

# North Country Ag Advisor

www.ncrat.cce.cornell.edu

"Your trusted source for research-based knowledge"



## Cornell Cooperative Extension North Country Regional Ag Team

VOLUME 6

#### CCE North Country Regional Ag Team

Kitty O'Neil, PhD Field Crops & Soils 315-854-1218 kao32@cornell.edu

Lindsay Ferlito Dairy Management 607-592-0290 Ic636@cornell.edu Michael Hunter Field Crops & Soils 315-788-8450 meh27@cornell.edu

Tatum Langworthy Sr. Admin Assistant 315-788-8450 tlm92@cornell.edu

## North Country Ag Advisor

Published by the CCE North Country Regional Ag Team

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."

Table Of Contents	
An Eye Toward the Future – Controlled Traffic Farming	3
Troubleshooting Mixer Wagons	6
Dairy Producers Can Now Enroll for 2023 Signup for Dairy Margin Coverage	8
Upcoming Events and Programs	Back cover

#### **CCE Harvest NY**

Lindsey Pashow Ag Business and Marketing 518-569-3073 lep67@cornell.edu

#### **CCE County Ag Educators**

Kayla Gugin (St. Lawrence) 315-379-9192 krg75@cornell.edu

Mellissa Spence (Lewis) 315-376-5270 mms427@cornell.edu

Robin Wendell-Zabielowicz (Lewis) 315-376-5270 rw583@cornell.edu

Abigail Jantzi (Jefferson) 315-788-8450 aej48@cornell.edu Carly Summers (Essex) 518-962-4810 cfs82@cornell.edu

Justin Tucker (Franklin) 518-483-7403 jwt93@cornell.edu

Kolby Sample (Clinton) 518-561-7450 krs272@cornell.edu Website: http://ncrat.cce.cornell.edu/ Facebook: https://www.facebook.com/ NorthCountryRegionalAgTeam/ Blog: https://blogs.cornell.edu/ northcountryregionalagteam YouTube: https://www.youtube.com/ @CCE\_NCRAT

#### 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

## **An Eye Toward the Future – Controlled Traffic Farming** By Kitty O'Neil

Here in the North Country, among our dairy, livestock, and row crop farms, we've spent lots of time and discussion, written and read many articles, and given and attended lots of presentations on the topic of soil compaction in recent years. Where are we on this topic today, at the end of 2022? Have we made progress? Definitely. Have we done enough? Definitely not. I think we're likely all in agreement that we'd like to improve this 'feature' of our North Country farmland. Here's what we know and can agree on:

- Soil compaction is present and serious in all fields that have been farmed over the past century with tractors, tillage, heavy wagons, trailers, trucks, and implements, and even with livestock traffic.
- 2. Compacted soils absorb and store less rainwater than uncompacted soils and therefore drain and dry more poorly and are subject to more ponding, run-off, and erosion.
- Compacted soils typically force plants to work harder, exploring more shallowly and through a reduced soil volume, to find the water and nutrients they need for good growth and yields.
- 4. This chronic and continuous suboptimal soil function and plant struggle also results in reduced water and nutrient

layers. This has a good short-term effect, especially when subsequent corn or soybean rows are placed directly over the fractures, but this positive impact is usually short-lived.

Some larger dairies have expanded the use of drag hose application systems, which avoids further compaction by keeping heavy manure trucks with road tires out of fields. Many farms are using no-till planting methods now for annual and perennial crops, on at least a portion of their acres, which eliminates or reduces destruction of soil structure and begins the long, slow process of alleviating compaction. No-till practices will someday soon be commonplace in the North Country, eliminating damage to soil structure and beginning the long, slow process of alleviating soil compaction, while also reducing fuel consumption.

Most farms need some time to transition away from tillage and develop a good feel for no- or reduced-tillage methods. Though I haven't heard of or noticed any field equipment with on-board central tire inflation systems yet, there may well be some implements so equipped in the North Country by now. Outfitting sprayers, tractors, and heavy implements with wide and flexible sidewall tires, along with a centrally-operated on-

plant struggle also results ir use efficiencies too, which, combined with runoff, is harmful to water quality.

 The solutions to soil compaction are complicated and long term, and potentially expensive - though so is doing nothing.

This is all old information, nothing new, but for lots of important and variable reasons, farms are at various stages of progress toward avoiding and alleviating compaction. Both aspects are likely needed – avoiding further compaction while also taking steps to alleviate or reverse compaction already present. Many farms use a 'deep ripping' tool to fracture subsoils and create some pathways for penetration of water and air through compacted 'plow pan'



Figure 1. Typical traffic patterns for a controlled traffic system (CTF) compared with a zero till and a conventional tillage system in an Australian study (Newell et al., 1998. Proc. 1998 International Conference on Engineering in Agriculture).

Continued on Page 4...

board compressor, permits tire pressures to be released uponcombined.field entry off the road, squashing the tires to a largerImplementfootprint. This is a great way to spread the load on each tireImplementover more area, reducing pressure on soil and avoidinginvestmentadditional compaction forces. These squashed-out tires thenaccomplishneed to be re-inflated for safe road travel, which the centralavailable ficompressor accomplishes. Adding more axles also achievesfor some fathis increased footprint and reduction in soil pressures.spacings ar

One additional strategy that I've not seen adopted yet in the North Country is controlled traffic farming (CTF). CTF practices were initially developed for commercial farming in Australia and have since caught on well in Europe and in Canada, but it hasn't been widely adopted yet in the Northeast US. CTF restricts field traffic to the smallest possible fraction of each field, using machinery with matching widths and precision guidance systems, traveling on common laneways (Figure 1 on Page 3). The area of a field subjected to heavy equipment traffic can be reduced from 75-90% of area to less than 25% over a 2-year period. Research in the last few years has shown that adoption of CTF can improve yields of row crops and perennial grasses by 5-95% after just 2-3 years of implementation, depending on crop and conditions. A 10% increase is common after the year of establishment. Nitrogen uptake improves with CTF and erosion is reduced to very small annual losses (Figure 2). The additional benefit of returning to field work more quickly after a rain has been reported by farms adopting CTF too. The fastest rates of natural compaction alleviation are expected when CTF is coupled with no-tillage or when multiple strategies are



Implementing CTF requires a whole-farm assessment, bigger investment, and serious commitment, but it can be accomplished incrementally. The widths of commercially available field equipment can be a bottleneck in the transition for some farms. Typically, a farm has unmatched wheel track spacings and operating widths in their equipment shed. For example, a farm might use a 30-ft 12-row corn planter, a 16-ft drill, a 35-ft triple haybine, a 20-ft chopper head for corn silage, a 24-ft small grain combine head, and a 60-foot sprayer. To transition to CTF, most of this equipment would need to be replaced, but it can be done gradually as equipment wears out and is traded in. It could take 5+ years, but the cost would be minimal. Switching everything at once could be prohibitive. As equipment is replaced, select implements with a consistent wheel track spacing and operating width. Combines max out around 30-ft, so that may be a good base for all other equipment. Grain drill and corn planter should be the same width and manure and fertilizer spreading equipment should match or be a multiple. Accurate RTK guidance systems are also needed, to achieve accuracy to within an inch. Forage wagons will probably need to follow behind the chopper, rather than beside, and those wagons would need to exercise discipline to adhere to laneways as they enter and exit fields, rather than taking the shortest route to the road.

Soil compaction must be both avoided and reversed for lasting change and real benefits. Some combination of no-till

soil management, CTF, eradicating road vehicle traffic on fields and use of a central tire-inflation system on the most used equipment will probably be common in the near future as farms strive to recover losses of yields and soil functions to compaction.

Figure 2. Average annual soil erosion for different soil management treatments, including controlled (CTF) and partially controlled (PCTF) traffic farming, no-tillage, minimum-tillage and conventional tillage methods in an Australian study.

(from Owens et al, 2016. Queensland Dept. Natural Res and Mines and Owens et al, 2019. Proc. 3<sup>rd</sup> Int Controlled Traffic Farming Conf.)

# **Dairy Day**

Join us for the main dairy program offered by Cornell Cooperative Extension this winter in Jefferson and Lewis Counties. This 1-day seminar will provide the latest information on dairy production and management including talks on milk quality, labor and workforce development, milk prices and markets, and local research updates.

## Agenda:

- 10:00am-10:35am: Labor Regulatory Update, Dr. Richard Stup (Cornell Ag Workforce Development)
- 10:35am-11:10am: Workforce Development Update, Jay Canzonier, (Cornell Ag Workforce Development)
- 11:10am-11:55am: Milk Quality: Dry Off Procedures and Mastitis, Dr. Paul Virkler (Quality Milk Production Services)

11:55am-12:40pm: Lunch

- 12:40pm-1:25pm: Dairy Markets Updates and Outlook, Dr. Chris Wolf (Cornell University)
- 1:25pm-2:00pm: NNY Research Update Anaerobic Co-Digestion Case Study, Lauren Ray (Cornell PRO-DAIRY)

2:00pm-2:40pm: Climate Change and Dairy, Jenna Walczak (CCE Harvest NY) 2:40pm-3:00pm: NNY Research Update – Feeding Calves Kefir, (Miner Institute)

## Registration: \$15 per person (lunch included).

https://ncrat.cce.cornell.edu/event\_preregistration\_new.php?id=2005

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

## **Cornell Cooperative Extension**



## January 17, 2023 10:00am - 3:00pm

Watertown Elks Lodge 728 Bradley St Watertown, NY 13601

## January 18, 2023 10:00am - 3:00pm

CCE Lewis County/JCC Education Center 7395 E Road Lowville, NY 13367

<u>Contact Info:</u> Tatum Langworthy tlm92@cornell.edu 315-788-8450

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.

## Dairy Troubleshooting Mixer Wagons

By Lindsay Ferlito

In early November, CCE Regional Dairy Specialists and PRO-DAIRY hosted a Dairy Feeder School at several locations across the state. Topics ranged from the economics and importance of the feeder to evaluating TMR consistency, dry matter math, and bunker management and safety. Additionally, Tony Hall from Lallemand reviewed how to troubleshoot mixer wagons, and this article will summarize his key points.

With feed being the single largest expense on a dairy farm, and feed having a direct relationship to cow health and productivity, the feeder is one of the most impactful jobs on a dairy farm. Further, feeders are entrusted to operate large, expensive equipment, while handling thousands of dollars of feed per day. In addition to the feeder, the mixer wagon plays a vital role, and it gets worked hard. On a 1000 cow dairy, a mixer wagon will mix over 20,000 tons of feed per year! That's a lot of opportunity for things to break and go wrong, so keeping up on routine maintenance and understanding the proper safety protocols is imperative.

Before using your mixer or doing any maintenance, Tony Hall says to first read through the original manufacturer documents and recommendations; know the knife layout, numbers, and configuration; on vertical TMR mixers, know where the lead edge scraper is, how it should look new, and the clearance from the side; and on reel type mixers, check the horizontal scrapers and make sure they can sweep clear but close to the mixer floor.

Tony Hall then outlined the following things to consider for your regular mixer maintenance schedule:

#### Daily Checks

- Safely look into the mixer before the first load of the day.
- Are all knives in place and look sharp?
- Is the mixer and discharge mechanism free from debris, foreign bodies, or unexpected feed residues?
- Check discharge magnets for metal contaminants.
- Is the weigh system stable when switched on and reads true when mixer is empty? Watch for drift. Are the load/weigh cells free from debris and rust?
- Are all the tires in good shape and inflated?
- Is the PTO guard and its safety chains in good repair and properly attached?

#### Every Two Weeks

- Check and grease all points according to manufacturer instructions (as needed, don't over grease).
- Lubricate chains and any other manufacturer recommended items.
- Check integrity of chassis and frame and note gear box oil levels.
- Consult with farm manager/owner and perform a full system weigh check including individual load cells and test weights on mixer when empty and with a full load. Note any load cell malfunction (greater than +/-10 lbs off for each weigh bar or load cell) and change out if needed.

#### Every 3 Months

• Take a closer look at all the knives for damage, blunt ends, or missing pieces. Lower knives on vertical mixers usually get the most wear. Expect to change all the knives at least once per year depending on use.



Photo credit: T. Hall, Lallemand.

 Take a closer look at the paddle and scraper clearances on reel-auger type mixers. Ensure they are close to the floor with no interruption to a smooth sweep. Check that the auger discharge area is working correctly and look for wear and tear.  Take a closer look at the lead edge scraper (kicker plate) on the bottom auger blade of a vertical TMR mixer for damage or wear and tear.



Photo credit: T. Hall, Lallemand.

Hall concluded with a list of "tell tale signs in TMR" that indicate it's time to take action as the farm manager/owner (or time to talk to the manager/owner if it's not you):

- The mixer is running very hard or is unusually noisy.
- Any added long stem hay or straw is processed too short (<0.5 in).</li>
- Any added long stem hay or straw is too long (>1.5 in).
- Hay or straw "nests" are easily visible and not mixed into the TMR.
- Clumps of haylage are not broken up and are visible on top of the TMR.

- Visible grain stripes along the TMR after feed out.
- Visible moisture or liquid feed stripes in the TMR after feed out.
- Clumps or balls of grain or liquid feed not mixed in and rolling out of the TMR.
- Excessive bounce or play on the weigh box readout during mixing and loading.
- A large negative or positive number on the readout box after discharging a full TMR load.

**LALLEMAND** Thank you to Tony Hall, Lallemand, for UNLEWAND ANIMAL NUTRITON providing this information.



Photo credit: L. Ferlito





Cornell CALS PRO-DAIRY & Cornell Cooperative Extension

## Dairy 'Technology Tuesdays' Webinar Series

### January 10 to February 21, 2023 12:30 PM to 1:30 PM EST

#### **Topics and Presenters:**

- Technology for Housing and Managing Dairy Calves, Dr. Joao Costa (University of Kentucky)
- Health Monitoring and Reproductive Management, Dr. Julio Giordano (Cornell University)
- Barn Design: To Retrofit or Not to Retrofit, Timothy Terry (PRO-DAIRY, Cornell University)
- Utilizing Drones to Track Forage Inventory, Harrison Hobart (Alltech)
- Looking Ahead: Dairy Technologies of the Future, Dr. Jeffrey Bewley (Holstein USA)
- From Robots to Low Cost Parlors: How Do You Milk a Cow? Dr. Larry Tranel (lowa State University); Parlors, Rotaries, or Robots - What Technologies Are For Me? Dr. Nancy Charlton (DeLaval)
- Integrated Barn Climate Systems, Mark Reynolds (ASAP Interiors)

\* The specific presentation for each date is TBD.

Registration: This program is available at no cost, thanks to the generous support of our industry sponsors. Preregistration is required. Registration for all dates:

https://tinyurl.com/DairyTechTuesdays



#### Dates:

- January 10, 2023 January 17, 2023
- January 24, 2023
- January 31, 2023
- February 7, 2023
- February 14, 2023
- February 21, 2023

\* The specific presentation for each date will be released shortly.

For more information: Kathy Barrett, PRO-DAIRY 607-229-4357 kfb3@cornell.edu

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. Accommodations for persons with disabilities may be requested by contacting the site registrar 10 days prior to the event.

## Dairy Producers Can Now Enroll for 2023 Signup for Dairy Margin Coverage

#### PRESS RELEASE FROM USDA FSA

https://www.fsa.usda.gov/news-room/news-releases/2022/ dairy-producers-can-now-enroll-for-2023-signup-for-dairymargin-coverage

Contact: FPAC.BC.Press@usda.gov Protect Your Operation from Ups and Downs in the Market

WASHINGTON, Oct. 17, 2022 – Dairy producers can now enroll for 2023 coverage through the Dairy Margin Coverage (DMC) Program, an important safety net program from the U.S. Department of Agriculture (USDA) that helps producers manage changes in milk and feed prices. Last year, USDA's Farm Service Agency (FSA) took steps to improve coverage, especially for small- and mid-sized dairies, including offering a new Supplemental DMC program and updating its feed cost formula to better address retroactive, current and future feed costs. These changes continue to support producers through this year's signup, which begins today and ends Dec. 9, 2022.

"Dairy producers are the backbone of many agricultural communities across rural America," FSA Administrator Zach Ducheneaux said. "Dairy Margin Coverage provides critical assistance to our nation's small- and mid-sized dairies, helping make sure they can manage the numerous and often unpredictable uncertainties that adversely impact market prices for milk. This year showed why enrolling in DMC makes good business sense. Early in the year, some economists predicted that DMC would not trigger any payments for the calendar year, but then fast forward to now, when we're starting to see payments trigger and a return on investment."

DMC is a voluntary risk management program that offers 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.

So far in 2022, DMC payments to more than 17,000 dairy operations have triggered for August for more than \$47.9 million. According to DMC margin projections, an indemnity payment is projected for September as well. At \$0.15 per hundredweight for \$9.50 coverage, risk coverage through DMC is a relatively inexpensive investment.

DMC offers different levels of coverage, even an option that is free to producers, aside from a \$100 administrative fee. Limited resource, beginning, socially disadvantaged or a military veteran farmers or ranchers are exempt from paying the administrative fee, if requested. To determine the appropriate level of DMC coverage for a specific dairy operation, producers can use the online dairy decision tool.

#### **Supplemental DMC**

Last year, USDA introduced Supplemental DMC, which provided \$42.8 million in payments to better help small- and mid-sized dairy operations that had increased production over the years but were not able to enroll the additional production. Supplemental DMC is also available for 2023.

Supplemental DMC coverage is applicable to calendar years 2021, 2022 and 2023. Eligible dairy operations with less than 5 million pounds of established production history may enroll supplemental pounds.

For producers who enrolled in Supplemental DMC in 2022, the supplemental coverage will automatically be added to the 2023 DMC contract that previously established a supplemental production history.

Producers who did not enroll in Supplemental DMC in 2022 can do so now. Producers should complete their Supplemental DMC enrollment before enrolling in 2023 DMC. To enroll, producers will need to provide their 2019 actual milk marketings, which FSA uses to determine established production history.

#### **DMC** Payments

Additionally, FSA will continue to calculate DMC payments using updated feed and premium hay costs, making the program more reflective of actual dairy producer expenses. These updated feed calculations use 100% premium alfalfa hay rather than 50%. The benefits of these feed cost adjustments were realized in the recent August 2022 margin payment as current high feed and premium hay costs were considered in payment calculations.

#### **More Information**

In addition to DMC, USDA offers other risk management tools for dairy producers, including the Dairy Revenue Protection (DRP) plan that protects against a decline in milk revenue (yield and price) and the Livestock Gross Margin (LGM) plan, which provides protection against the loss of the market value of livestock minus the feed costs. Both DRP and LGM livestock insurance policies are offered through the Risk Management Agency. Producers should contact their local crop insurance agent for more information. For more information on DMC, visit the DMC webpage or contact your local USDA Service Center.

USDA touches the lives of all Americans each day in so many positive ways. In the Biden-Harris administration, USDA is transforming America's food system with a greater focus on more resilient local and regional food production, fairer markets for all producers, ensuring access to safe, healthy and nutritious food in all communities, building new markets and streams of income for farmers and producers using climate smart food and forestry practices, making historic investments in infrastructure and clean energy capabilities in rural America, and committing to equity across the Department by removing systemic barriers and building a workforce more representative of America. To learn more, visit usda.gov.

USDA is an equal opportunity provider, employer and lender.



## Dairy Reproduction and A.I. Training Course



Attend this 2-day training course to become trained in dairy reproduction and artificial breeding techniques. There will be classroom sessions in the morning, followed by hands-on practice on farm in the afternoon. After this class you will be trained to artificially inseminate dairy cattle.

## January 18 and 19, 2023

9:30am - 3:00pm

CCE St. Lawrence Co (2043B NY 68, Canton, NY) (morning)

LT Smith & Sons Farm (2181 CR 14, Canton, NY) (afternoon)

## **Topics Covered:**

- Bovine anatomy and reproductive physiology
- Heat detection
- Artificial insemination technique
- Proper thawing of semen
- Loading A.I. guns
- Practice breeding cows (hands-on)

## Speaker.

Dr. Javier Cheang, Genex



## Registration is required:

https://ncrat.cce.comell.edu/event.php?id=2009

North Country Regional Ag Team

Cornell Cooperative Extension Cornell Cooperative Extension St. Lawrence County

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

## \$200 per person

- Includes materials and lunch both days.
- Class capped at 10 participants.
- Must attend both days.



Any current state, local, and Cornell University COVID-19 guidelines will need to be followed.

More information: Lindsay Ferlito 607-592-0290 Lc636@cornell.edu

# **NEW YORK** Equine Hay Survey

**Cornell Cooperative Extension** 



Cornell Cooperative Extension's Livestock Program Work Team (Equine Subgroup) wants you! Please give us your input as we look to collect data on the Equine Hay Industry - exclusively for New York residents!



# HORSE OWNERS & Hay producers

If you purchase or sell hay for horses in NY, we want to hear from you!

Scan QR Code to access the survey or visit the link below.





WWW.CCELIVESTOCK.COM/SPECIES/EQUINE

The survey takes about 15 minutes to complete.

Cornell Cooperative Extension is an equal opportunity, affirmative action educator and employer.

**PennState Extension** 

### CCE North Country Regional Ag Team 203 North Hamilton Street Watertown, New York 13601

## What's Happening in the Ag Community

#### Check out the CCE NCRAT Website, Blog, and YouTube channel for up-to-date information and content.

Dairy Day 2023, see page 5 for more information.

Dairy "Technology Tuesdays" Webinar Series, see page 8 for more information.

Dairy Production and AI Training Course, see page 11 for more information.

*FOR SALE:* Border collie puppies currently 4 weeks old and will be ready to go in October. Our phone number is 315-771-4857. Thank you.

Please note that Cornell University Cooperative Extension, nor any **representative thereof**, **makes any representation of any warranty, express or implied, of any particular result or application of the information provided by** us or regarding any product. If a product or pesticide is involved, it is the sole responsibility of the User to read and follow all product labelling and instructions and to check with the manufacturer or supplier for the most recent information. Nothing contained in this information should be interpreted as an express or implied endorsement of any particular product, or as criticism of unnamed products. The information we provide is not a substitute for pesticide labeling.