



Cornell Cooperative Extension North Country Regional Ag Team

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.

Quarterly Report January - March 2022

Herbicide Shortages - Helping Producers Plan for the 2022 Growing Season

Last fall there was a lot of speculation that growers may be facing shortages of some widely used herbicides in field crop production, most notably, glyphosate or Roundup. Currently, inventories remain very tight and significant price increases have occurred. Growers will need to be prepared to make alternative decisions based on availability of certain herbicides this spring. A positive outcome is that it is starting conversations about weed management strategies that have been somewhat forgotten about. Having these discussions this winter with growers has them better prepared for weed management this spring.

Glyphosate-resistant corn and soybeans have made post emergence weed control relatively easy with a single application of glyphosate or Roundup. Without glyphosate or limited inventories of glyphosate, plus the continuing spread of herbicide resistant weeds, many growers will be going back to using conventional herbicide programs to control weeds. The renewed interest in conventional herbicide programs has created a need for more information about selecting the most effective herbicide program, especially the older herbicide products. In 2022, it is likely that many growers will revert back to conventional herbicide programs that were used prior to the introduction of glyphosate resistant (Roundup Ready) corn and soybeans in the mid 90's. Basically, what's old is new again.

Fortunately, the CCE NCRAT is in a great position to help growers, crop consultants, agribusinesses, and chemical company representatives make informed, research-based decisions. In 2019, the Northern New York Agricultural Development Program (NNYADP) funded a soybean weed control trial that evaluated more than 20 different conventional herbicide programs. The NNYADP also supported a soybean herbicide trial in 2021, and another soybean herbicide trial for 2022. These two trials are comparing 12 different soil residual, conventional herbicide programs for the control of glyphosate resistant horseweed (a.k.a. marestail).

In addition, CCE NCRAT Field Crop Specialists have either led or served as a co-leader on ten other on-farm research weed control trials, both in NNY and across the state, that evaluated the efficacy of conventional herbicide programs in corn and soybean.

In the last four years, CCE NCRAT Field Crop Specialists have delivered over 25 conventional weed control talks at grower meetings, agribusiness trainings, and field days in 10 counties across the state, including 10 virtual programs. Since January 2022, 13 talks (both virtual and in person) addressing herbicide shortages have been given at crop grower and agribusiness meetings in St. Lawrence, Lewis, Jefferson, Oneida, Cayuga, and Genesee Counties, reaching over 800 people.



Photo credit: M. Hunter.

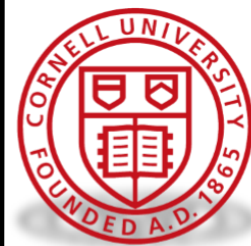
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Research Helps Farmers Understand Possible Relationship between Soil Compaction and Yield



Soil health is a priority for farmers and has been an area of focus for Cornell and CCE research and outreach efforts across NYS. Farmers and crop consultants recognize that properly functioning soil is critical for long term farm viability and have begun making management changes to improve and protect it. Soil compaction is a form of soil degradation and is difficult for farms to detect and evaluate, mainly because it is difficult to observe from above the soil surface. A 2019 soil health study, funded by NNYADP, discovered high and variable levels of soil compaction in nine conventionally tilled dairy farm corn fields in northern New York, so CCE Field Crop Specialists proposed to investigate the link between severity of soil compaction and corn yield over multiple seasons, because severely compacted soils limit plant root development and can reduce soil function, particularly in wet seasons. The CCE North Country Regional Ag Team, in collaboration with Dr. Quirine Ketterings and the Cornell Nutrient Management Spear Program, received NNYADP funding for a 2021 project focusing on the relationship between soil compaction and corn yield on North Country dairy farms.

Researchers selected four fields with mapped corn yield stability zones using multiple years of corn yield data. Soil compaction, or resistance to penetration, was measured in each yield stability zone, using a digital penetrometer, which collects and stores precise penetration-resistance data for later analysis. Over 350 penetrations were performed in each field. Consistent with previous findings, compaction was significant in all zones, but results showed slightly less compaction in areas of fields that consistently yield higher than the farm average, and slightly more compaction in zones that consistently yield lower than the farm average. While this correlation does not mean that compaction is the cause of consistently lowered corn yields, it is a strong possibility that compaction may be at least one important factor in corn yield performance on these fields.

More research is planned to examine this relationship between soil compaction and corn yield on NNY farms. Dr. Ketterings' Nutrient Management Spear Program has worked with several NNY farms to convert corn yield monitor data over several years into maps of yield consistency. These will be used to design additional data collection to further study this important aspect of soil health and function.

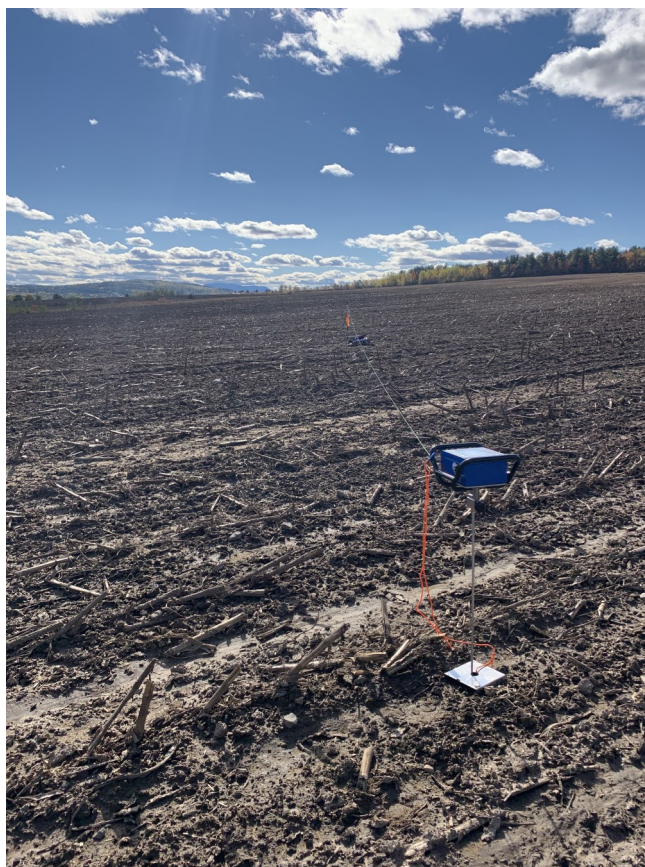


Photo credit: K. O'Neil



Dairy Specialists Complete Successful NNYADP Funded Research Projects

Producers and industry members across the North Country have identified areas of opportunity for practical on-farm research projects. Last year, CCE Regional Dairy Specialists successfully secured grant funding from the Northern NY Agricultural Development Program (NNYADP) for two on-farm research projects. One project focused on calf health in various ventilation systems, and the other focused on how pre-calving feeding management influences post-calving health and success.



Photo Credit: C. Havekes.

The calf ventilation project enrolled 15 farms across the North Country region that have various calf barn ventilation systems. Calf health scores were taken on ~2000 calves between June 2021 – January 2022. Each participating herd also had their calf barn fogged using smoke candles twice over the course of the project – once in the summer and once in the winter. One of the biggest takeaways from this project was that not one ventilation system was superior to another. It is no surprise, but one of the biggest factors influencing calf health and performance is overall management. This became apparent when barns with similar ventilation systems had very different calf health scores. This highlights the finding that different ventilation systems can work if good management is there to support it. This project generated a lot of follow-up work on individual farms as herds recognized the value and want input as they make changes to their systems. One producer noted that his treatment rate and pneumonia rate had significantly gone down because of tweaking his current system and said the barn fogging was “very educational”.

The transition cow project enrolled 10 farms across the North Country region that were feeding high straw, negative dietary cation-anion diets (DCAD) during the dry period. This project collected pre- and post-calving blood samples from 300 cows, as well as various feeding management data including TMR particle size, feeding space, and variation across the feed bunk. The project also collected pre-calving urine pH values to identify potential sorting issues at the bunk. One of the biggest takeaways from this project is that there is still an opportunity for improving pre-calving feeding management on these North Country herds. As a result of this, the CCE NCRAT Dairy Specialists have designed a follow-up project to re-visit these 10 herds in the summer of 2022 to further identify areas of opportunity and excellence as it relates to feeding management and cow comfort across the transition period. After delivering final reports, one producer said “this is really interesting data, thank you for doing this project”. Another producer asked for follow-up assistance with identifying particle size distribution across the bunk.



Photo Credit: C. Havekes.

These projects were successful as they helped North Country producers better understand areas of opportunity and excellence relating to their cow and calf health and performance. These projects also generated a lot of collaboration between herd veterinarians and nutritionists and further strengthened the relationships CCE NCRAT have with industry stakeholders.

Winter Dairy Programs Offered to Farmers Virtually and In-Person

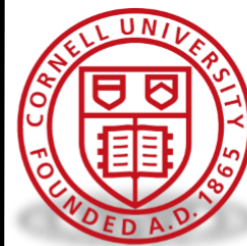
There is an on-going need to provide North Country dairy farmers with local programming and educational seminars highlighting research updates, best management practices, and industry insights. Traditionally, most programming has been done in-person, but with the start of the COVID-19 pandemic, all programming shifted to a virtual format. As restrictions have lifted, the CCE NCRAT Dairy Specialists addressed this need for programming by offering a variety of delivery methods.

In January 2022, Dairy Day was streamed virtually over three days, covering topics ranging from milk markets and policy, to NY research updates, to animal welfare and sustainability. Later that month, an in-person artificial insemination (AI) course took place after multiple producers voiced a need to learn this skill. CCE NCRAT partnered with Genex to offer this 2-day program that included classroom time in the morning and a hands-on portion in the afternoon where participants practiced breeding cows.

Virtual Dairy Day went well, with 15 to 20 participants each day- from the North Country, across NYS, and beyond. The presentations were recorded and posted to YouTube, and in the last few months they have been viewed up to 72 times. Additionally, the in-person AI program was very successful. There were seven attendees from five farms in two counties. All attendees rated the program quality well, and indicated they learned a lot. They were excited to learn how to breed their own cows as it's becoming harder to find trained AI technicians to hire in certain parts of the North Country region. The program also generated more interest and the Dairy Specialists have already been asked to offer it again this coming Fall. By partnering with industry allies, and adapting to a changing learning environment, the CCE NCRAT Dairy Specialists were able to offer valuable programming both virtually and in-person this winter.



Photo Credit: L. Ferlito.





“Know Your Numbers, Know Your Options” Program Brings Value to NY Farm Women

The CCE Farm Business Management Team created a pilot project based upon Annie’s Project coined “Know Your Numbers, Know Your Options” utilizing Annie’s curriculum, but tailoring it to New York agriculture. At the conclusion of Annie’s Project in the fall of 2021, an assessment survey identified many farm women requested a course solely on financial analysis. The CCE Farm Business Management Team adopted a 6-week, 2-hour program where farm women had the opportunity to delve deeper into the financial analysis of their farm businesses. Participants learned basic accounting methods, financial ratios, chart of accounts, analysis of profit/loss statements, balance sheets, and statement of cash-flows. Overall, the program was a success and was valuable to those that attended. Although a small cohort, the ability to work in small groups gave the participating ladies a voice with the ability to ask questions of the instructors and their peers.

Know Your Numbers, Know Your Options

Acknowledgement to
Lisa Holden, Associate
Professor, Dairy
Science, Pennsylvania
State University



ANNIE'S PROJECT
EMPOWERING WOMEN IN AGRICULTURE

Cornell Cooperative Extension

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.”

Contact us directly through our website: <http://ncrat.cce.cornell.edu/>

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Building Strong and Vibrant New York Communities

Cornell Cooperative Extension provides equal program and employment opportunities. NYS College of Agriculture and Life Sciences, NYS College of Human Ecology, and NYS College of Veterinary Medicine at Cornell University, Cooperative Extension associates, county governing bodies, and U.S.D.A. cooperating.