

CORNELL COOPERATIVE EXTENSION LEWIS COUNTY



Connecting



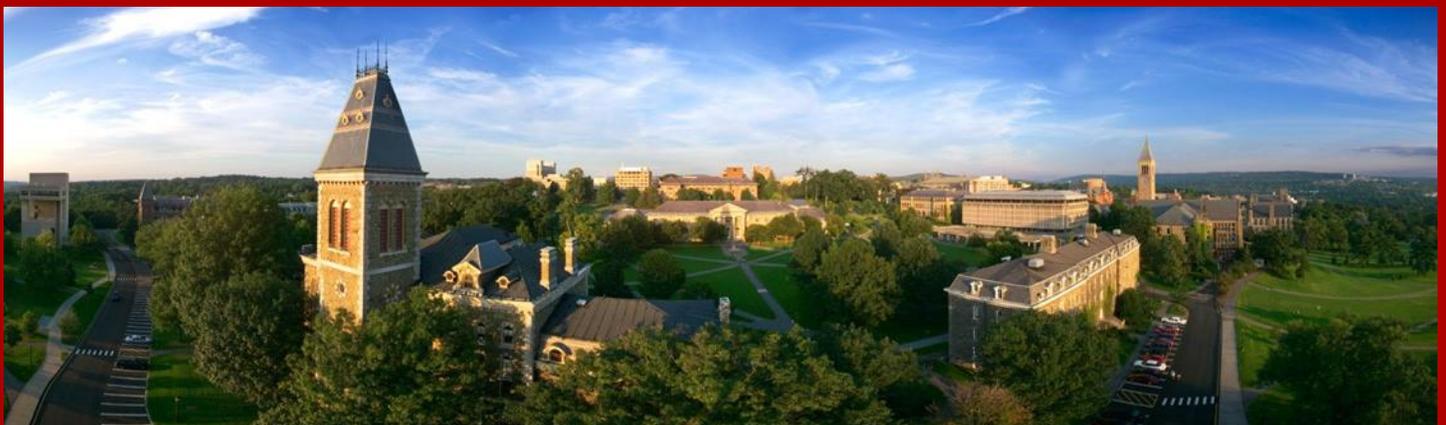
Cornell Campus to our Community

Cornell Cooperative Extension of Lewis County serves as a dynamic educational organization that uses Cornell University's world-class research and Cooperative Extension network to enhance the lives and well-being of all Lewis County residents.

Cornell Cooperative Extension's dedicated team works with Cornell faculty, agriculture, parenting, and 4-H youth development teams to put research to work to grow, strengthen and sustain a healthy, vibrant, and economically strong Lewis County.



Cornell Cooperative Extension of Lewis County



A Spotlight on 2023 Accomplishments

Our programs have demonstrable **impact**, providing high **value** to participants and the public-at-large because of our unique **connections** to stakeholders and to Cornell.

Friends of Cornell Cooperative Extension of Lewis County:

We are pleased to bring you our 2023 Annual Report. Lewis County’s Cooperative Extension continues to have a dedicated staff committed to delivering high impact, results-oriented programs. Our growth means supporting the traditions of Extension, embracing emerging issues and fostering new opportunities. This report shows that your Lewis County Cooperative Extension is far ranging, provides a wealth of up-to-date, research-based information for individuals, families, businesses, farmers, and professionals.

While Agriculture is the foundation of CCE Lewis, our 4-H Youth Development programs, our impactful and much needed parenting program, horticulture, and community development are helping to grow tomorrow’s workforce, provide educational opportunities and target real-life issues in this county.

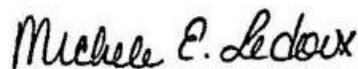
Here at Cornell Cooperative Extension of Lewis County we are fortunate to enjoy a unique partnership with our federal, state and local government to help leverage additional resources for this county. We extend our sincere appreciation to the agencies and individuals that provide funding and resources throughout the year for us. We are deeply grateful for the continued financial support provided by Lewis County residents through the Lewis County Board of Legislators.

Please enjoy reading about the work of your Lewis County Cooperative Extension team and the North Country Regional Agricultural team. We hope you discover a new opportunity to participate and grow with us in the upcoming year. Sign up for our Newsletters and News Flashes. Visit our website and follow us on Facebook for all the latest information.

In 2024, we look forward to offering relevant, unbiased, and helpful information to all residents of Lewis County as we partner with each of you for this county’s continued growth.



Peter Ostrum, DVM
President, Board of Directors



Michele E. Ledoux
Executive Director

Cornell Cooperative Extension of Lewis County

Cornell Cooperative Extension believes in shared leadership through locally elected Board of Directors and active program development committees. Cornell Cooperative Extension applies research from Cornell University to strategically develop and implement programs to meet the county's priorities and critical community issues.

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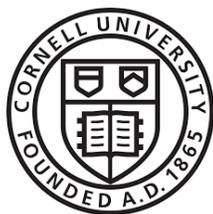
NNY Regional Dairy Specialist

Daniela Gonzalez Carranza

NNY Regional Dairy Specialist

Kitty O'Neil

NNY Regional Field Crops Specialist



Agriculture

Growing Lewis County

Annie's Project in the North Country

In a joint effort with Cooperative Extension in Jefferson County, Lewis County was able to host an Annie's Project program for local farm women in our community. Both Associations collaborated to offer a five-session program covering different business management issues. Women from three counties participated in the multi-week program.

Trained facilitators from Lewis and Jefferson Counties organized the series of programs for women farmers using the Annie's Project template. Our team first sought input from experienced women farmers on what local issues should be featured. Using this information and information on topics of concern from beginning farmers, we structured a course outline. We promoted the course to local farmers and offered four different lecture-style sessions, with multiple speakers and class topics each meeting, and one agricultural business tour for our last session. Primary topics included: farm and farmworker mental health, record-keeping, managing for risk and workforce development, soil and land quality, and farm safety.



We brought in quality subject-matter experts, most of whom were women. Participants were not all from the same farming background- some were from small farms, some from large, some raise animals, and some did not. The participants learned valuable information that they could take home and use to strengthen their existing farm businesses. The participants were able to meet other local farm women through our program that they may not have met otherwise, network, and share experiences with each other. We heard positive comments from participants to include that they enjoyed the different class topics and discussions and that the course was engaging. Several are selling each other's products at their farm retail stands. The sponsors of the program included Countryside Veterinary Clinic, Lowville Producers Dairy Cooperative, Beller Farms and Farm Credit East-Burrville.

Bees The Lewis County Beekeepers group continues to be strong and maintains the interest of the local community. We continue monthly in-class discussions and occasional bee demonstrations with Elwin Stillman; Master Beekeeper with sixty years of experience. This year, we invited a special speaker via zoom, Dr. David Peck- Director of Research and Education at Betterbee in Greenwich, NY, where he assists in product development and research. His doctoral work at Cornell University's Department of Neurobiology and Behavior was supervised by Professor Tom Seeley. This was an interactive meeting where members could ask questions about the Varroa Mite: The History, Biology, & Management.



Container Gardening: This year, there was interest in an herb garden and how to harvest and dry herbs. The herb plants were donated by Andrew and Dorothy Kramer from Cedar Knoll Farm. Our program reached eight libraries and we planted 110 buckets. These workshops supply everything they need to start a small garden in a bucket and are always enjoyed by all the participants.





FMNP: (Farmers Market Nutrition Program) This nutritional education table event was held at the Lowville Farmers Market, and the Lyons Falls Farmers Market. Reaching out to discuss Hot Water Bath Canning, how to freeze fruits and vegetables, and resources to follow best food canning preservation practices. This funding for this program was made available from the CCE Farmers' Market Nutrition Program Outreach funded by NYS Department of Ag & Markets.

Beef: The Region 7 New York Beef Producers Association (NYBPA), working with Cornell Cooperative Extension are continuing to be very active this year. Meeting several times throughout this year. In February, Ken Wise; Senior Extension Associate from the NYS Integrated Pest Management presented about how to control flies on your cattle on pasture, identify fly pests affecting cattle on pasture, techniques to determine economic injury, options to control fly pests with dung beetles and fly traps, and making decisions on insecticide usage.



Lewis County Agritourism: *The Lewis County Ice Cream Trail 2023* has been a huge, family fun event once again for the 2nd year. This year, we started the trail at the beginning of June and ended on Labor Day in September. There were many participants and over 350 maps were submitted for the three prizes: Stewart's Family Sundae for 50 people, Lewis Lanes Birthday Party for 6, and an Ice Cream Gift Basket from CCE Lewis. The winners for the Lewis County Ice Cream Trail 2023 were Eleanor Rotondi, Gracie Zehr, and Steve Bernat. This year we had thirteen ice cream stops participate with 1500+ number of stops resulting in \$6300 dollars invested back into Lewis County businesses.

Lewis County Open Farm Day 2023 on August 12th was a great success that invited all families to visit each participating farm for the day. The thirteen farms in the tour started in Natural Bridge and continued to Constableville offering farm tours, free samples, wine tasting, animal interactions, tractor rides, corn maze, food trucks, and educational displays. Each family received an insulated shopping bag after collecting three signatures on the brochure for each stop and filling out the survey. This was made possible by the sponsorship of local businesses. Thank you to all that participated and the community that supported our producers.



Senator Gillibrand’s Agriculture Staff visited Irish Settlement Farm in Lowville, NY to talk to the O’Brien Family about any concerns that could be brought to the Senate about the Farm Bill. This allowed the Ag staff to familiarize themselves with “Life on the Farm”.



Small Fruit Workshop

Elisabeth Hodgdon, CCE ENYCHP and Anya Osatuke, CCE Harvest NY presented at the Small Fruit Workshop discussing site requirements, strawberry production systems and overwintering techniques, spotted wind drosophila management, harvest and post-harvest handling considerations. Dorothy Kramer: Cedar Knoll Farm discussed how they grew commercial strawberries and juneberries. Afterwards, the group met at Tug Hill Estates and learned hands-on disease identification, management and pruning practices for blueberries and raspberries. This workshop was very informative for commercial and residential growers.



We were fortunate to once again offer a **Maple Program** hosting the Cornell University Maple Program Co-Directors Aaron Wightman and Adam Wild along with Dr. Catherine Belisle who presented a variety of research-based topics that were relevant and useful to the county’s maple producers in the beginning of December.



Making the Most of Maple
Saturday Dec. 3, 2022
Time : 9:00 - 12:00

High prices and surging demand have created opportunity for the maple syrup industry. However, with high costs for labor, equipment, and supplies, maple producers must be efficient and productive to maintain profits. In this workshop, we will review best practices and the latest research for maximizing sap yield, efficiently producing high-quality syrup, and explore opportunities for value-added products. The class will focus on both practical approaches and emerging technology. Join maple specialists Adam Wild and Aaron Wightman, along with maple food scientist Dr. Catherine Belisle, to learn how to get the most out of your sugaring operation.

Please plan on joining us -as their will not be a Statewide Maple Conference this year.

So don't miss out on this chance to join your fellow producers and catch up on the latest information.
Call the office at 315-376-5270 or email at lewis@cornell.edu to reserve your spot by Wednesday, November 30th.

Location: Cornell Cooperative Extension
 Lewis County Education Center
 7395 East Road, Lowville, NY 13367



Maple Weekend 2023 was a great educational opportunity for the public to learn about maple production and value-added products. With Cornell Cooperative Extension and the Lewis County Maple Producers Association working together we promoted the sugar houses involved in this statewide marketing/educational event held over two weekends in March through TV interviews, radio ads, news releases, and social media. Several Tree tapping's were held to commemorate the weekend.



Horticulture: ENYCH Specialists - Judson Reid and Elizabeth Hodgdon made visits in Lewis County to producers with greenhouses and high tunnels that had questions about their vegetable and fruit crops. They discussed IPM management practices and data from research projects.



Dairy Advancement Program (DAP) Grants: These grants are designed to enhance long-term viability of New York dairy farms while maintaining a commitment to environmental stewardship. This program is funded by NYS Ag & Markets and administered by Cornell's PRO-Dairy with DAP providing 80% of the cost of these projects (up to a specified cap amount) while farmers fund 20% (plus anything above the cap). CCE's role is to facilitate the application process, participate and provide support and expertise for the duration of the project, and complete documentation when each project is finished.

Dairy Prospects Program- Ag Workforce Development:

Five youth from Lewis and Jefferson counties completed the Dairy Prospects program in 2023. During this program, youth were exposed to dairy farms around New York State that differ in size and management styles. They were also introduced to different agricultural businesses and learned how they are connected to the dairy industry. Program participants visited two higher education institutions to explore future opportunities. This program gives youth the opportunity to explore various parts of the dairy industry.



**4-H Youth Development
4-H Grows Here!**



In 2023, Lewis County 4-H had a great year of programs, events, activities, and Fairs! Youth, volunteers, and staff have been excited to see our youth participating, learning, and growing through 4-H Programs in Lewis County. In 2023, Lewis County 4-H enrolled 172 youth members and 23 Adult volunteers, and we are currently growing.

The 4-H “Tech Ninja Turtles” Robotics Club launched in 2023, with Junk Drawer Robotics, focused on mechanical concepts and learning how things work, while creating solutions to problems. Currently, the group is working on a robotic sweeper, and learning about how parts and components work together to make a machine run. Youth are learning about communication, planning, responsibility, and working together as a team. This club is currently welcoming new members.



The 4-H Dairy Cattle Program had growth and excitement in 2023, with increased participation and full barns at the Lewis County Fair. This reflected a full year of learning, experiences, and practice. 12 Youth successfully competed in Region Dairy Bowl, which was held at CCE Lewis in March. Youth spent three months learning about Dairy cattle, genetics, breeds, health, nutrition, housing, products, and industry. The teams were excited to play and learned a lot. Congratulations Henry Goss on qualifying and competing in the State Dairy Bowl.



Four 4-Hers applied for and received Enhancement Calves from the Dairy Industry Building. Each youth filled out an application, explained why they were applying for a calf, and had to explain where they were going to house their animals, the learning experiences that they were committing to, and details about cattle care. Congratulations to Faith Diddle, Silas Miner, Jamie Freeman, and Isaac Miner in earning their enhancement calves.



25 Youth learned a great deal by participating in the Dairy Showmanship Clinic in June. Here, youth were able to learn about cattle care, nutrition and practice working with a show heifer. In addition, 3 young people took part in the Dairy Judging contests at the New York State Fair and learned a lot about Dairy cattle.



Ag in the Classroom returned to classrooms in Lewis County and neighboring schools for a fun year of Ag lessons and hands-on learning. Lessons were designed to help teachers best bring agriculture topics into their classrooms that are fun and research-based. Lessons included: corn and biofuels, maple, dairy processing, pollination and more. Ag lessons reached over 650 youth in grades 1-12 in 9 school in Lewis County and surrounding communities.



4-H coordinated the Conservation Field Day Event for 6th Grade students at the DEC Demonstration Area in Lowville. Twelve different offerings included: Habitat Education, Maple Production, Fishing, Wildlife Management, Mapping and Surveying, Forestry, Birding, and a demonstration from the Environmental Conservation Officer. Sessions allowed youth to learn more about the environment and the ways youth can positively impact the environment and learn more about careers. More than two hundred and twenty youth from five school districts and homeschooling groups participated in CFD in 2023.



4-H Tractor Safety successfully took place, with eleven youth earning their certificate to operate farm equipment, making them eligible to work on farms other than their family farms. Youth learn important safety topics, understand tractors, and learn about safe operation and rules.

4-H Tractor Safety in Lewis County is led by instructors Joe Bush, Melissa Watkins, and many other volunteers. Topics included basic safety and hazards, pre-trip inspections, safe mount, and dismount, towing an implement, enclosed spaces, PTO safety, and much more. Thank you to Cazenovia Equipment, White's Farm Supply, Logan's Equipment, Dairy Industry Building and NNY Farmer's Marketing Co-op for their support of this important program in the North Country.





In 2023, the Lewis County 4-H Sparks Club helped families feel welcome to explore many different areas that 4-H offers and find their “spark! Youth were able to explore foods and healthy snacks, STEM projects with rubber band cars, natural resources with trees and birds, plant science with spider plants, crafts, community service with cards for the nursing home residents and more! Sparks club is full of friends, fulfillment, and FUN!



4-HERS ARE

- 2X** more likely to make healthier choices.
- 4X** more likely to contribute to their communities.
- 2X** more likely to be civically active.
- 2X** more likely to participate in STEM programs.



The County Fair was a great success for Lewis County 4-H Youth in 2023. Ninety-nine youth participated across all categories in the Fair, featuring full animal barns, youth activities, animal shows, and many chances to showcase youth accomplishments. Exhibit areas included: Dairy Cattle, Horses, Goats, Rabbits, Cavies, Poultry, Horticulture, Foods, Hobby Crafts, Fine Arts, Photography, Communications and more.



Several Lewis County Youth qualified for State Fair Participation, with six youth that participated in Dairy Cattle, six who exhibited rabbits, two horse exhibitors, one dairy goat exhibitor, as well as many who exhibited non-animal projects in the Youth Building. Some accomplishments to note are: Gracie Lisk, receiving Outstanding Project for her Molasses Cookies, Caden Tanner receiving First Place in Pleasure Driving, Megan Klossner with Reserve Junior Champion at the State Fair Youth Ayrshire Show and Peyton Taylor with Reserve Senior Champion and Reserve Overall Champion in the Youth Jersey Show. Congratulations!



Teen Leadership and Development has been growing in 2023! Lewis County had youth participate in a variety of Teen Leadership and career development programs that were designed to help youth to grow their skills and learn about opportunities available to them as they make important choices regarding careers and education.



Youth from Lewis County attended: Agribusiness Careers Conference at SUNY Cobleskill, Dairy Discovery at Cornell, Junior Dairy Leaders Program through Pro-Dairy, Focus Assistant Program, STAR Teen Leadership retreat, Career Explorations at Cornell, and Teen Leadership at the New York State Fair.



This Fall, Achievement Night is the celebration of 4-H youth accomplishments over the last year. 4-H Youth were excited to celebrate their collective and individual accomplishments with their friends that included cookie decorating and yummy snacks. Eight Clover buds were awarded for completion of their project forms with a certificate and project prize. Fourteen Junior Members and Eight Senior members were awarded with pins and certificates for completing projects in 2023 in areas such as: rabbits, visual arts, hobby crafts, community service, dairy cattle, poultry, goats, Agriculture, wood science and leadership. Winners of Special Awards were Storrey Cathey receiving the Evy Bernat Small Animal Award, Megan Klossner receiving the Lisa Porter Dairy Spirit Award and Peyton Taylor receiving the Most Improved Dairy Project Award. Congratulations to all!



Lewis County 4-H has countless opportunities and is continuously expanding its resources and subject matter available for those within our community. We encourage all who are interested in exploring all the wonderful opportunities 4-H has to offer at our website <http://ccelewis.org/>.



2023 Pratt-Northam 4-H Youth Development Interns

In 2023, the Lewis County 4-H Program was able to apply for and receive funding for two Interns from the Pratt-Northam Foundation. We were pleased to welcome Danielle Lehman and Phillip Kramer to the staff for the summer of 2023. Notable accomplishments were helping with Farm Safety Day, assisting with container garden classes, livestock, horse and dairy clinics, preparation, setup, and all things fair related, Open Farm Day and so much more. Phillip and Danielle were able to bring a fresh perspective, positive attitude, that made the summer of 2023 great! Thank you both and have a great year with your studies!





In 2023, Melissa Watkins, 4-H Program Manager successfully graduated from the Lewis County Leadership Academy with Naturally Lewis. The group engaged in teambuilding, leadership development, engagement with local stakeholders, including field trips and a group project, a needs assessment of a local need or organization. The problem that was tackled was Ag Workforce Development, and how to best help young people connect with fulfilling careers in Ag, food systems, and natural resources.

Family Development

Parenting

As I look back on the past year there have been a couple of changes that has had a positive impact on our program and the participating families.

Every year, Lewis County participates in The Parenting Project, the “Statewide Data collection” for parenting programs offered in all the Extensions. We were the third largest contributor for the state with an 18% parent participation. Albany County was first with 23% and Thompsons County with 20%. The data collected helps to identify not only the demographics of the County but focuses on changes with parenting. The pre and post survey consists of a set of questions completed by the participant regarding the program. In Lewis County, we offer home visitation utilizing the “Triple P” curriculum. The curriculum is an evidence-based program approved by the State for families engaged with Prevention services and Family Court. The results of the survey showed there was significant improvement in 5 out of the 10 identified areas as reported by the participants. Areas included positive changes in parent confidence when explaining reasons for rules, amount of patience they have with their child, confidence in making rules, decreased yelling at their child and a decrease in time their child is involved in non-educational screen time.

Home visits have allowed parents to identify and focus on issues/concerns that are important to their family as well as providing enough time to work on them. Parents can be involved in the program for 6 months or longer if needed. The amount of time can be affected by many different factors, mental health, substance abuse and stability. We have 3 families that have been involved with the parenting program for over 6 months and 2 of the families have participated in the parenting program at different times over the past several years. As a parent meets a personal goal sometimes, they need time to develop that skill and return to the program when they are ready for the next step. 2 of our families have worked through substance abuse and mental health and are now in the process of transitioning their children back home. The extra time allows for the parents to become stronger and their children to rebuild their relationship.

The parenting program primarily works with DSS referrals. We receive many community referrals for parents who might need support or are struggling. Schools will reach out to ask for help with children having difficulties in school. The community referrals provide more support and help decrease chaos in the home while providing support for the parents. The Family and Supreme court will make referrals so that families can hopefully work out their disagreements. This process allows the parents to continue to make decisions for their children instead of court. We have a couple of families who will call when they need a safe place to work on issues. They have managed to work things out and continue to work for the best interests of their children.

Parent Education continues to change as we adapt to what is going on in our county. Research, resources, and webinars have focused on post pandemic concerns, mental health with children, positive discipline for special needs children, social media and its impact on children and support for parents and caregivers.

Community Energy

North Country Clean Energy Hub Report Lewis County Annual Summary

Our first year of the North Country Clean Energy Hub has come to an end, and what a year it was! Across seven counties, the Hub reached over 900 residents through various outreach initiatives, which increased tremendously after the team was fully staffed in March 2023. Over the last 12 months, the Cornell Cooperative Extension North Country energy team has provided education on clean energy and energy efficiency to residents through presentations, workshops, tabling and networking events.

Since March, Energy Advisors have attended nine events in Lewis County, reaching 143 residents. The added efforts of the Energy Advisors brought the total number of low-income energy efficiency projects completed in Lewis County to 21, totaling \$131,986 in energy efficiency upgrades and insulation work to residents' homes. Projects were completed by eight participating contractors, though only four are currently active in Lewis County. In addition, the Hub team focused on making connections with local organizations to promote wrap-around services to households and small businesses in the community. The team collaborated with five organizations, in addition to CCE Lewis, to reach individuals.

Eamonn LaDue, Lewis County's Energy Advisor, enjoyed participating in local events and getting to know residents. The Energy Advisor attended the Lewis County Fair over the summer, in addition to local farmers markets. Eamonn made efforts to connect with the senior population through Office for the Aging and DSS, and plans to continue the relationship with both organizations throughout the winter season. Eamonn furthered education to better serve the community by completing the Building Science Principles Certification, a BPI certification, and participating in a solar course offered through SUNY Canton alongside other Energy Program staff members. Outreach efforts also involved promoting energy efficiency program information through local hardware stores and food pantries.

Looking forward to the North Country Clean Energy Hub's second year, additional educational opportunities are planned for residents, and the energy team is broadening their understanding of community energy efficiency needs. A regional assessment and barriers analysis is currently underway, with surveys being distributed across the North Country. Currently, over 400 residents have been reached through the analysis. The results will help the energy team focus on what residents hope to see from the Hub and what they most want/need in energy efficiency and clean energy measures. The energy team will be participating in a Bridges Out of Poverty training in October to learn about communication with low-income populations to make more meaningful connections. In the upcoming year, the team is planning to host diverse workshop opportunities for residents and to push marketing efforts so more individuals and small businesses are aware of the state assistance available.



Eamonn at the Lewis County Fair.



Providing education on lightbulbs and temperatures.



Energy Team installing solar panels during SUNY Canton training.

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.”



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.”

Website: <http://ncrat.cce.cornell.edu/>

Facebook: <https://www.facebook.com/CCENorthCountryRegionalAgTeam/>

Blog: <https://blogs.cornell.edu/northcountryregionalgteam>

YouTube: <https://www.youtube.com/channel/UCxb3fv12XdCA3GjuDsfkM3Q>

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A Year in Review

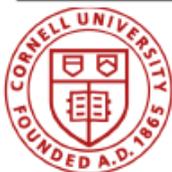
The 2023 growing season in the North Country has had a little bit of everything – droughty beginnings, a very wet middle, plenty of pest and pathogen challenges in the later season, and a relatively sunny and dry conclusion this fall. The CCE North Country Regional Ag Team (CCE NCRAT) is again grateful for a continued role in supporting all its agriculture and farmland constituents through another year of production, marketing, and problem-solving. The team hopes to continue offering support and recommendations to all again in 2024.

The CCE North Country Regional Ag Team collaborates with the six county CCE associations, many other partners, state and federal agencies, small and large businesses, and other CCE regional and statewide teams to bring analysis, guidance, discovery, and innovation to all farms and communities of Jefferson, Lewis, St. Lawrence, Franklin, Clinton, and Essex Counties. The staff of dairy and field crops specialists support all NNY dairy, livestock, and crop farms - large and small, conventional and organic, full-time and part-time farmers, as well as their English- and Spanish-speaking employees. In addition to farms, the team works with associated ag businesses like veterinarians, nutritionists, custom operators, crop consultants, seed and supply vendors, and many pieces of our ag economy with research, individualized technical support upon request, and pertinent educational programs. The team aspires to keep all farms and ag businesses progressing, capitalizing on every opportunity to become more efficient, profitable, compliant, and sustainable.

All these new developments help to sustain an ever-growing agricultural economy in the North Country. The 2017 Census of Agriculture estimated total sales of all ag commodities in the 6-county region to be well over three quarters of a billion dollars annually and is expected to be larger with the next published census in 2024. To remain viable and productive in this competitive environment, North Country farms need to constantly seize every advantage, adapt to a volatile climate and markets, and become more efficient by keeping costs down and productivity up. Our global marketplace often provides thinning margins, so the economic impact of tiny improvements can be enormous for farms as they strive to remain profitable. Reducing calf illness from 33% to 20% can save \$585 per year in treatment costs for a single 100-cow farm, or \$720K for the whole North Country dairy industry. Harvesting corn silage with a single percentage unit decrease in uNDF240 can increase milk production by 7 pounds of milk per cow per day, according to Miner Institute findings. For an organic 50-cow farm receiving \$28 per hundredweight, this generates more than \$35K per year. For a 1000-cow farm receiving \$16 per hundredweight, this small achievement would gain \$400K per year. Improving dairy cow lameness rates by 10-25% could save \$1.1-\$2.5M for the North Country dairy industry. Research leads to opportunities for these small improvements that add up to a big difference to the bottom line for each individual farm and for the regional ag economy.

Speaking of research, CCE NCRAT Specialists are routinely awarded funds from two farmer-driven sources: the Northern NY Agricultural Development Program and the NY Farm Viability Institute. Both organizations receive funds from the NYS legislature through the Department of Agriculture and Markets and use farmer-identified needs and priorities and farmer selection panels to determine awards. This past year, the team received awards from both agencies to further study the relationship between soil compaction and crop yield, new strategies for managing herbicide-resistant weeds, options for accommodating new restrictions on atrazine use, and benchmarking herd health and outlining case definitions for disease diagnosis and treatment protocols used on NY farms.

Like most years, 2023 brought new problems to address, new opportunities to learn, as well as new solutions to implement. The accomplishments, impacts, and research projects highlighted here are described in more detail inside this report. Please contact any of the CCE NCRAT Specialists for more information on the program or to help address a challenge on your farm.



Herbicide Resistant Management Increases Farm Net Income

Herbicide resistant weeds are becoming increasingly problematic for corn and soybean growers across New York State. Managing herbicide resistant weeds can result in higher weed control costs, but provides better weed control, improved yields, and increased net farm income.

To illustrate the economic impact of herbicide resistant weeds, there are approximately 15,000 acres of soybeans grown in the North Country region. It has been estimated that herbicide resistant marestail (confirmed in 5 of the 6 counties in NNY) is present on 5% of all field crop acres. Resistant marestail would cause an annual monetary loss of \$275,000 in NNY if soybean growers did not adjust their weed management program to control this troublesome weed. With changes in management practices these losses could be reduced to only \$40,000.

CCE North Country Regional Ag Team Field Crop Specialists are committed to remain proactive in their educational outreach to growers and continue to maintain vigilance in detecting and identifying resistant weed populations that are rapidly expanding in the North County. The team's efforts to address herbicide resistant weed management has included on-farm research trials and demonstrations, articles, grower meetings, and field days.

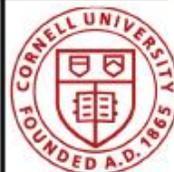
Since 2019, these efforts have included:

- Six on-farm herbicide trials targeting multiple resistant marestail and additional trials planned for 2024.
- Writing or co-authoring 27 extension articles about herbicide resistance management, including the March 2023 Progressive Dairy quarterly insert "The Manager" from PRO-DAIRY.
- Giving 73 in person and virtual herbicide resistant management presentations throughout New York State.
- On-farm demonstration of importing weed seeds in a used combine purchased from out of state, with more planned in the future.



Photo Credit: M. Hunter.

These continuous efforts have heightened the awareness of growers, crop consultants, and agribusinesses to closely monitor fields for the presence of herbicide resistant weed species, such as marestail, tall waterhemp, and Palmer amaranth. CCE NCRAT's on-farm research trials have provided sound research-based information needed to make informed management decisions. Delivering the most accurate information about herbicide resistant weed species will increase the likelihood that proper management tactics will be used to control these weeds and ultimately increase net farm income.

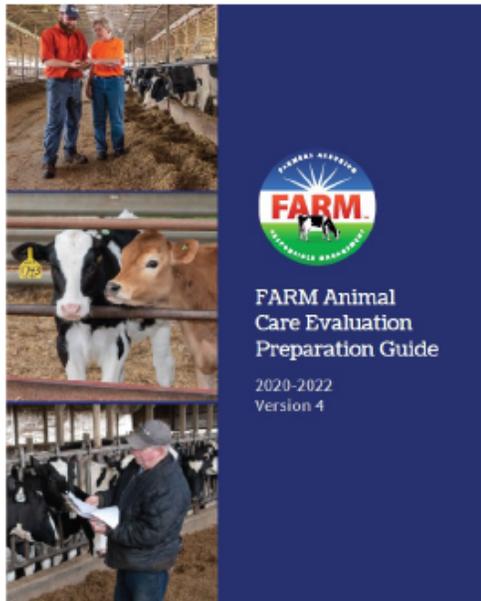


Dairy Specialist Helps North Country Dairies Prepare for FARM Animal Care Evaluations

The regulations that dairy farms have to comply with will continue to increase, from environmental to workforce development and HR to animal care. There is a need to assist North Country dairy farmers to better understand and prepare for these regulations as they change and are implemented across the state and nation. Since it includes over 99% of the nation's milk supply, the National Milk Producers Federation FARM Animal Care Program directly impacts almost every North Country dairy farmer. As part of the program, dairies are evaluated at least once every 3 years, including an assessment of the facilities and animals, as well as a review of documentation and protocols. During an evaluation, if a farm does not meet certain targets, it will trigger a mandatory corrective action plan or a continuous improvement plan, and they will have up to 9 months or 3 years, respectively, to address it and achieve the target.

Understanding what paperwork is needed and how to prepare for an evaluation can be overwhelming for an individual farm. To help provide sound unbiased information to local farms, a CCE NCRAT Dairy Specialist became a certified FARM Program evaluator in 2017. For the last seven years, CCE NCRAT has provided updates about the FARM Program during local dairy educational programs, conducted on-farm research to assess how well local farms are prepared for and meeting the targets of the program, and worked with individual farms one-on-one to help them prepare for their evaluation. Further, CCE NCRAT has become the statewide Cornell Extension resource on the FARM Program, which has included collaborating with other Regional Ag Teams to help deliver support.

Most recently, a North Country farm reached out to CCE NCRAT for help preparing for their upcoming FARM evaluation. The Dairy Specialist went through all the farm's paperwork and protocols, and summarized for the farm what was missing and what needed to be updated. The Dairy Specialist also walked through each age class of animals on the farm and assessed the animals using the program scoring charts and identified areas where program targets were not met and discussed potential ways to address them. The farm was appreciative of the individualized information and resources provided. A couple months later, they had their official FARM Program evaluation, and afterward, they reached out to CCE NCRAT to say thank you and that during their evaluation everything looked good.



Having CCE NCRAT provide this information and support is extremely helpful for North Country dairies. A new version of the FARM Animal Care Program will become active next summer, and the CCE NCRAT Dairy Specialists have already started planning how to ensure local farmers are aware and prepared.

<https://nationaldairyfarm.com/>



2023 Annual Report
ncrat.cce.cornell.edu

Preparing Corn Growers for Proposed Changes in the Use of Atrazine

Atrazine is an important and widely used herbicide in field corn because it is economical, has a flexible use pattern, long residual herbicidal activity, is effective against a broad spectrum of weeds, and is an important tool in the management of herbicide resistant weeds. The Environmental Protection Agency (EPA) has proposed mitigation measures to reduce the runoff risks to aquatic plant communities from the use of atrazine, including limiting when and how atrazine can be applied and reducing the maximum use rates in field corn. The use of atrazine has been a foundational herbicide used in preemergence field corn weed control programs in Northern New York (NNY) for decades.

While atrazine has been proven to be effective for broad spectrum weed control, NNY corn growers have relied on atrazine use rates higher than those outlined in the EPA's proposed label changes that could be implemented as soon as Fall 2023. There is an uncertainty of whether reduced rates or no atrazine entirely can provide acceptable weed control in field corn without additional costs or reduced weed control.

In 2023, CCE NCRAT Field Crop Specialists have been discussing these proposed atrazine use and application rate changes with corn growers, crop consultants, and agribusiness during individual field visits and grower meetings. This information has been presented at fifteen in person and virtual CCE and industry sponsored grower meetings and field days to over 625 attendees throughout New York State, including eleven educational events in NNY.

To further prepare corn growers for the possible reduction of atrazine use rates, CCE NCRAT Field Crop Specialists successfully secured funding from the Northern New York Agricultural Development Program to conduct two on-farm research trials in NNY to evaluate corn weed control programs with and without atrazine during the 2023 growing season.

Two field days were held in NNY to showcase these important on-farm research trials. Growers, agribusinesses, crop consultants, and chemical representatives were given the opportunity to tour the plots to compare the effectiveness of each treatment. Attendees learned about the proposed atrazine herbicide label changes, strategic weed control strategies, and proper identification of many weed species found in NNY field crops. It also provided an opportunity for participants to receive continuing education credits needed to maintain their pesticide applicator license.

This research will compare currently used rates of atrazine, reduced rates, and no atrazine at all in field corn weed control systems on farms in NNY. The development and evaluation of several herbicide programs with and without atrazine will help NNY corn growers make informed decisions about their weed control systems.



Photo credit: M. Hunter.



Improving Labor Efficiency on Northern NY Dairy Farms Through English and Spanish Training

Many dairy farms in Northern NY rely on some Spanish-speaking hired labor, which creates a challenge for producers to provide necessary training to improve farm efficiency and ensure best management practices are followed. After the success of the CCE Calving Workshop regional program offered by CCE NCRAT this past Spring, there has been an increasing demand for hands-on training in English and Spanish. Most of the attendees are native Spanish speakers working in the maternity and fresh cow areas, and in calf barns.

The CCE NCRAT Dairy Specialists have conducted several trainings on individual farms in multiple counties, tailored to the specific farm's needs. The Specialists cover a range of topics, such as the stages of calving, care of newborn calves, and postpartum cow care. Most farms are interested in training their personnel on the stages of calving to reduce stillbirths or calves born in an alley rather than the maternity pen.

Through these trainings, the Dairy Specialists have also been able to address miscommunication problems on the dairy. For example, colostrum and newborn protocol management training was delivered in Spanish for a farm with herd health challenges, allowing CCE NCRAT to identify and address miscommunication between Spanish-speaking employees and English-speaking managers regarding the newborn calf vaccine protocol.

The feedback received from these hands-on trainings has been extremely positive. Many attendees have expressed how much they enjoyed and learned from them. It is evident that farm personnel are engaged during the training, asking questions, actively practicing with the cow-model, and sharing personal experiences. These trainings have also allowed for more collaboration between CCE NCRAT and the herd veterinarians to troubleshoot issues on these specific dairies, and address more regional challenges.



Photo credits: L. Ferlito.



Is Soil Compaction Limiting Crop Yields Across NYS?

Soil health is a priority for farmers and has been an area of focus for Cornell and CCE research and outreach efforts across NYS, but it includes a complex set of problems to detect, evaluate, and correct on commercial farms. Farmers and crop consultants recognize that properly functioning soil is critical for long term farm viability and have begun making management changes toward that goal, such as establishing more winter cover crops and reducing or eliminating tillage on many fields and farms each year. Soil compaction, one critical aspect of soil health, is a form of soil degradation from decades of conventional crop production with heavy field traffic and has been shown to limit air and water infiltration, root penetration, and overall crop plant productivity and climate resilience.

Results of previously funded Northern New York Agricultural Development Program (NNYADP)- and New York Farm Viability Institute (NYFVI)-funded research projects revealed a link between soil compaction severity and historical corn yield on several conventionally tilled dairy farm fields. Both non-profit organizations are farmer-driven, and use committees and selection panels made up of farmers to identify needs and opportunities, and to award funds to projects that will produce practical, real-world results that benefit farms, agricultural businesses, and the communities to address those needs. Initial projects conducted in NNY through a collaboration with Dr. Quirine Ketterings at Cornell, revealed the universal presence of soil compaction on farm fields in 2019 and then, in 2021, a strong relationship between severity of compaction and historical corn yield. Those preliminary studies involved a just a small number of fields on a small number of NNY dairy farms and indicated a need for more research.

The CCE NCRAT Field Crops Specialists expanded this important soil health research with additional NYFVI and NNYADP grants for 2023 and 2024. More farms were recruited to participate to gain a larger view of the relationship between soil compaction and yield. The new grants permitted an expansion of the NNY data set with a more fields and farms, and for additional equipment to be purchased and utilized on more farms in Western and Central NYS by additional

CCE specialists. A larger and more robust dataset will permit a better understanding of the relationship between soil health and corn yield, but also the potential relationship between compaction and other parameters already measured on the WNY and CNY fields.



Photo credit: K. O'Neil.

As of Fall 2023, data collection is still ongoing and findings are not yet analyzed or finalized, but so far, data collected in CNY and WNY appear quite similar to NNY findings from 2021. Stay tuned for further information on this important project as these findings will help North Country farmers make more informed decisions to better improve soil health on their farms.



Monitoring Heifer Barn Ventilation Across the Seasons

Calves and heifers are the future of a dairy farm, and it takes a large amount of time, effort, and money to keep calves and heifers growing and healthy. In the North Country, having four very different seasons throughout the year can make it hard to provide adequate ventilation to these smaller animals, while keeping them out of the elements. Good ventilation can have a big impact on animal growth and health and is important to regularly monitor on farm. One way to assess ventilation is by fogging a barn using a smoke stick to create fog/smoke in the barn, and watching where and how quickly smoke moves through the barn.

After building a new heifer barn, a North Country dairy farm reached out to the CCE NCRAT Dairy Specialists last summer to assess the ventilation system. The Dairy Specialists fogged the barn and determined it was performing adequately for the warmer summer months. The farm then requested to repeat this during the winter months, and the Dairy Specialist fogged it again. Given the colder temperatures, the barn was more closed up and was relying more on the positive pressure tubes for ventilation, but the fogging showed that the barn was still achieving adequate air exchanges according to industry standards.

This is a good example of the CCE NCRAT Specialists providing local farms with data specific to their farm. This information can be used to help troubleshoot an active issue, or as preventative maintenance to double check the current system or protocols. In this case, no changes were recommended, but instead this helped confirm to the farm the new barn was performing as they hoped and providing adequate ventilation for their heifers.



Photo credits: CCE NCRAT.

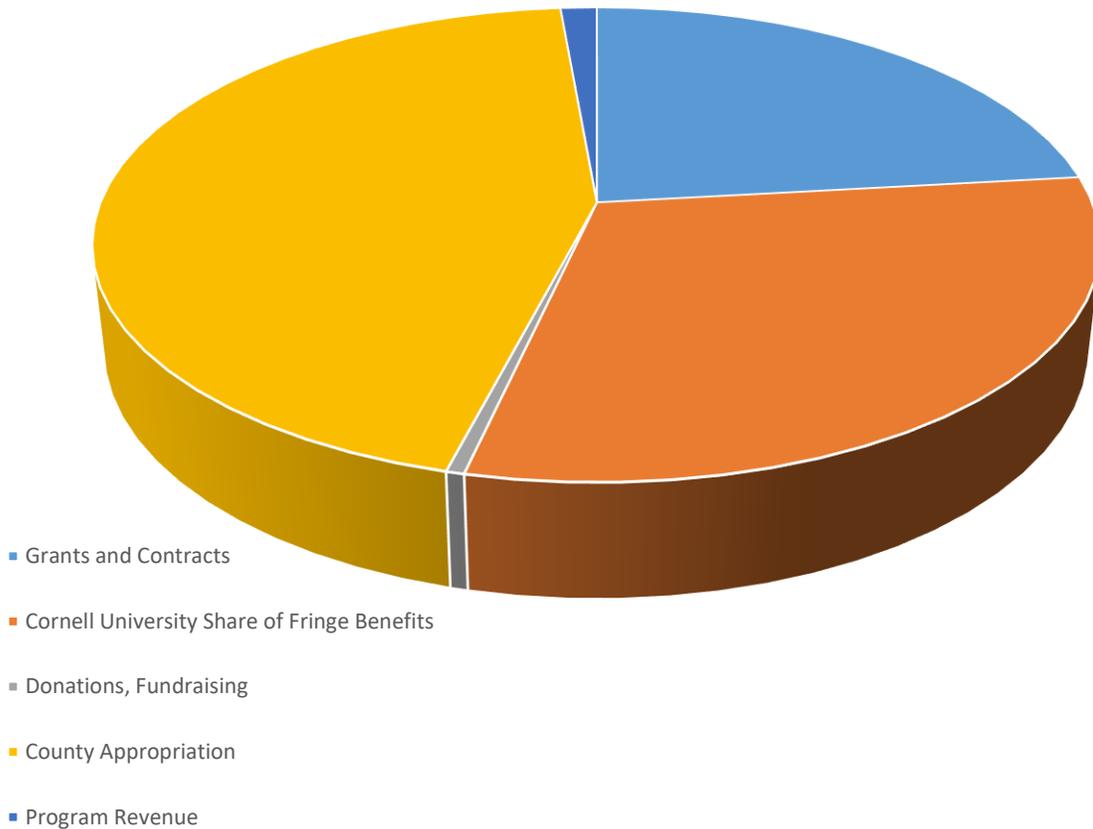


Finance Overview

2023 Financial Support and Funding Sources

Cornell Cooperative Extension of Lewis County leverages Lewis County tax dollars to benefit the county's economic vitality and residents.

2023 Budget for CCE Lewis:
Source of Funds



- Value of employee fringe benefits covered by Cornell University is \$ 228,956.08
- Volunteer support – 174 volunteers donated over 4,872 hours valued at \$120,289.68.

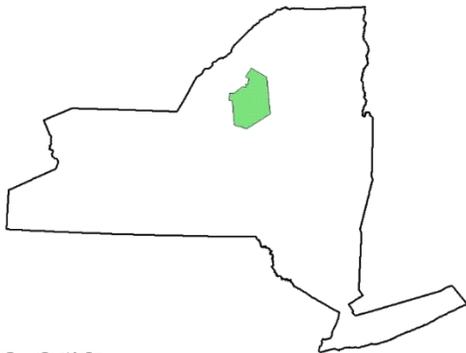
CCE Lewis County is a subordinate governmental agency with an educational mission that operates under a form of organization and administration approved by Cornell University as agent for the State of New York. It is tax-exempt under section 501(c)(3) of the Internal Revenue Code.

The association is part of the national cooperative extension system, an educational partnership between County, State and Federal Governments. As New York's land grant university, Cornell administers the system in this state. Each Cornell Cooperative Extension association is an independent employer that is governed by an elected Board of Directors with general oversight from Cornell. All associations work to meet the needs of the counties in which they are located as well as state and national goals.

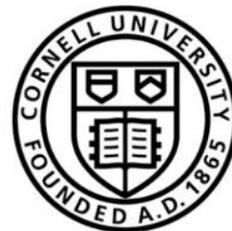
Building Strong and Vibrant New York Communities

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.

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