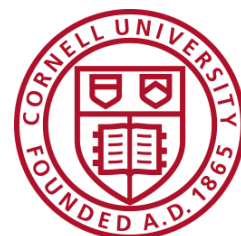


A partnership between Cornell University and the CCE Associations in these ten counties: Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Seneca, Wayne, Wyoming and Yates.



## 2019 YEAR IN REVIEW





## Potential Career Opportunities for Youth in Precision Agriculture

Genesee Community College's BEST Center hosted its Fourth Annual Precision Agriculture (PA) Day at the Batavia Campus on May 21. The NWNY Team combined efforts with GCC's PA committee, comprised of local PA consultants, Cornell Cooperative Extension specialists, agricultural leaders, as well as high school representatives; designed this event to expose the area's youth to the high-tech careers and opportunities in agriculture, specifically, PA. The program was attended by 142 students in grades 9-12 from more than 22 high schools and BOCES districts across the GLOW (Genesee, Livingston, Orleans, Wyoming) region.

The NWNY Team members presented on the concepts of how **PA decision-making tools can impact nutrient management decisions and profitability on farms**. In addition to this, other stations featured topics in: **electronic troubleshooting, drones and apple production**.

Agriculture producers have quickly adopted PA technologies over recent years. These advances in technology have resulted in agriculture systems collecting data and using it in multiple operations all controlled through a computer, tablet, or smartphone. New emerging technologies on farms are continually creating new employment opportunities in agriculture. These technological advancements have also created educational and training opportunities to address the need for skilled workers and provide awareness of this burgeoning field. Precision Agriculture Day is one way in which extension contributes to stimulating intellectual and social growth, economic advancement, and engaged citizenship of our youth.



*Drone Station at GCC Precision AG Day.*

## Discussion Groups and Tours Focused on Dairy-Beef Crosses and Beef Operations

The NWNY Team has hosted many discussion groups which meet on a regular basis. These small groups are a great way for farmers to learn from each other, extension specialists and other experts. One new group is focused on beginning livestock farmers and meets quarterly in Niagara County with 20 participants from five different counties across the region. They have discussed feeding and health topics, and pasture management.

In April, 13 young dairy farmers and industry professionals came together from several counties to tour beef and dairy-beef operations in Orleans County, NY. At Beach Farm in Albion, NY, participants learned about the logistics of handling, facilities needed, and contracting with dairies to raise groups of 20-30 Holstein X Angus cross calves to 550-600 pounds. The group also toured Meadowbrook Farm in Medina, NY, where they learned the ins and outs of a 300-head beef feedlot operation that finishes steers purchased at auction. Properly growing and marketing Dairy X Beef crosses earns the dairy producer a \$150 premium over a purebred Holstein steer and provides a business opportunity for farmers who may have the time and facilities available to contract with dairies to purchase and/or raise these animals, creating a value-added co-product of the dairy industry.

*The Niagara discussion group learning about pasture management.*



## Improving Water Quality Stewardship on Small Dairies

In NY, livestock farms with over 300 cows (or equivalent units) have to follow a strict nutrient management plan under the Concentrated Animal Feeding Operation (CAFO). The purpose of this plan is budget, supply, and conserve nutrients for plant protection while minimizing agricultural nonpoint source pollution of surface and groundwater (CODE 590). Educational programming on nutrient management for smaller non-CAFO dairies is lacking but necessary to avoid water quality issues.

The NWNY Team partnered with Yates County Soil & Water Conservation District (YSWCD) to host two farm walks to assess what would be regulated if small farms fell under CAFO rules. There are 315 small dairy farms in Yates County which provides a perfect opportunity for nutrient management and water quality programming. Topics covered were manure management, including winter and wet weather spreading guidelines, barnyards, milkhouse waste water, silage leachate, and pasture management. We walked through each of these farms talking about the regulatory topics and the various practices that farms would need to adopt to meet today's NYS DEC regulations for larger farms.

These were very informative discussions with 49 adults and 20 young people participating. As a result of these meetings, the Yates SWCD technician has had participants reach out for guidance to make farmstead improvements. This is a move in the right direction that needs to continue or small farms may find themselves faced with regulations and fines that could put them out of business.

## Farmers and Farmland Owners Learn about the Value of Soil Regenerative Practices

Soil health continues to be a hot topic across all facets of agriculture. A 2017-2018 survey across 180+ New York farms showed the majority are aware of the many benefits cover crops offer but also revealed many barriers to the adoption including seed, termination, equipment costs and implementing conservation practices on rented land. In response, a field day was developed to address these barriers and support the education and expansion of cover crop adoption in commodity crop production while capturing the soil regenerative benefits.

The field day was part of the “Landowners and Farmers Working Together for Clean Water in the Great Lakes” project, a collaboration between the NWN team, American Farmland Trust, Genesee River Watershed Coalition of Soil and Water Conservation Districts, IPM Institute and Utah State University. This project was funded by the Great Lakes Protection Fund.

On August 29, 80 attendees consisting of farmers and farmland owners participated in a soil health field day held in Livingston County, to share practical, field-tested demonstrations of advanced soil regenerative practices targeted to dairy, field and specialty crop farmers. Experienced cover crop farmers, discussed their experience with cover crop mixtures, specifically utilizing different species. In addition, participants learned:

- How cover cropping can regenerate the soil and increase farm profitability
- How to optimize cover crop seed mixtures to minimize cost
- How to interseed cover crops into standing corn
- How to improve conservation on rented lands

Through reflective evaluations, farmers and farmland owners expressed increased interest in research support of the economic assessment of practical, field-tested demonstrations of advanced soil health practices on local farms in western New York.

*Soil Health Field Day 2019 held in Livingston County.*



## Helping Growers Solve the Glyphosate Resistant Weed Puzzle

Of the three glyphosate resistant weeds currently in NY, tall waterhemp has become our focal point for reasons other than its herbicide resistance. Seeds can be carried into the state through various avenues, produces hundreds of thousands of seeds per plant, emerges all season long and has quickly established populations in eleven counties.

We collected seed from five counties to test for other possible resistances. Bryan Brown, from the NYS IPM Program, grew these seeds in the greenhouse and found populations to be resistant to three classes of herbicides. This was very helpful in our recommendations on what herbicides **not** to use.

This summer, the team collaborated with the NYS IPM Program, Bayer Chemical and Cornell Cooperative Extension on a waterhemp test plot in a growers' field in Seneca County. We tested the efficacy of 16 different herbicide programs in soybean and 12 programs in corn. A field day was held on July 23 with a walking tour of the treatments to demonstrate which program and timing was the most effective in managing waterhemp. This provided invaluable information for effective herbicide programs for next year. Funding for this program was made possible through a grant from the NYS Farm Viability Institute and will continue with more detailed herbicide research next year.



*2019 Waterhemp Field Tour held in Seneca County.*



### Making Better Beer in NY

With New York eclipsing over 400 breweries in the state this year is there no end for our love of beer. The micro-brew industry continues its upward trend and with that its need for locally grown malting barley. NY growers and maltsters are getting better at producing a consistent high quality product and brewers are finally taking notice.

The NWNy Team works with growers to increase malt barley quality and quantity required by malt houses and brewers to meet and comply with the Farm Brewery Law. This year, three of Cornell's barley variety trials, two field tours and a nitrogen research trial were hosted by growers in our region.

The apex of this year's research and extension efforts culminated at the Malt and Barley Summit in Syracuse on December 12 and 13. Over 100 barley growers, maltsters and brewers learned about all aspects of the beer supply chain from field to pint. This program is a successful collaboration between Harvest NY, Cornell Cooperative Extension and Cornell University. NWNy Team members have been on the forefront of addressing research and extension needs and presented on malting barley economics, agronomic research and pest management.

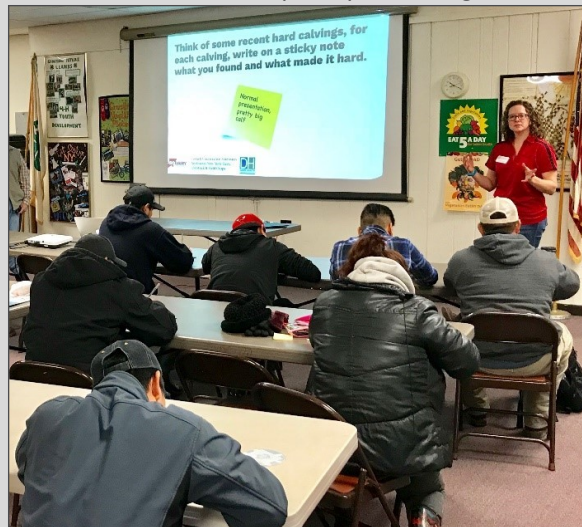


*NWNy Field Crop Specialist Mike Stanyard discussing malting barley agronomics to growers at a Twilight Tour in Genesee County. Photo by Jeremy Veverka, CCE*

## DAIRY MANAGEMENT

### Calving Assistance & Neonatal Calf Care Class

A calf being born is hardly a rare event on a dairy farm. After all, herdspersons can spend entire days devoted to the care of transition cows and calves. Folks who practice this every day can still learn quite a bit, with one workshop attendee stating, "The courses are very insightful and every time I attend one that I think I already know [sic], I always end up leaving with information I didn't know." Over two days in October and November 2018, the NWNy Team presented a workshop based on the critical first few days in a calf's life. Cornell PRO-DAIRY and three other regional dairy teams worked with us to develop and present this class, which took place in Newark (Wayne County) and Corfu (Genesee County). Each day of the workshop involved a classroom and an on-farm portion. A total of 30 farm owners, managers and employees attended the workshops, representing 11 farms and 5 counties.



Colostrum quality, handling, and proper delivery were covered, with emphasis on developing and using written standard operating procedures. Cleanliness of calving environment and colostrum feeding equipment was stressed to prevent the spread of disease. Depending on extra labor and treatment options, costs to treat a calf with scours can range from \$25 - \$200 per incident. At an average incidence of 18%, a herd of 1000 cows could expect an annual cost of \$4,050 - \$32,400 for treatment alone (not including losses due to mortality). Reducing the incidence of scours from 18% to 10% saves the same dairy \$1,800 - \$14,400 annually in treatment costs. Participants left this workshop with the ability to make small improvements in many areas of their daily work routines, which will, in turn, lead to cumulative savings at their workplace, increased animal welfare, and job efficiency.

*Libby Eiholzer ask attendees to discuss difficult calving cases.*

## Training Dairy Managers for Today's Industry

In March the NWNY Team hosted a two-part **Dairy Managers Training** in Ontario and Wyoming Counties. Thirteen dairy farmers and consultants from six counties attended, representing nearly 6,600 cows. During the fourth straight year of low milk prices, the workshop focused on making decisions that are good for people, good for cows, and good for the farm's bank account.

On the first day, a frank conversation on communicating with people encouraged participants to consider how their own listening skills affect their interactions with others. Next, the class headed to a farm for a hands-on workshop focused on communicating with cows, led by nationally renowned animal handling expert Curt Pate.

The second session centered on managing farm facilities for profit, and led participants through an exercise on utilizing partial budgets to make economically sound decisions. The class then visited a dairy where the manager shared real-life examples of economic decision-making.

Together participating farms sell nearly \$30 million of milk each year and employ 120 people in Northwest New York. A modest increase in productivity of one pound of milk per cow per day gained by implementing concepts learned in the training would result in more than \$400 thousand in added revenue annually for these farms. Additionally, three agri-service representatives, who participated, will use the information with many herds across the region and beyond to help them achieve efficiencies through more effective communication, cow handling and decision-making.



*Curt Pate, demonstrates safe and effective handling of dairy cows.*

## Human Resource Management on Dairy Farms

Securing a reliable workforce is a major concern on the minds of dairy farmers across the United States, and our corner of New York is no exception. As farmers are striving to attract and retain workers, the need for improved human resource management (HRM) practices on the farm is apparent. Lack of clarity in HRM policies can lead to protocol drift, misunderstandings about pay and benefits, poor upkeep of worker housing, and ultimately, disengaged employees and high employee turnover.

A project funded by the New York Farm Viability Institute allowed us to work closely with six dairy farmers to improve their HRM practices. Immediate benefits were realized with improving the training of and communication with employees, such as improving the management of housing, creating standard operating procedures, and sharing performance metrics with employees.

Four newsletter articles and two in-person meetings attended by 30 farmers, have multiplied the results of the project and encouraged more farmers to update their HRM practices. In a survey of employees on the project farms, 80% of respondents said they were committed to the farm due to liking the people that they work with or personal contentment. Improved HRM practices directly affect employee commitment. This encourages longer-term employees and decreases employee turnover, which is a major cost on many farms today.





## Bilingual Newsletter Supports Dairy Farmers & Employees

The Dairy Culture Coach (DCC) is a quarterly e-newsletter written with the goal of educating both English-speaking dairy farmers and their Spanish-speaking employees. Now in its 7<sup>th</sup> year, the DCC is emailed directly to 150 dairy farmers, Extension educators, and members of supporting industry (such as veterinarians, nutritionists and other consultants). It's also accessed widely through the NWNYS Team website and Facebook page.

A typical issue of the DCC includes articles on Hispanic culture, labor law compliance, human resource management and immigration updates. Bilingual articles on dairy management topics and dairy farm vocabulary are also included to help educate farmers and employees alike.

In a recent survey, DCC readers commented that they use it to "help explain training topics, such as water control in the parlor," and that the articles "are great ways of getting workers to think about things differently and start a discussion on the farm." Managers appreciate that this resource addresses everyday things that have a big impact on the farm business's bottom line.

**The Dairy Culture Coach won the 2019 national award in the 'Individual Newsletter' category from the National Association of County Agricultural Agents.**



## Genesee River Watershed Outreach



*Genesee Watershed Learning Circle landowners at Holistic Management Session in Livingston County.*

Implementation of sustainable agricultural practices lags on rented farmland acres when compared to farmer owned acres. In the Genesee River Watershed, nearly one-third of cropland is rented. The NWNYS team in collaboration with American Farmland Trust and funded by the Great Lakes Protection Fund, has been engaging women non-operating landowners who rent land to farmers in learning circles to share sustainability information. These farmland owners are committed to protecting the soil resources on their land. At the learning circles they are developing the skills to build stronger working relationships with the farmers who rent their land.

Exit evaluations completed by 39 landowners at 6 learning circles show they collectively own 6,550 acres. By committing to longer-term leases and offering incentives for use of sustainable practices like cover cropping, landowners and farmers together are implementing practices that make economic sense. At the Genesee Watershed Forum, over 150 local officials, agency personnel, planners, researchers and educators learned how this innovative pilot project engages both landowners and farmers to protect and improve water quality with implementation of sustainable agricultural practices on rented lands. **Joan Petzen received the NACAA New York State 'Search for Excellence Award' in Farm and Ranch Financial Management for her work on this project.**

## Dairy Farm Business Summary (DFBS) Cooperators, a Significant Source of Economic Activity in 2018

Applying financial management skills, owners of about 40 dairy farm businesses from the region cooperated with regional specialists, PRO-DAIRY staff, and agribusiness consultants to complete DFBS's for 2018. Cooperators learned about the strengths and weaknesses of their businesses using their summary and analysis results, DFBS data for the Western 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 \$18.3 million in land, buildings and improvements in 2018, and a total of \$9.5 million in machinery and equipment. Estimates suggest that the roughly 40 farms employed a total of 820 worker equivalents, excluding operators, where an equivalent represents 230 hours worked per month for 12 months, and generated a total of about \$214.2 million in farm receipts from milk, cattle, crops and other receipt items.

## Price Analysis for Corn Silage – Fall 2019

Several years ago, in response to the program's Field Crops Advisory Committee's desire for work on pricing forages, the team developed an empirical price analysis for corn silage. The team updates the work annually. Estimates are posted to its website: [www.nwnyteam.cce.cornell.edu](http://www.nwnyteam.cce.cornell.edu) and reported in *Ag Focus*. The fall 2019 estimate reflects an update to the data set and other changes to the statistical model to better capture changes in supply and demand relationships. Corn silage price estimates combined with understanding of relevant supply and demand factors from the individual farm business owner's perspective, including local conditions, aid decision making regarding corn silage price. Given most recently available data, price analysis for NY suggests an estimated corn silage price of about \$45 per ton. The estimate reflects slightly greater scarcity in the market for corn silage when compared to the fall 2018 estimate of about \$41 per ton. Regarding the original work, one producer commented, "I think that your work on this will be helpful for many folks." Regarding the updates, producers comment that the work has been a valuable addition to the tool set for determining corn silage price.



## Economics of Growing Hemp for Grain and Fiber in New York State: 2019 Budgets

Farm business owners in the NWNY region frequently express interest in alternative new crops for their potential to enhance the economic viability of their farm businesses. Due to legislation at the state level and funding decisions by New York State's (NYS) executive branch, the state's agricultural sector can add hemp to the list.

To help determine hemp's place in farm business owners' cropping systems, NWNY team specialists examined the economics of growing hemp in NYS. Team members developed 2019 costs and returns estimates for hemp end use scenarios using enterprise budgeting concepts.

Meeting attendees, webinar participants, readers of the team's newsletter, website visitors, and others learned the following:

Projected 2019 total costs are \$546, \$486, and \$491 per acre for hemp for fiber only, grain only, and dual purpose fiber and grain, respectively.



Projected 2019 returns above total costs are \$248, \$624, and \$867 per acre for fiber only, grain only, and dual purpose fiber and grain, respectively.

Farm business owners are encouraged to evaluate numerous risks and uncertainties that characterize the newly developing markets for the various end uses.

Producers looking to evaluate hemp's possible fit in cropping systems will achieve better results from decision-making efforts when they apply a better understanding of expected economic effects and variability.



**Libby Eiholzer**

**Nancy Glazier**

**John Hanchar**

**Ali Nafchi**

**Jodi Putman**

**Joan Sinclair Petzen**

**Margaret Quaassdorff**

**Mike Stanyard**

**Brandie Waite**

**Bilingual Dairy Specialist**

**Small Farms, Livestock**

**Farm Business Specialist**

**Precision Ag**

**Field Crops Specialist**

**Farm Business Specialist**

**Dairy Management**

**Field Crops & Team Leader**

**Administrative Assistant**



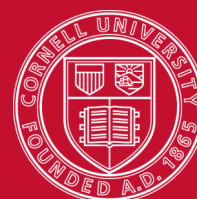
*Photo by R.J. Anderson, CCE*

**Website: [NWNYTEAM.CCE.CORNELL.EDU](http://NWNYTEAM.CCE.CORNELL.EDU)**

**Phone: 585-343-3040 x 138**



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