



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

# 2021 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.





## New Report Summarizes NYS Meat Processor Needs and Perspectives

Building a resilient local food system requires sufficient meat processing capacity. The COVID pandemic revealed that NYS did not have the ability to absorb shocks, including increased consumer meat demand, leaving farmers and consumers frustrated and meat processors overwhelmed.

In Fall 2020, a team of Cornell Cooperative Extension educators, Cornell Animal Science faculty and Small Farms staff embarked on an effort to interview all 300 meat processing facilities that provide services to farmers in NYS. The team sought to gain an understanding of their interest in expanding or upgrading to a higher level of inspection, barriers to sustainability and growth, and what types of support they needed.

The team concluded that there is no single, easy solution to the meat processing bottleneck, but there are several areas where investment is needed and would ease the situation for farmers and processors. Availability of grant funding for capacity expansion of all 3 types of meat processing facilities would help. While some new facilities are needed, investing first in expansion of existing facilities will accomplish more with fewer resources. Additionally, funding for full-time staff positions to provide technical support and succession planning to meat processors, as well as meat cutting training and food safety assistance, would provide some relief. There is enormous need for leadership and expertise in this area, but currently limited staff is funded to provide this support. The results and conclusions of these interviews are now available to read and download at <https://tinyurl.com/NYS-Meat-Processing-Report>

## On-Farm Feeder School Provides Hands-On Experience

2020 posed many challenges for traditional programming but with key adjustments, English and Spanish speaking dairy employees still benefited. In an outdoor program event, where masks were worn and safety guidelines were followed, a total of 35 dairy farm feeders of all skill levels and dairy feed industry professionals, attended one of two in-person Feeder School events in November 2020. NWNYS Team Specialists presented each day including demonstrations, in both English and Spanish while also promoting discussion among feeder participants. Participants came from 5 different counties.

According to the 2016 Dairy Farm Business Summary, purchased feed expenses account for 36% of total operating costs on a dairy farm, making feed the single largest expense. In addition, feeding and associated tasks take up 7.7% of the total labor hours on the farm. "Shrink", or feed losses, from the bunker silo to the feedbunk can range from 5-25%. These statistics show that the dairy feeder's actions have a direct impact on the largest expenses on dairy farms. Furthermore, cow health depends in part on dairy feeders, who also must be skilled employees to balance being efficient and doing a good job safely.

Each event, one in Genesee County and one in Ontario County, was held in the Feed Center at each host farm. Participants stood apart while engaging in each day's session, and translation of presentations and discussion was provided through individual headsets to maintain distance. Participants left the program with increased knowledge in: evaluation and management of bunker silos and commodities, proper dry matter sampling technique, feed quality evaluation and troubleshooting, feeder safety, proper mixing and delivery techniques, and how to read the feedbunk to make appropriate ration adjustments, as well as communication with other key farm employees and partners regarding feeding dairy cows. This program was also run congruently with the 2020 Virtual Feeder School which allowed over 100 English-speaking and over 60 Spanish-speaking attendees from around the region, country, and world to gain knowledge in the aforementioned subjects via webinar, video, and live Q&A.



Margaret Quaassdorff speaking to participants at the On-Farm Feeder School on November 6, 2020. Photo: L. Eiholzer / CCE NWNYS Team

## NWNYS Region Dairy Farm Business Summary (DFBS) Cooperators, a Significant Source of Economic Activity in 2020

Through the first quarter of 2021, applying financial management skills, owners of about 30 dairy farm businesses from the region cooperated with regional specialists, PRO-DAIRY staff, and agribusiness consultants to complete DFBS's for 2020. Cooperators learned about the strengths and weaknesses of their businesses using

- their farm's summary and analysis results
- DFBS data for the Northwest New York region as a whole, and
- by using DFBS data for a group of most profitable businesses by size using the 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 have the capacity to invest in replacement and, or expansion assets, and maintain and, or increase employment levels. Estimates using DFBS results suggest that the cooperating businesses invested a total of \$7.3 million in land, buildings and improvements in 2020, and a total of \$11.3 million in machinery and equipment. Estimates suggest that the roughly 30 farms employed a total of about 640 worker equivalents, excluding operators, where an equivalent represents 230 hours worked per month for 12 months. The farms generated a total of about \$227.9 million in farm receipts from milk, cattle, crops and other revenue producing sources.



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## Weed Resistance Virtual Field Tour 2020

Glyphosate resistant weeds such as waterhemp and marehail continue to cause weed management issues for soybean and corn producers. Waterhemp populations now have been identified in 13 WNY counties while marehail has a presence in most of NY. To make matters worse these two weeds have also been found to have resistance to three other herbicide modes of action. It is very challenging to put together an herbicide program to control these weeds and prevent economic yield losses.

In 2019, the team collaborated with the NYS IPM Program, Bayer Chemical and Cornell Cooperative Extension on year-one of a waterhemp test plot on a farm in Seneca County. The project was funded by a two-year grant from the NY Farm Viability Institute. A field day with a walking tour of the plots in corn and soybeans demonstrated some effective herbicide programs and timings for growers to follow.

In 2020, this collaboration continued for year-two of the program. A research area was set up with 14 herbicide X timing treatments in soybean and 12 treatments in corn. A walking tour was set up for mid-July but was cancelled due to COVID risks.

As an alternative, the NWNYS team worked with Bryan Brown of the NYS IPM Program and Mike Hunter of the CCE NNY Team to do a virtual tour of all the plots. Filmed by Jenn Thomas-Murphy of CALS, each plot was evaluated for percent control and effectiveness. The final product was edited by Bryan Brown and we offered a two-hour webinar of a virtual tour of all the corn and soybean plots.

The herbicide resistance virtual webinar was offered on October 21. Forty growers, extension and agribusiness personnel signed up to take the virtual tour. Each treatment was discussed in detail as to why it was successful or failed to provide adequate control. This virtual walking tour was a very effective method of showcasing the current herbicide programs that can be utilized by growers to provide season long control when applied at the right timing. The full virtual tour video can be viewed here, <https://tinyurl.com/Virtual-Field-Tour-2020>.



Screenshot from the recorded tour, from left to right: Mike Stanyard, Mike Hunter and Bryan Brown.

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## Women Landowner Conservation Education with American Farmland Trust

With nearly one-third of the cropland in the Genesee River Basin being rented land, conservation education must reach beyond farm operators. In collaboration with American Farmland Trust (AFT), Cornell Cooperative Extension pioneered the learning circle methodology for engaging women landowners in discussion focused education on soil health and conservation practices. With new funding from an EPA Great Lakes Restoration Initiative Grant, AFT reached out to our CCE NWNYS Team to mentor a new Stewardship Coordinator hired for the project, facilitate learning circles over a 3-year period, and develop a marketing plan for public outreach using a public art exhibition featuring conservation in action on Genesee River Basin farmland.

With the pandemic limiting in-person interaction, an evening virtual learning circle was piloted focusing on soil health. CCE facilitated the online discussion among 20 women. The featured topics included lively discussions of “Understanding Soil Health” with Nicole Kubiczki, USDA – Natural Resource Conservation Service and “Soil Health Assessment” with Kirsten Kurtz, Cornell Soil Health Lab.

At a mid-October a field meeting at Fall Brook Farm in Geneseo seven women saw the difference in friability, organic matter and hard pan layer in a cultivated field setting and the adjoining forest with the same soil type. The field setting had been conventionally tilled for decades and has just started to be managed with reduced tillage in the last couple of seasons.

Women who attended both sessions indicated the lessons learned were valuable to them based upon comments at the end of sessions. These landowners are eager to learn more about the technical aspects of improved soil health and are interested to work more closely with farm operators of the land to protect and improve the soil.



Participants at the field meeting in Geneseo. Photo: J. Petzen / CCE NWNYS Team



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## Soil Health Field Day: Improving Soil Health and Resiliency

Understanding agronomic, economic, and environmental considerations underlying soil health practice decisions are key to realizing optimal soil health practice adoption levels. The NWNY Team continued its work with the American Farmland Trust (AFT) and other project collaborators to increase farm business owner, advisor, and non-operating landowner knowledge and implementation of conservation and soil health practices.

American Farmland Trust organized and offered a field day in August at the Mulligan Farm, Livingston County, NY. Team members contributed to this activity by

- Developing economic analysis for the case study farm
- Reporting findings via the AFT Case Study fact sheet for the Mulligan Farm
- Participating in on-farm research with demonstration farms
- Describing how farmers and farmland owners, with emphasis on women landowners, can work together to improve conservation on rented lands, which amount to nearly one-third of crop acres in the Genesee Basin



Forest Watson from Mulligan Farm speaks on how soil health practices have improved their bottom line.

Photo: Stephanie Castle, American Farmland Trust

About 100 farm business owners and their families, advisors, landowners, and other stakeholders in attendance learned

- About navigating the growing availability and diversity of market incentives for ecosystem services
- How implementing soil regenerative practices can increase farm profitability from real-life case studies from local farms
- Benefits of performing in-field health assessments
- Tips to help farmers and farmland owners communicate more effectively to address soil health and conservation in lease agreements for rented lands

To view soil health case studies and videos from four local farms participating in the Genesee River Demonstration Farms Network, go to <https://farmland.org/project/genesee-river-demonstration-farms-network/>.

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## Focus on Farm Management: Sharing Dairy Success Stories

We regularly promote research-based dairy industry recommendations and encourage dairy producers to follow best management practices on their farms. Dairy producers often understand best management practice ideals but want to know how they are implemented on other farms. Strengthening skills in key management areas of animal care unlocks paths to higher profitability in today's dairy economy and plays a key role in the long-term success of dairies in our region.

The NWNY Team recently partnered with regional dairy specialists from the South Central and North Country regional teams and was awarded grant funding through the New York Farm Viability Institute to document areas of excellence in the categories of calf management, transition cow management, and cow comfort. Dairy specialists worked with 15 farms across New York State to assess best management practices on each farm, and help each dairy identify and improve an aspect of management in one or more categories. Dairy producers were asked to share their best management practices and processes for improvement with other dairy farmers, via multiple outreach streams. Locally, an on-farm tour highlighting excellent lactating cow comfort and positive changes to fresh cow housing was held on an Ontario County dairy farm. Thirteen regional farmers and allied industry representatives gathered to network and learn from the assessment and changes made during the project. Similar on-farm tours were held in each of the other participating regions where the focus was calf and heifer care.

Dairy producers from Niagara, Monroe, Livingston, Wyoming, and Ontario counties participated in the grant, and their success stories have been, and will continue to be shared via short video, articles, and podcasts. Their valuable input will give other farms feasible action steps, and encourage them to implement best management practices, and create positive changes on their operations. Additional improvements documented by other farms included new transition calf housing and management protocols to improve calf health, facility and housing upgrades to improve cow comfort, and a new animal grouping strategy to improve transition cow management. Results from this project may be applied to dairies of all marketing systems (conventional, organic, grass-fed), facility types (robotic, freestall, tiestall), and management styles.



Participants of the on-farm tour learn about improvements made to transition cow housing. Photo: M. Quaassdorff / CCE NWNY Team

## Electrical Conductivity Mapping to Create Management Zones

Precision agriculture can contribute to the long-term sustainability of agriculture production by addressing the variabilities in a field. Soil electrical conductivity (EC) is the ability of soil to transmit an electrical current. The EC data can be used to quantify variation in soil texture and yield potential of production.

The NWNY Team worked with growers on existing technologies to provide knowledge about zone creation stages and zone management philosophy. The EM38-MK2, is a soil electrical conductivity meter that does not contact the soil. It sends electromagnetic waves into the soil and measures soil EC. It induces current to flow to produce a magnetic field. The strength of that current depends on the amount of clay or moisture in the soil or other properties such as salinity, compaction, and temperature. Two types of readings; shallow or root zone readings and deep EC readings, can reveal valuable information about soil health (Fig. 1 & 2), helping farmers make informed decisions.

The EC machine was utilized and management zone mapping was conducted on three farms in the region (Niagara, Orleans, and Monroe counties). All the farms learned about using the Electrical Conductivity Machine to address the variations in their fields and create management zones, leading to a better optimization of crop inputs on their farms.

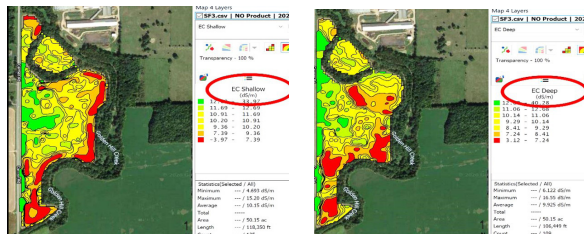


Figure 1 & 2. ES Maps created using EM38, containing two types of readings, shallow or root zone readings and deep EC readings, which can reveal valuable information about soil health.

and enter their information before and after the meeting to receive their credits. Questions for the speakers could be typed into a Q&A box and covered after each presentation.

These virtual events allowed us to bring in more out-of-state specialists than we would for an in-person congress. We had presenters from Purdue, University of Wisconsin, Michigan State and Penn State along with Cornell faculty, regional and state CCE specialists. Many of the topics covered on crop production and pest management were identified by our field crops advisory committee as needs for our region.

Overall, we were very pleased with how all our congresses went and the amount of participation and industry support exceeded our expectations. Almost 500 participants attended the three virtual congress events with 40 different industry sponsorships. Everything seemed to go much easier for participants as they gained experience with each meeting attended. We encouraged everyone to not forget about using Zoom as it provides lots of additional opportunities to attend educational programming. It is not going to go away! We received many positive comments from attendees. Some felt that they were able to focus and absorb more of the materials presented and loved that they could adjust the volume and hear everyone clearly. Many continued to lament that they really missed the interaction with other farmers, visiting the exhibitor booths and of course LUNCH! We missed seeing all of them too! We are all looking forward to in-person congresses in 2022.

## Dairy Manager Discussion Group - Winter Series

Dairy Managers and owners in the NWNY Region had the opportunity to join peers and industry experts in a virtual discussion group series in February and March of 2021. This program allowed attendees to participate from the comfort of their own homes or offices, while giving managers a chance to network with each other and experts while discussing some of the industry's newest topics and pressing issues. The first in the series featured Santiago Ledwith, Director of Talentum4, a group of consultants who specialize in Executive Leadership Coaching and Team Building for the agricultural industries. A total of 25 dairy managers participated from the counties of Niagara, Orleans, Monroe, Livingston, Wyoming, Ontario, and Genesee in the NWNY region. They asked questions and problem solved through challenges associated with Fostering Employee Engagement in a Multi-Cultural Workforce. Bilingual managers were also able to ask questions and get clarification in Spanish during this session.

The second session discussed the newly developed Dairy Employee Handbook created by Dr. Rich Stup of Cornell Ag Workforce Development and his collaborators. Many dairy managers were curious about how to create a handbook for their operations and learned from those who had some prior experience. Many participants found high value in this session considering the updated labor laws in New York. The final session informed participants of the preliminary results of the NY Dairy x Beef Calves Survey conducted by Margaret Quaassdorff and Betsy Hicks, CCE Regional Dairy Specialists. Many farms in the region are turning to using quality beef sires on a percentage of their dairy herd in order to manage dairy replacement numbers. The resulting calf is a higher value co-product of the dairy industry, which consistently brings \$150 more at the sale barn than a standard Holstein bull calf. Managers participated in live polls to share their current practices regarding breeding choices and dairy x beef calf raising and marketing practices, and concluded that there was still more to learn about this industry opportunity. Virtual programming such as this allows managers to easily and effectively connect with their peers and area experts, and learn about the progressive topics in the dairy industry.

## Virtual Crop Congresses Exceed Expectations

The all-virtual Corn Congress (Jan. 6, 7), Soybean & Small Grains Congress (Feb. 10, 11) and Forage Congress (March 11) were held from 10:00am to noon each day. All the programs were run through Zoom and each registrant received their own link to join the meeting. Those that needed DEC credits were able to click on a link in the chat box



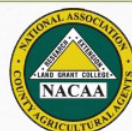
Screenshot from Day 1 of the 2021 Virtual Soybean & Small Grains Congress.



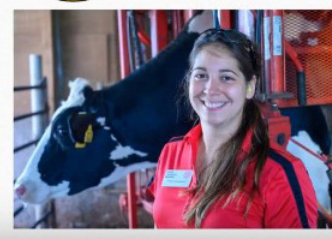
## NWNY Dairy Management Specialist a Finalist for National Extension Communication Award

NWNY Dairy Management Specialist, Margaret Quaassdorff took home a National Finalist Award in the category of Computer Generated Presentations at the 2021 National Association for County Agriculture Agents (NACAA) Annual Meeting and Professional Improvement Conference for her contribution to the presentation titled, “Critical Calf Care: Total Calories, Nutrition, and Scours”. This PowerPoint was one of seven that made up the Critical Calf Care Webinar series that was held in collaboration with other regional Cornell Cooperative Extension Dairy Specialists in January and February of 2021. The original presentation attracted over 45 live participants, and is available on the [NWNY Team’s YouTube page](#) as a resource for producers to watch on their own time.

Margaret was also the Northeast Regional Winner in the categories of Feature Story and Published Photo. Her feature story entry was the article, [“Robotic Milking: Routine Flexibility”](#) which appeared on cover of the April 2020 issue of the NWNY Team’s monthly newsletter, *Ag Focus*. It highlighted key management practices of NYS dairy producers who operate automated milking systems on their farms. The photo was of standing corn in a field, and was featured on the NWNY Team’s Facebook page along with a post to encourage farmers to be thinking about the 2020 corn silage growing season and how it would impact the 2020 harvest season, while promoting the CCE and PRO-DAIRY podcast, [“Corn Silage Harvest Considerations”](#). She was also recognized as the New York State winner in the Audio Recording category with CCE Dairy Educator podcast episode, [“Dialing into Your Best Dairy- Management for Record Setting Cows”](#) which launched on August 3, 2020, and has received 304 listens to date. The NACAA organization exists to provide professional improvement opportunities for extension agents from all fifty states.



Margaret Quaassdorff—New York

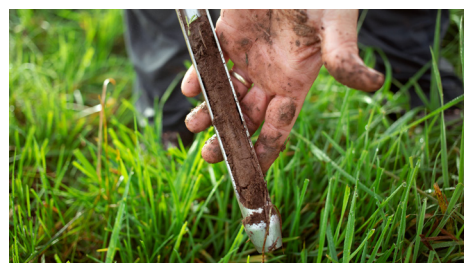


- Cornell University
- Critical Calf Care: Total Calories, Nutrition, and Scours



Published photo by Margaret Quaassdorff that was selected as the Northeast Regional Winner for the NACAA Communications Awards.

## Soil Health: Extending Reach via Multi Subject Matter, Multi Target Audience Research and Extension Efforts



Various advisory and program committees that direct work of the NWNY Program reinforce what team members hear from other producers about the increasingly important topic of soil health. Understanding agronomic, economic, environmental and other resource considerations underlying soil health practice decisions are key to realizing optimal soil health practice adoption levels. The NWNY Team continued its work with project collaborators to increase farm business owner, advisor, non-operating landowner and other stakeholder understanding and implementation of conservation practices to improve soil health and farm resiliency.

The project team working on learning circle activities diversified delivery methods to include both in-person and virtual sessions to allow greater participation by landowners. In collaboration with American Farmland Trust (AFT), a learning circle in May focused on conservation planning. The project team working on case study activities partnered with owners/operators of the Mulligan Farm, Livingston County, NY to develop economic analysis to answer the following question. Can farm businesses in the Genesee River Watershed (GRW) achieve improved soil health outcomes while maintaining or improving economic performance? Analysts used the change in value of crop production less selected cropping program costs (a measure of profit) to measure economic performance. Project team members began reporting findings using a range of delivery outlets.

Thirty women from throughout the GRW attended the in-person session and another 25 from across New York attended the virtual session. Project members distributed information resources to another 82 women who registered for but did not attend the virtual session. Landowners that participated in the learning circle work gained knowledge about conservation practices and how to gain access to technical assistance in New York State. Tools for assessing their land and who to reach out to for conservation assistance were shared. Participants apply improved understanding so that they can play an active role in soil health practice adoption. Multimedia contacts learned that the Mulligan Farm successfully implemented soil health practices while improving economic performance. The calculated change in profit corresponding with the set of soil health practices was about \$75 per acre.

Research suggests that farm business owners that apply information regarding expected economic performance associated with proposed changes to the farm business achieve greater levels of profit when compared to the group that does not use such information.

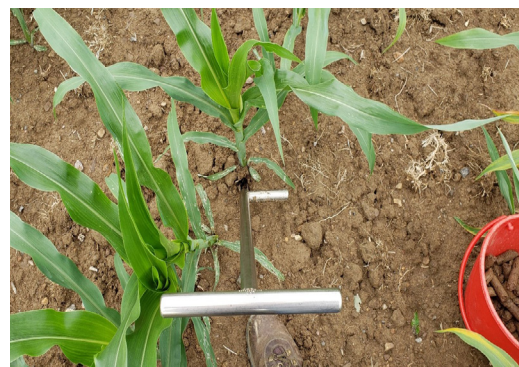
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## Are Plant Parasitic Nematodes Robbing Corn Yields in NWNY?

Nematodes are microscopic roundworms that can be found everywhere on earth, from the open ocean to inside our bodies. About 15% of all nematodes are parasitic on plants. Most are not economic but a few can be detrimental to our agricultural crops including corn. It is hard to determine if corn is affected by nematodes because their above and below ground injury symptoms can be confused with other pest symptoms and nematodes cannot be seen with the naked eye. Nematode surveys done in the Midwestern states have identified over 28 different species of nematodes feeding in and on corn roots. About 12 species have been found to be of economic importance in reducing corn yields, some up to 40%. The nematode species present in New York corn fields is not known since they have not been surveyed.

The NWNY Team received a grant from the NY Corn and Soybean Growers Association to survey and identify what nematode species are present in corn fields in nine counties in NWNY. Forty-five corn fields were sampled, five in each county, from July 1 to July 16. Twenty plants were sampled from each field between the V4 and V12 growth stage. The soil/root samples were taken using a soil probe and sent to SCN Diagnostics in Columbia, MO for analysis of nematode species and populations present.

Results from this survey found six species of plant parasitic nematodes feeding on corn roots. The common names of these nematodes included the Dagger, Pin, Root Knot, Stunt, Spiral and Lesion nematode. Fortunately for us, none of the really injurious species found in the Midwest were identified in our survey. The Dagger nematode was the most detrimental species identified and it was only found in one sample and in low numbers. Economic thresholds have been established for each of these species. There were six samples that were above the establish economic threshold. Two were for the Lesion nematode and four for the Stunt nematode. Interestingly, thirty-eight of the samples had two or more nematode species present. Eight samples had three nematode species and four samples had four species identified. This is new information for NY corn growers and pest management options including crop rotation, granular insecticides/nematicides and seed treatments will have to be discussed moving forward. Now that we know what nematode species we are dealing with in NWNY, the Team will begin experimenting with management options and possible effects on corn yields.



*Soil sampling for nematodes in corn.* Photo: M. Stanyard / CCE NWNY Team

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## Pasture Walk Reconnects Livestock Producers

After a plethora of Zoom meetings and a hiatus of in-person events, the NWNY Team held a pasture walk at a small livestock farm in Livingston County. It was great to get back together outdoors on a beautiful late summer evening. Twenty-one participants toured the farm to learn more about pasture infrastructure, soil health, outwintering practices, cattle handling systems, and marketing.

There is no replacement for on-farm learning and seeing practices in place. The farm owner covered topics as we walked with lots of questions and answers along the way. They raise cattle, pigs, and laying hens. There was also discussion on the addition of their latest enterprise, a very small cabin to accommodate overnight guests. They are located very close to Letchworth State Park and are hoping that will attract some park visitors.

There was a wide range of expertise with the group, with diverse interests. Those with more experience offered their suggestions and opinions. The networking time is invaluable. Folks stayed around and talked for an hour after the event ended. One participant that has attended several pasture walks over the years said, "I always leave with at least one piece of information to take home with me."



Photo: A. Barkley / CCE SWNY Team





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## Helping NWNY Farms Thrive

**WEBSITE:** [nwnyteam.cce.cornell.edu](http://nwnyteam.cce.cornell.edu)

 [www.facebook.com/NWNyTeam](http://www.facebook.com/NWNyTeam)

**BLOG:** [blogs.cornell.edu/nwny-dairy-livestock-field-crops](http://blogs.cornell.edu/nwny-dairy-livestock-field-crops)

 [www.youtube.com/user/CCENWNy](http://www.youtube.com/user/CCENWNy)