



Cornell Cooperative Extension | Northwest NY Dairy, Livestock and Field Crops Program

2023 YEAR IN REVIEW

Northwest New York Dairy, Livestock and Field Crops Team
 A partnership between Cornell University and the CCE Associations in these 9 counties: Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Seneca, Wayne, and Wyoming.



Survey Identifies New York's Dung Beetles

Dung beetles have many positive environmental attributes in cattle pastures. They help recycle manure into the soil, which improves soil health. They increase water infiltration by creating macropores and return needed nutrients for grasses to grow. Just as important, dung beetles help reduce populations of horn and face flies that develop in the manure; they compete with horn and face flies in manure pats. In ideal situations, dung beetles can reduce horn fly populations by 95%, depending on the species in the pasture. Dung beetles also compete with gastrointestinal nematodes (GIN).

Dung beetles are found throughout the world, but little was known about species present in NYS. As pastures are an essential part of many of NYS's dairy and livestock farms, a statewide study was conducted by 7 educators with federal funding. Three farms were sampled weekly in the NWNYS region in Livingston, Ontario, and Wyoming Counties. Of the 15 species of dung beetles found in the state, 8 were found regionally. Two of the participating farms used a feed-through product to control face flies and horn flies; preliminary analysis of these farms' samples showed reduced dung beetle populations.



Dung beetle holes in manure.

More data analysis is needed, with the possible goal of finding species that could be reared in a lab setting and released. This would be a tool for natural pest control and reduce the need for insecticides and possibly deworming products. There are many other species of beneficial insects in the pats, as well. They were also identified in this survey.

First Annual Dairy Day

The practice of crossing a portion of a dairy herd with beef sires is becoming increasingly popular with cross calves more numerous. Industry trends, markets, and infrastructure are evolving. Farmers are asking to learn more about breeding, raising, and marketing strategies. Ten NWNYS dairy and beef farmers along with 12 agriservice industry members from 8 counties attended the first annual NWNYS Dairy Day held on December 6, 2022 at the Terry Hills Restaurant in Batavia.

Claire Mulligan of ABS Global presented on beef x dairy industry trends and genetic selection strategies. Anna Richards of 2020 Consulting engaged attendees in a discussion designed to consider and evaluate the economics of their own dairy replacement programs. Margaret Quaassdorff presented survey results of NY dairy farmer beef x dairy practices and updates regarding industry trends. Farmers, industry agriservice members and extension educators networked and swapped experiences over the lunch hour. The program closed with panel discussion, consisting of farmers Rachel Holtz and Gabe Carpenter (also with Keystone Mills), where they shared their insights regarding management and marketing strategies for beef x dairy producers and growers.

Dairy and beef farmers participated in discussions and networking with industry experts throughout the day. From the presentations, participants benefited from strategies to maximize the genetic potential of their dairy herds, and enhance the profitability and sustainability of their farm businesses. The program was interactive and participants reported that they learned the "importance of understanding your farm's numbers/economics to make management decisions", and "how to better talk to farms I work with about economics of beef x dairy crosses." Other participants mentioned that calf growing practices and the number of calf [raising] barns in Seneca County were new information to them, and that they would likely attend or recommend NWNYS Dairy Day again next year.



Farmers and ag industry representatives gather in Batavia, NY for the first CCE NWNYS Dairy Day.

Feeder Schools Offer Education from Industry Experts and Farm Colleagues Alike



Participants learning about bunk safety at Old Acres Farm, Wyoming County.

The employee in charge of mixing and delivering daily rations on a dairy farm is key to the farm's success. Not only is that employee in charge of the biggest input cost on the farm, the feed ingredients, but they are also largely responsible for maintaining herd health through proper execution of the farm's nutrition plan. These points were driven home during two feeder schools held in November in Wyoming and Ontario Counties. The program was part of a series of feeder schools developed by regional dairy specialists across the state and was taught by NWNYS Dairy Specialists, Nutritionists, Industry Specialists and Cornell Graduate Students.

The program drew 40 participants representing 21 farms and two industry partners. Both locations offered simultaneous delivery in English and Spanish and covered topics essential to feeder success. These topics included: accounting for variable humidity within the ration, economics, lean management, quality control, safety at the feed bunk and equipment troubleshooting. The interaction between attendees was notable, and there was a great degree of learning by sharing experience from one professional feeder to another. Participants commented that the hands-on nature of the course helped solidify concepts learned in the classroom. After the course, participants had a new appreciation of their role in feeding consistency and farm economics and how to better achieve both.

Managing Glyphosate Resistant Waterhemp in Soybeans

Glyphosate resistant weeds such as common waterhemp continue to cause weed management issues for soybean and corn producers. Waterhemp populations now have been identified in all nine counties in NWNYS and in 16 counties across NY. To make matters worse this weed has also been found to have resistance to three other herbicide modes of action through previous testing in NY. It is very challenging to put together an herbicide program to control these weeds and prevent economic yield losses.

Cornell University recently hired a new weed scientist, Vipin Kumar. Dr Kumar has done extensive research on waterhemp and other pigweed species at Kansas State where it has been a problem for many years. We were able to collaborate with a grower in Seneca County that has an ongoing waterhemp problem and heavy seed bank and set up a waterhemp test plot. We tested 20 different herbicide programs in soybean. The replicated blocks were broken down into application timings of pre-emerge only (1 pass), pre-emerge plus early post-emerge (2 passes) and early post plus late post-emerge (2 passes).



Dr. Kumar walking the audience through the herbicide treatments.

A field day was held on August 4 with a walking tour of the treatments to demonstrate which spray programs and timings were the most effective in managing waterhemp. Twenty-five growers, consultants, industry reps and soil and water employees joined us for the tour. This walking tour was a very effective method of showcasing the value of 2-pass programs and why growers should utilize them to achieve season long control when applied at the right timing. This demonstration plot provided invaluable hands-on training for selecting effective herbicide programs on their soybean acres as this weed gains ground annually.

Calving Workshops Give Participants the “Real Feel”

Learning how and when to properly assist with a calving is a difficult task. In part, this is because each calving progresses differently and all the work that is done inside of the birth canal is done blindly. Furthermore, many new dairy employees are included in the calving team since this is a job that needs coverage around the clock.

The CCE NWNY Team in collaboration with PRO-Dairy brought a unique experience to our region to give dairy caretakers the opportunity to improve their knowledge and skills in this important area. Dr. Rob Lynch, Cornell PRO-Dairy, provided a newly acquired life-sized birthing model, which was the centerpiece of the workshop series. Two workshops were held in Genesee and Seneca counties, with 26 participants from 6 counties attending. These employees represent 9 farms and approximately 15,000 cows. The workshop attendance was limited to provide for more hands-on instruction with each participant and both workshops were presented in English and Spanish. Participants learned the stages of labor, when to intervene with the birthing process, the appropriate use of calving tools, how to safely correct common mal-positions, and immediate post-calving care for the cow and calf.

Participants noted that they particularly enjoyed practicing with the model and hearing the birthing process thoroughly explained. Due to overwhelming demand for this workshop, a third workshop was held in Wyoming County on May 3rd, 2023. The calving model is available for other educators across the state, including veterinary practices.



Participants practice on the calving model with the guidance of Kaitlyn Lutz.

Corn, Soybean & Small Grain Winter Congresses Back In-Person

It was so nice to be back in-person after two years of virtual programming. The Corn Congresses (Jan. 5 & 6) and Soybean & Small Grains Congresses (Feb. 15 & 16) were held back in their normal west and east locations of Batavia on day 1 and Waterloo on day 2. This enables growers and ag industry representatives from our nine partner counties to reasonably reach one of our meetings. These winter congresses are the largest commodity specific programs for corn, soybean and wheat in NY.

This year's programs looked at addressing new pest issues and providing potential crop management options for growers to continue to succeed in 2023. We had specialists from Michigan State, Ontario Ministry of Agriculture, and the Miner Institute along with Cornell faculty and regional CCE specialists. Forty different industry sponsors set up booths to support our programs and educate growers about their new products.

Almost 750 participants attended the four congresses. Participants learned valuable information on reducing spray drift, herbicide resistance, and controlling new diseases and below ground pests. There was also some new and interesting topics such as biologicals, Biochar and digital agronomy. Everyone praised the interaction with friends and farmers they hadn't seen in years and visiting the exhibitor booths. Many needed their DEC pesticide applicator credits that were hard to get during COVID. We were also able to introduce the new Cornell weed scientist and honor two retiring faculty who have been tremendous contributors to our programs for 40 years.



Advocacy Training Prepared Participants for Public Speaking

After discussion with a panelist at last year's Dairy Day, the NWNY Team organized an Ag Advocacy Academy with assistance from the NY Beef Council. The panelist stated she needed more training and practice with public speaking. Chandler Mulvaney, Director of Grassroots Advocacy and Spokesperson Development with the National Cattlemen's Beef Association led the Ontario County training for 24 participants, targeting beef and dairy producers. Some newer CCE educators and specialists attended.



The afternoon-long session built off the online advocacy training, Masters of Beef Advocacy, that was recommended to be completed prior to the in-person training. Time was spent on messaging and developing your 'elevator pitch', a short introduction with what you do. The importance of keeping comments positive to all facets of agriculture was stressed.

Pairing exercises matched up participants with someone they did not know. Lunch and breaks gave participants additional time to meet like-minded individuals. The training concluded with mock interviews with some of the braver participants. They all did excellent jobs.

Feedback from the evaluations were very positive with suggestions for additional training with social media outreach.

Northwest NY Region Dairy Farm Business Summary (DFBS) Cooperators, a Significant Source of Economic Activity in 2022

Through the first quarter of 2023, applying financial management skills, owners of 35 dairy farm businesses from the region cooperated with regional specialists, PRO-DAIRY staff, and agribusiness consultants to complete DFBS's for 2022. Cooperators learned about the strengths and weaknesses of their businesses using

- their farm's summary and analysis results
- DFBS data for the Northwest NY region as a whole, and
- DFBS data for a group of most profitable businesses by size using the DFBS Program's Two Page Comparison Report

Research studies conclude that producers using DFBS with analysis achieve greater levels of profit compared to producers that do not. Greater profitability contributes to enhanced economic viability, increasing the likelihood that businesses

- achieve financial objectives
- have the capacity to invest in replacement and, or expansion assets
- are able to maintain and, or increase employment levels

Estimates using DFBS results suggest that the 35 cooperating businesses from the region invested a total of about \$25.5 million in land, buildings and improvements in 2022, and a total of \$28.4 million in machinery and equipment. Estimates suggest that the 35 farms employed a total of about 708 worker equivalents, excluding operators, where an equivalent represents 230 hours worked per month for 12 months. The farms generated a total of about \$337 million in farm receipts from milk, cattle, crops and other revenue producing sources.

New Training Equipment for Beef Quality Assurance

The New York BQA program has two levels of certification. For Level 1 certification beef producers attend a classroom training or complete an online module. Level 2 certification requires beef producers to demonstrate a subcutaneous injection at a chute side training in addition to providing a veterinary client-patient relationship form. In recent years NYBQA trainers have found it more difficult to secure a farm to host the chute side training portion needed for level 2 certification. Reasons include the biosecurity risks and potential injuries to participants and cattle while demonstrating injections.

Through a grant from the National Beef Quality Assurance program and the New York Beef Council, NYBQA program recently purchased a bovine injection simulator and a veterinary medicine supply kit. The training tools will provide opportunities for cattle producers to receive advanced training through a hands-on chute side training without adding risks to host farms. It is used to teach proper cattle injection techniques (including IV administration plus jugular, intramuscular and subcutaneous injections), ear tagging, and growth implant basics. This will work to expand their knowledge of BQA principles through increased producer participation and expanded opportunities for in-person BQA training resulting in an increase in BQA certifications and recertifications of beef producers in NY.

The simulator will be transported around the state for use by BQA trainers for use with beef and dairy producers. A veterinarian may assist in properly demonstrating injections and other veterinary practices when available.



Herdsperson Training II

There are proper techniques for administering vaccinations or treatments to cattle on a dairy, as well as performing tasks to monitor herd health. The herds person is typically responsible for carrying out these duties. Dairy farmers or farmworkers should receive training in these areas to successfully maintain a healthy herd, and to adhere to best management practices and regulatory requirements. On May 11th and 12th, twenty-two Northwest NY dairy farmers and farmworkers from 8 farms and 6 counties attended Herdsperson Training II at host farms in Niagara or Genesee County. The goal of this workshop was to teach proper techniques for common tasks related to herd health monitoring and treatment; however, participants were encouraged to discuss and implement specific farm protocols, diagnoses, and treatments according to each farm's veterinarian and management team. This program was offered in English and Spanish at each of the locations. Participants were able to identify and gain hands-on practice with appropriate injection and intravenous sites and routes of administration using a model bovine head and neck, made available by the NY Beef Council via a grant through the National Beef Quality Assurance program.

Participants were also shown and practiced correct use of an esophageal feeder in calves and drenching techniques in cows. Most participants were familiar with the effective use and administration of boluses in both cows and calves but were able to practice if desired. Participants also were able to perform proper blood-draw from the tailhead using vacutainers, a technique needed when monitoring cows for metabolic disorders. One person's comment reflected the feelings of others in the workshop: "I learned to consider having two [separate] tube feeders for sick vs healthy calves, placement for different types of injections, and tail blood collection technique." Other participants added that they learned more effective and safer head restraint techniques when treating a cow. All participants left with a certificate of completion and feeling more confident in performing common herd health monitoring practices and methods for administering treatments.



Margaret Quaassdorff and Kaitlyn Lutz use the bovine injection simulator model to demonstrate proper needle placement.

Over-the-Counter Antibiotics Now Require a Veterinary Prescription

The Food and Drug Administration's final guidance for the animal industry and antibiotic use went into effect on June 11, 2023. New labeling for these products is required to state: "Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian." All medically important over-the-counter antimicrobials (antibiotics) are no longer available for animal use without a veterinarian's prescription. Farmers will need to have a working relationship with a veterinarian and establish a veterinary client patient relationship. This guidance was designed to slow the emergence of resistance with human-important antibiotics and to limit uses to those that are considered necessary for animal health.

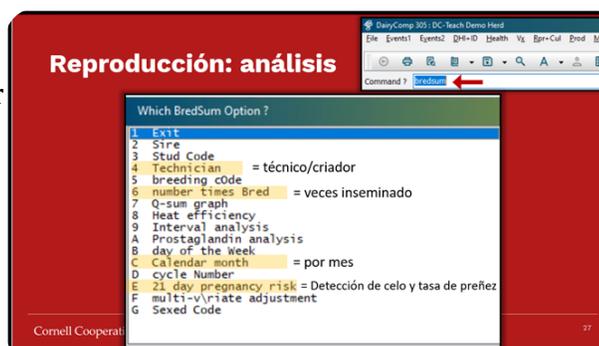
Many livestock farmers were unaware of these changes. To inform and educate them an article was written on the topic and shared statewide electronically with livestock educators for use in their newsletters and published in the New York Beef Producers Association newsletter. The webinar, Preparing Your Livestock Farm for the Loss of Over-the-Counter (OTC) Antimicrobials, was organized and hosted by the team with Dr. Melanie Hemenway, NYS Department of Agriculture and Markets veterinarian, as the presenter. The registration link was shared statewide and 103 people registered. The recording was posted to the team's YouTube channel and currently has 46 views. Links were shared with registrants to help them locate a veterinarian in their area.



Improving Dairy Farm Records Management for Spanish Speakers

Consolidation of the dairy industry means more cows per farm, making robust record management systems imperative. Record management systems are used on dairy farms for everything from feed inventory to individual animal medical records. Dairy Comp 305, known as DC305, is the record management system with the largest market share on dairies in New York State. However, it is also a DOS-based system, making it very customizable but also complex and comes with a steep learning curve for new-users. As dairies consolidate and local agricultural labor pools decline, we concurrently see an increase in dairy farm employees whose first language is Spanish. When Spanish-speaking employees are tasked with entering important medical records, such as meat and milk withhold times post-treatment, it is essential that they understand how DC305 works. Unfortunately, Valley Ag Software, the parent company of DC305, does not have any training materials available in Spanish. Improving knowledge of DC305 will in turn result in more consistent data entry, more timely and appropriate management decisions, and decreased risk of bulk tank antibiotic residues.

To start addressing this need, which was brought to our team directly by some of our region's dairy farm employees, the NWNYS team developed a "Dairy Comp 305 for Spanish Speakers" virtual workshop. On April 19th 12 employees from 7 dairy farms across NWNYS representing over 10,500 cows as well as one management consultant joined the workshop. The workshop taught the basic language behind DC305, the importance of consistent data entry, and how data is used to make management decisions. Attendees commented that they would like to continue these trainings in the future to delve into more specific areas of DC305.



Seneca Regional Dry-Down Day Doubles Down on Harvest Accuracy



Forage Specialists, Mike Stanyard and Jodi Letham chop corn samples through a woodchipper to prepare them for dry matter analysis.

For any farmer who grows corn silage to feed cows, planning for and timing harvest appropriately is critical to producing a quality product. Whole-plant dry matter is the best indicator of when harvest should begin. With the droughty weather and variable rainfall in the region during the Spring and Summer of 2023, it was especially important for farmers to have a harvest plan. 2023 Corn Silage Regional Dry-Down Day, hosted by the dairy and forage specialists on the NWNY Team in collaboration with CCE Seneca County, brought the Dairy One forage lab and their near-infrared (NIR) reader to Keystone Mills in Romulus, NY to aid farmers in determining accurate corn silage harvest timing.

More than doubling the participants in the previous year, over 30 farmers from Seneca, Wayne and Allegany counties brought or sent in bundles of corn stalks cut from each field they anticipated harvesting for corn silage. Each of these bundles were put through a wood-chipper, and then tested for dry matter or moisture levels. With Dairy One's NIR reader, over 75 samples were scanned at the mill, and information about the overall corn maturity and starch levels in the ear were analyzed. Farmers were then given their values for each field sample, as well as estimated harvest date ranges, and information on best management practices for the 2023 corn silage harvest. This program reached and benefited many farmers including those in the plain community and those with smaller dairies who may not have access to regular monitoring of moisture levels of their corn crops.

Fertilizer and Herbicides: Getting the Most for Your Money

For the short- and long-term viability of U.S. farms, the costs of agricultural production are becoming increasingly significant. Due to the fact that fertilizer prices account for approximately 15% of total cash expenditures in the U.S., farmers are concerned about fertilizer prices in 2022-2023. All main crop production nutrients have experienced price increases compared to September 2020: ammonia has increased by more than 210%, liquid nitrogen by more than 159%, urea by 155%, MAP by 125%, DAP by more than 100%, and potash by more than 134%. While this information helps to explain the causes of one of the producers' greatest concerns, it does not alleviate their inability to control rising input costs. Many farmers believe that rising input costs are negating the benefits of higher commodity prices, which were expected to help them break even or be slightly profitable according to ("Too Many to Count: Factors Driving Fertilizer Prices Higher and Higher," American Farm Bureau Federation).

Producers continue to look for strategies to ensure they can pay for all of their essential crop inputs even as the cost of those inputs increases during periods of higher volatility. On March 31st we held a program titled "Fertilizers and Herbicides: Getting the Most for Your Money". Around 80 participants from across the NWNY region attended this event and learned about the terminology frequently referenced around fertilizer purchases, how to calculate fertilizer blends based on ratios and units, and how to understand formulations and the chemistry behind their fertility and herbicide recommendations. A lot of our producers rely on crop consultants and industry salesmen to prescribe their crop inputs. With newer technologies and auto-simulations, a lot of people don't know what it takes to arrive at the correct formulation/blend they're requesting when they call in an order. As our producers sat through this educational training you could see the "light bulbs" going off in their heads when they put it all together and could understand how to arrive at a correct formulation. Many provided feedback indicating how appreciative they were for this program. A lot of them went home and utilized these resources to look over/adjust their management decisions at the start of the 2023 planting season. Our producers would like to see this program return the following year with breakout sessions.

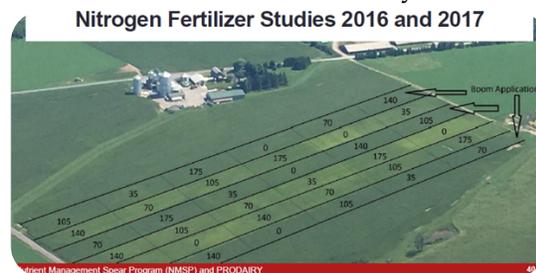


Figure 1: Dr. Quirine Ketterings and Kirsten Workman discussed a project focused on N rate trials in 2016 and 2017 to determine the benefits of sidedressing of manure in terms of yield and nitrogen fertilizer equivalent.

Price Analysis for Corn Silage – Fall 2023

Several years ago, in response to the program's Field Crops Advisory Committee's desire for work on pricing forages, the team developed an empirical price analysis model for corn silage. The team updates the work annually. The fall 2023 estimate reflects an update to the data set, and other changes to the statistical model to best capture changes in supply and demand relationships. The team reports estimates developed using the model in Ag Focus, and posts estimates to the team's website <www.nwnyteam.cce.cornell.edu>.

Readers of Ag Focus, and website visitors learned that given most recently available data, price analysis for NY suggests an estimated corn silage price of about \$63 per ton. Farm business owners apply corn silage price estimates combined with understanding of relevant supply and demand factors from the individual farm business owner's perspective, including local conditions, to achieve better results from their decision making efforts where price information is required. Regarding the original work, one producer commented, "I think that your work on this will be helpful for many folks."

Regarding the updates, producers comment that the work continues to provide information that benefits decision making regarding corn silage price.

Investing in the Minds of Future Leaders; Management for Spanish Speakers

On July 20th-21st, Cornell's Agricultural Workforce Development team led their first Spanish-language, in-person workshop entitled "Transición a Supervisor", meaning Transition to Supervisor in English. Eighteen Spanish-speaking leaders in the agricultural industry, nine from within the NWNY region, representing dairy, apple, vineyards and even a SUNY college educator came to learn about how to take the step from high-performing employee to supervisor. This event was located at the CCE Ontario County office and included four bilingual instructors: Libby Eiholzer (Cargill), Kaitlyn Lutz (CCE NWNY Team), Santiago Ledwith (Action Dairy and Talentum4) and María "Bess" Lewis (Cornell Ag Workforce Development).

Ag Workforce Development has been providing Agricultural Supervisory Leadership (ASL) courses in English since 2021, with over 105 participants thus far. The team began adapting the six courses that currently make up the English ASL certificate program into Spanish last December. This in-person event allowed the team to pilot the adaptation and format of the course with the Spanish-speaking audience prior to rolling out the online curriculum, which opens October 2023.

During the two-day workshop, participants learned communication and conflict resolution skills, multicultural team management and how to manage supervisory challenges through a series of didactic as well as hands-on group activities. One participant's takeaway from the workshop was that "it is important to be a positive person so that your team can be motivated. This will help me apply it to my team in the workplace." Another participant planned "to work on communication between the supervisor and the owner and we need to give all the tools necessary to achieve good results of quality."

ASL courses in Spanish are filling a much-needed gap in leadership skills in the agricultural industry. Over 50% of the NY agricultural workforce speaks Spanish as their first language and most report having no exposure to leadership education, taking on supervisory roles as a matter of tenure. We look forward to elevating the leadership skills within the NY agricultural industry through the continued success of this program. To learn more, visit the ASL website in Spanish.



Participants and instructors at the completion of the first "Transición a Supervisor" course.



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Helping NWNY Farms Thrive

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