of introducing an independent mortality factor to help the Bt-RW trait control rootworm larval populations. However in these high CRW pressure systems, biocontrol nematodes should not be used alone. CRW has developed resistance to every other management strategy used to manage its damage, biocontrol nematodes used alone will also select for CRW resistance. If farmers are interested in incorporating biocontrol nematodes into their continuous corn production, farmers should continue to use varieties with the Bt-RW trait to continue to kill the susceptible CRW larvae or match the use of biocontrol nematodes with a full rate of soil insecticide.



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January 12, 2021 – Milk Quality

- Selective Dry Cow Treatment (Dr. Pete Ostrum, Countryside Vet Clinic)
- Bedding and Management Factors (Dr. Paula Ospina, Independent Consultant)
- Diagnosis and Treatment (Dr. Pam Ruegg, Michigan State)

January 13, 2021 – Industry Sustainability

- Consumer Trends and Industry Sustainability (Dr. Sara Place, Elanco)
- Farmer Mental Health and Sustainability (Briana Hagen, U of Guelph)
- Future Animal Welfare Considerations (Dr. Nigel Cook, U of WI)
- FARM Program 4.0 Update (Lindsay Ferlito, CCE NCRAT)

January 14, 2021 – Dairy Markets and Labor

- Dairy Market Updates (Dr. Chris Wolf, Cornell University)
- Labor Updates (Dr. Richard Stup, Cornell University)

January 15, 2021 – Calf Management

- Social Behavior (Dr. Jennifer van Os, U of WI)
- Calf Health (Dr. Rob Lynch, Cornell University)
- Optimizing Calf Nutrition (Dr. Mike Steele, U of Guelph)
- NNYADP Calf Diarrhea Research Update (Casey Havekes, CCE NCRAT)

Registration:

- <https://ncrat.cce.cornell.edu/event.php?id=1367>
- Contact Tatum Langworthy (CCE NCRAT)

Cost = \$20 (includes all 4 sessions)

**Program is in part sponsored by Northern New York Agriculture Development Program grant funding*

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January 12, 2021
12pm - 2pm
Milk Quality

January 13, 2021
12pm - 2pm
Industry Sustainability

January 14, 2021
12pm - 2pm
Markets and Labor

January 15, 2021
12pm - 2pm
Calf Management

** All sessions
offered online
only (via Zoom) **

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It's always the Nutritionist's fault!

By Casey Havekes, Betsy Hicks, Margaret Quaassdorff, Cornell Cooperative Extension Regional Dairy Specialists

The role your nutritionist plays in the success of your dairy goes beyond the diet they put together. Ensuring good communication, having a basic understanding of your diet, and knowing what additives are incorporated and why they are added, can improve performance on your dairy. It is equally important to recognize that herd management also plays a critical role in success, as nutrition alone will only take your herd so far. Because of this, CCE Dairy Specialists hosted a webinar titled, *"It's Always the Nutritionist's Fault! Understanding diets and improving communication on your dairy"*. In case you missed the live webinar, this article is a recap of the main points. You can also click [here](#) to watch the archived webinar recording!

Understanding Diets

It can be overwhelming when first presented with a diet summary. The nutrient acronyms, dry matter versus as-fed numbers, and the amount of information packed on the sheet can get the best of many dairy producers. Breaking down a diet summary into its main parts is the first step to understanding what the nutritionist has formulated to be put in front of your cows.

On the diet summary, one of the main areas to be spelled out is the description of the cow that the diet is formulated for. Breed, weight, body condition score, days in milk, milk production and milk components are all important factors that go into determining the requirements for that cow's diet. If some of these descriptors are incorrect, having a discussion with your nutritionist to better depict that cow can help you both to dial in to her requirements, which impact the nutrients the nutritionist will want to target.

After requirements are established, the diet summary should list those nutrient parameters, as well as as-fed and dry matter weights for forages and concentrates used in the diet. The main nutrient parameters that dairy producers can look at may vary between nutritionists and software used, but in general the list can include total Dry Matter of the diet (DM%), percent forage in the diet (% Forage), Crude protein (%CP), Rumen Degradable Protein (%RDP), Starch, Sugar, Digestible Fiber (%NDFDom), Fat (%fat or %EE), and mineral and vitamin levels. *It is not important for the producer to know how to formulate a diet. Instead, it is important for the producer to understand how the main nutrient numbers may change when*

there is a diet change, or when comparing two diets for price or performance. Often in lactating diets, changes to the diet should keep certain nutrient parameters static through the diet change, if at all possible. These might include keeping percent fat in the diet the same, rumen degradable protein unchanged, or the addition of starch, sugar and digestible fiber the same even though those three nutrients themselves may differ from the previous diet. Each nutritionist may have a different thought process for moving through a diet change. Talking to him or her about their methods will help you both understand what is most important for each diet in your herd. Overall, because nutritionists formulate on *nutrients* and not necessarily *ingredients*, the total diet nutrient balances for Metabolizable Energy (ME) and Metabolizable Protein (MP) can also be examined. A well balanced diet will show ME and MP levels about level and not over- or under-meeting requirements. Imbalanced levels of ME and MP mean a diet is either limiting response or wasting money. It is important to note that some companies may not tell you the exact ingredient formulation of their grain mix. However, they *should* be able to give you a diet summary and tell you main diet nutrient numbers, targeted requirements and dry matter intake, as well as any additives that are in the mix.

Lastly, the diet summary should have a portion that describes the cost of the diet alongside the total pounds of dry matter intake. Questions a producer should ask include: Does diet Dry Matter Intake (DMI) match actual DMI average of the group of cows? Does this diet cost include the cost of forages? If so, what are the exact forage costs used? Without knowing these numbers, it's almost impossible to accurately compare two diets side-by-side. If the numbers describing intake are *incorrect*, it's an opportunity to further work with your nutritionist to again dial in to a diet that describes what your cows are eating. If they are *correct*, you can work towards understanding your total Income Over Feed Costs (IOFC), a number that can be used to help compare the performance of two diets or when making a diet change.

Additives in the Diet

Feed additives function to correct a ration imbalance, magnify a productive or health response, as well as help mitigate underperforming management. Feed additives can play a variety of roles when incorporated into the diet including energy balance, calcium balance, immune function, rumen

enhancement, reproduction efficiency, foot health, protein efficiency, and mycotoxin inhibition. Deciding which feed additives are worth incorporating into the diet is typically a decision guided by your nutritionist.

Regardless, it is important to understand what makes each additive a good choice. We can use “The Four ‘R’ Concept” from Mike Hutjens, Professor Emeritus at the University of Illinois, to help evaluate each additive. The first “R” is *response*; where you can identify the expected performance changes when the additive is included. Is it supposed to increase milk yield or components? Does it have a positive effect on dry matter intake, or more efficient rumen function or growth rates? What about overall animal health? The next “R” is *return*. The additive should have a clear and high benefit -to-cost ratio (>2:1). Some common additives with high benefit -to-cost ratios are anionic salts and similar products (10:1) that are used in DCAD diets to prevent milk fever; biotin (5:1) that promotes hoof integrity; monensin or rumensin (5:1) which improves feed efficiency; yeast culture and yeast (4:1) which has multiple rumen and immune benefits; and rumen protected choline (2:1) to minimize fatty liver in transition cows. In addition, are there other paybacks that are not easily monetized, but have a large proven positive effect (better herd health)? Speaking of proven effects, the third “R” stands for *research*. For best results only choose feed additives that have unbiased scientific research studies that back up their claims. Your nutritionist should be able to help you find information on this. The final “R” is *results from your farms records*. Do you see improvements in herd health, pregnancies, fresh cow performance, growth rates, or production performance? If not, check your records and start keeping track of the numbers so that you can make the best decision. In addition to Hutjens’, I would also add my own “R”, *right timing*. Think about if an additive makes sense given the amount of cows it is going to, which groups it will benefit, and the time of year. Some additives, like those that aid in starch digestion may be best reserved for times when corn silage is freshly fermented. Certain mineral additives may show the most benefit when heat stress is challenging your cows. Overall, gather info about the product, and ask your nutritionist if you can have the research studies behind it. Work on a partial budget to see what you would have to do for the additive to make sense in the diet, identify the parameters you need to measure to know that it is working...and keep track.

Management & Nutrition

There is a popular saying in the dairy nutrition industry and it goes “there are 4 types of diets on the farm: the one the nutritionist formulates, the one that is mixed, the one that is delivered, and the one that the cows actually eat”. Of course, there will be day-to-day variation in which the diet that is prepared, mixed, and fed deviates from the prepared batch

sheet that your nutritionist sent you – and that is okay! If, however, the prepared diet deviates largely from your formulated diet some consideration is warranted. Particularly, it is important to ask yourself why you are deviating so much. Perhaps you are out of a certain feed ingredient, or you switched grass cuttings or bunks. Maybe you noticed a change in dry matter, or you noticed a change in the cow’s manure, or that butterfat is down. Whatever the reason may be, and however simple the reason may be, it is important that your nutritionist is aware of the change so that they can make record of it and make any necessary changes.

Additionally, there are several management points that should be regularly communicated with your nutritionist. Some of these include: mixing issues, grain flow issues, odd cow behaviors, abnormal refusal rates (very high or no refusals), undesired feeding behaviors (sorting), cow/pen numbers, manure consistency, and metabolic issues. It is important to remember that your nutritionist wants to make the best and most affordable ration for you and your cows, but nutrition can only take the herd so far and there is a very large role that management plays in the herd’s success.

Relationship between Nutritionist & Producer

The relationship between the producer and the nutritionist can make or break the herd’s productivity. One strategy to maximize success of this working relationship is to make sure that both parties are on the same page, and to make sure that goals are measurable and achievable. Undoubtedly, it can be frustrating to ask for or suggest a change, only to revisit the topic a couple of weeks or months down the road and find that nothing has changed. If you find this is a regular occurrence, it may be worthwhile for you to evaluate the reason behind it. Perhaps your goals and your nutritionist’s goals aren’t lining up, or the goal is unrealistic. Having these conversations, albeit uncomfortable, are crucial for maximizing success. One tip when setting goals is to set a timeline, and track progress. Improvements take time, and may require management and nutrition changes, so be sure to be patient and allow your timeline to reflect this. The second thing you should do is monitor progress. Keep reports of significant management and nutrition related changes so that you can go back several months down the road and pick up any trends in cow performance.

Another important piece of the puzzle is to create solutions together. A video created by Daniel Scothorn recently highlighted the fact that as a producer, you are the one around your cows every day thus your perception of any issues or challenges is extremely valuable. If you are experiencing production or metabolic issues that you feel may be related to nutrition, it is important that you communicate not only that you are seeing an issue, but also *what* you are seeing (i.e.

sorting, loose manure, loss of body condition etc.). Just remember, your nutritionist is not present every single day and even when they are, they very likely aren't seeing everything you see day-to-day. Investing in your own part of your herd's nutrition is a critical component of success – both the cow's success, and the success of your relationship with your nutritionist!

In summary, if you want to take your herd performance to the next level, start by ensuring your goals align with those of your nutritionist. This includes seeking out a better understanding of your diet, and the role of any included additives. Lastly, herd management and the way the diet is fed will have a direct impact on performance, which highlights the importance of your role in your farm's success.



Photo Credit: Lindsay Ferlito

Optimizing Transition Cow Comfort: Is lameness a Transition Cow Issue?

By Lindsay Ferlito

It is well accepted in the industry that the transition period (3 weeks before to 3 weeks after calving) is one of the most stressful and critical time periods for a dairy cow. She undergoes several major changes (calving, the start of lactation, diet changes, group changes, etc.) and is at a greater risk for metabolic and infectious diseases. There are countless studies on the risk factors for milk fever, ketosis, and metritis in the transition period, but what about lameness? Should lameness be considered a "transition cow" disease? More focus is being put on understanding how cow comfort and a cow's lying behavior during the transition period is linked to her hoof health status throughout her lactation.

In a 2009 study (Chapinal et al., 2009), sound cows (not lame, no hoof lesions) were observed for lying behavior from 3 weeks before to 5 weeks after calving, and then scored for hoof lesions every 4 weeks up to 24 weeks in lactation. Researchers found that all cows reduced lying time in the 3 weeks leading up to calving; however, the cows that were

subsequently diagnosed with a sole ulcer had a much faster decline in lying time before calving and then a faster increase in lying time post-calving, compared to healthy cows (Fig. 1).

A similar study from the University of British Columbia (Proudfoot et al., 2010) observed cow lying behavior during the transition period (2 weeks pre- to 2 weeks post-calving) and followed these cows to see which ones developed hoof lesions (sole hemorrhages, sole ulcers, and white line hemorrhages) between 7 and 15 weeks after calving. Compared to healthy cows (ie: no lesions), cows that were diagnosed with a hoof lesion by 15 weeks spent 2 hours/d more standing at 2 weeks before calving and 4 h/d more standing in the 24 hr before calving (Figure 2).

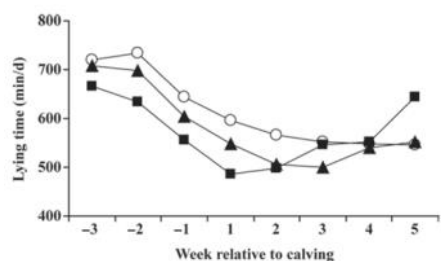


Figure 1. Lying time (min/d) in the transition period for cows with no sole lesions (○), with severe sole hemorrhages (■), and sole ulcer (▲) (Chapinal et al., 2009).

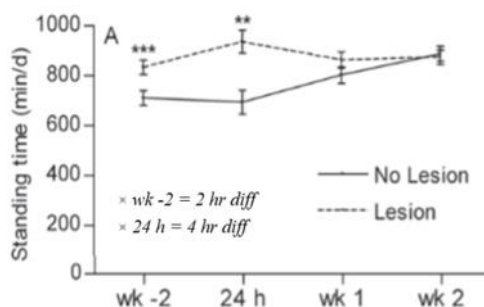
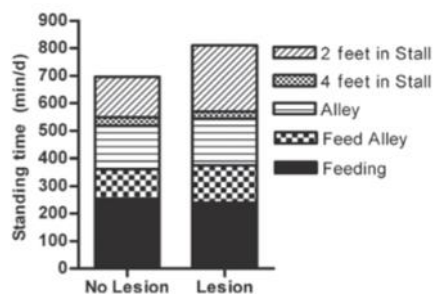


Figure 2. Standing time (min/d) 2 weeks before to 2 weeks after calving for cows with no hoof lesion and cows with hoof lesions diagnosed between 7-15 weeks of lactation (adapted from Proudfoot et al., 2010).

Continued from page 11.

When they looked more closely, they found that the cows with future lesions were spending this extra time standing pre-calving perching with 2 feet in the stall (and 2 feet in the alley)



(Figure 3).

Figure 3. Standing time (min/d) breakdown by activity in the 2 weeks pre-calving for cows with no hoof lesions and cows with lesions diagnosed between 7-15 weeks of lactation (from Proudfoot et al., 2010).

A more recent study from the Journal of Dairy Science (Omontese et al., 2020) found similar results but during the postpartum period. In this study, cows with no hoof lesions were enrolled and their lying behavior was observed from 20-120 DIM, and they were assessed for new hoof lesions (sole hemorrhage, sole ulcer, white line disease, digital dermatitis, and foot rot) at 120 DIM. Overall, cows that were later diagnosed with hoof lesions had reduced lying time in early lactation compared to healthy cows (Figure 4).

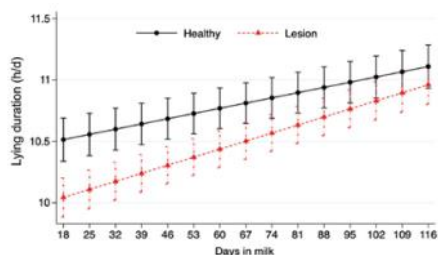


Figure 4. Lying time (h/d) modeled for healthy cows and cows with a lesion (Omontese et al., 2020).

Ensuring all cows have access to a comfortable place to rest in the weeks before and after calving allows them to lie down as much as they need given their own individual requirements. Transition facilities should provide appropriately-sized large stalls or resting areas that are clean and well bedded. Ideally, these stalls would also allow for 4-foot standing to minimize the amount of perching. Further, stall stocking density should be no higher than 100% in the pre-fresh and fresh pens, and bedded packs should provide 120-140 square feet per cow of bedded space. Group changes should also be well thought out to minimize additional social stress to these cows. Proper ventilation and adequate heat abatement is also necessary in all transition cow pens. Finally, the time spent for milking fresh

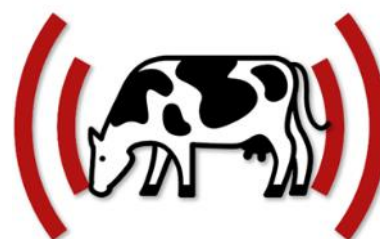
cows and in lock up should be kept to a minimum (<3 h/d total) to allow cows the best chance to access feed, water, and resting areas.

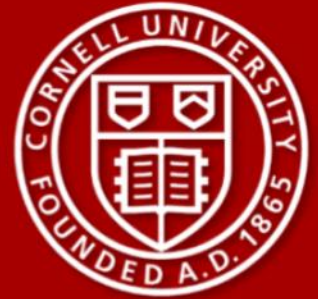
Like with other diseases, cows usually start to tell us something is wrong before she is officially diagnosed, as the behavioral changes in these studies were visible weeks before the cow was diagnosed as lame or having a lesion. While these studies only indicate an association (and not causation) between transition period lying behavior and future hoof health issues, they still drive home the important message of optimizing cow comfort during the transition cow period to increase a cows' chances of having a healthy and successful fresh period and lactation.

New Podcast from CCE Dairy Educators & PRO-DAIRY, “Troubleshooting Herd Health Issues on Your Dairy”



This podcast is a series about troubleshooting herd health issues on dairy farms. It features PRO-DAIRY and CCE Dairy Specialists who over the course of fourteen episodes will discuss specific areas to look at when experiencing issues in different life stages of the dairy cow. Episodes focus on pre-weaned calves, transition through weaning, heifer phase, calving pen issues, metabolic disorders of the transition cow, specific fresh cow issues, lactating cow issues from mastitis, issues with reproduction, production, feeding behavior and facilities, hoof health and lameness, and problems during the dry period. Some episodes feature guest speakers and case studies, and will be released starting November 30th. Look for a new episode each week on the PRO-DAIRY website (<https://prodairy.cals.cornell.edu/events/podcasts/>) where you can find each episode along with additional resources and speaker contact information. You can also listen via SoundCloud on the CCE Dairy Educators channel, and check back for future podcast series. For more information, contact PRO-DAIRY's Kathy Barrett (kfb3@cornell.edu) or your CCE Regional Dairy Specialist (Lindsay Ferlito, lc636@cornell.edu; Casey Havekes,





Fireside Chats

Join us VIRTUALLY for a “FREE” series of presentations with topic area experts. This 6-part series, offered Tuesday evenings at 7:00pm from November 17, 2020 until December 22, 2020, will provide valuable information on key topics in dairy management, crops, and dairy business.

November 17, 2020 – Dairy Business & Labor

Dr. Rich Stup, *Cornell University*

November 24, 2020 – Dairy Cow Hoof Health

Karl Burgi, *Save Cows*

December 1, 2020 – Weed Management

Bryan Brown, *Cornell University*

December 8, 2020 – Forward Contracting

Anup Singh, *Solera Advisors*

December 15, 2020 – Dairy Repro Management

Dr. Julio Giordano, *Cornell University*

December 22, 2020 – Soil Health & Cover Crops,

Dr. Kitty O’Neil, *Cornell University CCE North Country Regional Ag Team*

Registration:

- https://ncrat.cce.cornell.edu/event_preregistration_new.php?id=1375
- Contact Tatum Langworthy (CCE NCRAT)

“The North Country Regional Ag team is a Cornell Cooperative Extension partnership between Cornell University and the CCE Associations in Jefferson, Lewis, St. Lawrence, Franklin, Clinton, and Essex counties.”

Cornell Cooperative Extension is an employer and educator recognized for valuing AA/EEO, Protected Veterans, and Individuals with Disabilities and provides equal program and employment opportunities.

*** All sessions
offered online
only at 7:00pm
(via Zoom) ***

Contact Info:

**Tatum Langworthy
t1m92@cornell.edu
315-788-8450**

Coronavirus Food Assistance Program 2 Applications are Still Open

The USDA FSA has announced that a second round of Coronavirus Food Assistance Program (CFAP) funding is available to farmers who are facing market disruptions and costs due to COVID-19. Applications for CFAP 2 are open from September 21 through December 11, 2020.

Dozens of commodities (such as beef, corn, soybeans, dairy, etc...) are eligible for coverage. According to the USDA Farmers.Gov website, *"payments for cow milk will be equal to the sum of the following:*

- *The producer's total actual milk production from April 1, 2020, to August 31, 2020, multiplied by the payment \$1.20 per hundredweight*
AND
- *The producer's estimated milk production from September 1, 2020, to December 31, 2020, based on the daily average production from April 1, 2020, through August 31, 2020, multiplied by 122, multiplied by a payment rate of \$1.20 per hundredweight."*

For more information, visit: <https://www.farmers.gov/cfap/>. To apply, click here: <https://www.farmers.gov/cfap/apply>, or reach out to your local USDA FSA office.

Enrollment for Dairy Margin Coverage is Open

The USDA FSA has announced that enrollment for the Dairy Margin Coverage (DMC) program is open from Oct 13, 2020 until Dec 11, 2020. According to the USDA FSA website: *"The 2018 Farm Bill authorized the new Dairy Margin Coverage (DMC) program, which is a voluntary risk management program for dairy producers. DMC replaces the Margin Protection Program for Dairy (MPP-Dairy). DMC continues to offer protection to dairy producers when the difference between the all milk price and the average feed price (the margin) falls below a certain dollar amount selected by the producer.*

To participate in DMC, dairy producers:

- *Select a coverage level ranging from \$4.00 to \$9.50 per cwt, in \$0.50 increments*
- *Select a coverage percentage of the dairy operation's production history ranging from 5 percent to 95 percent, in 5 percent increments*

Producers have the choice to lock in coverage levels until 2023 and receive a 25 percent discount on their DMC premiums. Dairy operations who paid MPP-Dairy premiums during any calendar year from 2014 through 2017 may be eligible to receive a repayment for part of the premiums paid into the program. Through September 20, 2019, an operation either can elect to receive 50 percent of the repayment amount as a cash refund or take 75 percent of the amount as a credit that can be used toward premiums for DMC."

According to the FSA, about half of the dairy operations with established production history are enrolled in the DMC program, with an average of about \$14, 592 to be paid to each operation. In New York state specifically, only about 29% are enrolled, with an average expected payment of about \$12,781 per operation. The program offers a decision tool to help individual farmers decide which coverage level is best for their operation. Check out the tool at: <https://www.fsa.usda.gov/programs-and-services/farm-bill/farm-safety-net/dairy-programs/dmc-decision-tool/index>. For more information, visit the USDA FSA Dairy Margin Coverage website: <https://www.fsa.usda.gov/programs-and-services/dairy-margin-coverage-program/index>

2 session FREE Program for Farm Women Inspired by:

Annie's Project

Wednesday December 9th, 6:30-8pm

Come and get "Inspired by Annie's" with Bonnie Collins and Laura Biasillo, NYS Annie's Project facilitators, as we unpack stress management specific to farm women.

We'll cover:

- Financial Stressors;
- Emotional Stress; AND
- the Art of negotiation

Tuesday December 15th, 6:30-8pm

Join Bonnie Collins & Laura Biasillo, NYS Annie's Project trainers, as we discuss health and safety concerns for farm women.

Our special guest will be Christina Day with Bassett Healthcare/NY Center for Agricultural Medicine & Health.

We'll be discussing:

- Tools and ergonomics for farm women
- Health issues for women; AND
- Safety surrounding women and teens on the farm

There is **NO** cost to join us for these sessions, but we require registration so we can understand who is joining us for these sessions.

We'll hear from engaging speakers, learn about tools, resources and best practices, we will then discuss how we each relate to these topics. Only farm women are welcome to attend so we can create an atmosphere of comfort in sharing everything we experience and encounter as farm women holding together the farm, family and life.

You MUST register in advance

December 9, 2020 <https://tinyurl.com/y6md2shg>

December 15, 2020 <https://tinyurl.com/yxhmloos>

After registering, you will receive a confirmation email containing information about joining the meeting.



Bonnie Collins, CCE Oneida County 315-736-3394 ext 104 BSC33@cornell.edu

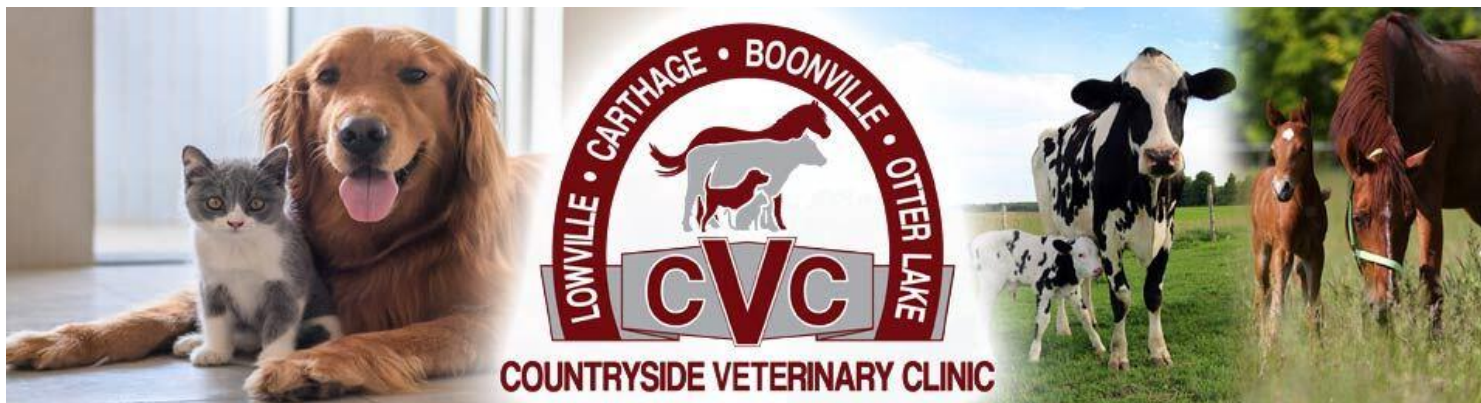
Laura Biasillo, CCE Broome County 607-584-5007 LW257@cornell.edu

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Thank you to these generous sponsors of the Winter/Spring CCE NCRAT Programming Season

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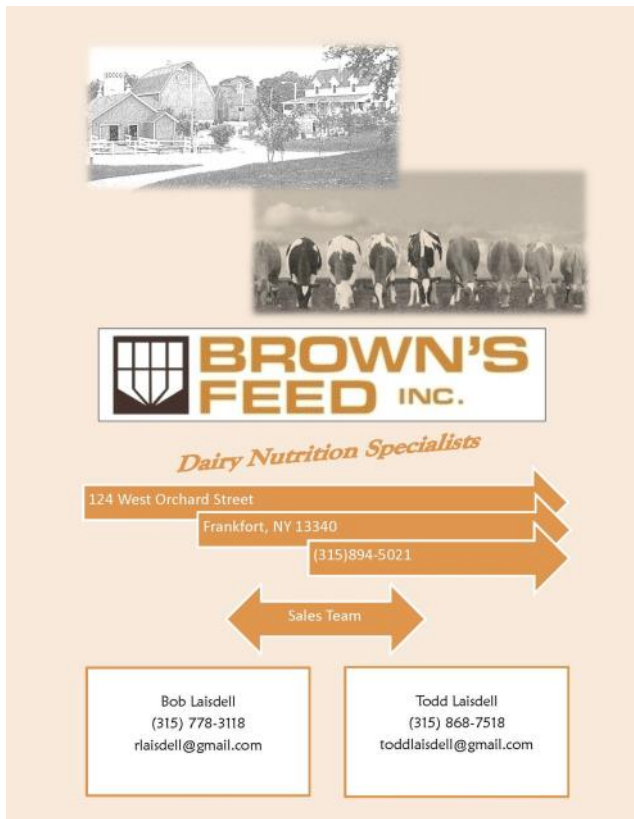


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Silver Sponsor Level:

The advertisement for Brown's Feed Inc. features a collage of images including a barn, a herd of cows, and the company logo. The logo consists of a stylized 'B' and 'F' inside a square. Below the images, the text "BROWN'S FEED INC." is written in bold, orange letters, followed by "Dairy Nutrition Specialists" in a smaller, italicized font. The address "124 West Orchard Street, Frankfort, NY 13340" and phone number "(315) 894-5021" are listed. A "Sales Team" section includes contact information for Bob Laisdell and Todd Laisdell.

BROWN'S FEED INC.
Dairy Nutrition Specialists
124 West Orchard Street
Frankfort, NY 13340
(315) 894-5021
Sales Team

Bob Laisdell
(315) 778-3118
rlaisdell@gmail.com

Todd Laisdell
(315) 868-7518
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What's Happening in the Ag Community

Due to COVID-19 social distance restrictions, all in-person CCE NCRAT programs have been postponed until further notice. Several virtual programs will be offered through the Fall and Winter. Also, check out our CCE NCRAT Blog and YouTube channel for up to date information and content.

Fireside Chats, see page 12 for more information.

Annie's Project, see page 14 for more information.

Critical Calf Care, see page 5 for more information

Dairy Day, January 12-15th, 2020, see page 5 for more information.

Save the Date!! 2021 Becker Forum - Farm Labor: Time of Change, January 11, 2021

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