The annual NYS Corn & Soybean Yield Contests are sponsored by the New York Corn & Soybean Growers Association. Congratulations to our 2022 NY Corn Champion Ryan Swede from Wyoming County with a winning yield of 282.18 bu/a. Our NY Soybean Champion, Scott Swartz, from Rensselaer County, had a booming yield of 100.12 bu/a. This is the first time someone has hit 100 bushels since the contest started in 2011! They win all expense paid trips to the 2023 Commodity Classic in Orlando in March. Listed here are the NY state contest winners and West and Finger Lakes regional winners. All of the awards were presented at the NY Corn & Soybean Growers Association annual Winter Expo on January 19 in Syracuse.

There were no National Corn Yield Contest winners from NY this year but the results of contest can be found here, https://bit.ly/3HfyRoO. Heath Cutrell from Chesapeake, VA was the nation’s high yielder at 394.05 bu/acre! There are many NY growers who enter the national contest as well as our NY contest. You can see how they fared in each of the classes in the state breakdown section. I’m looking forward to another great NY corn and soybean yield contest in 2023!

2022 NY Soybean and Corn Yield Contest Champions: Scott Swartz (left), Ryan Swede (center) with Mike Stanyard (right). Photo courtesy of Katie Becker Photography.
Remember To Check Out The NWNY Team Blog!

The blog will feature Crop Alerts, Dairy Alerts, Bilingual (Spanish) Resources, Upcoming Events and more from our team members. You can visit the blog at:
https://blogs.cornell.edu/nwny-dairy-livestock-field-crops/

For more information about our program, visit us online at: https://nwnyteam.cce.cornell.edu/
### Inside This Issue

<table>
<thead>
<tr>
<th>Event</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022 NY Corn &amp; Soybean Growers Association Yield Contest Winners</td>
<td>1</td>
</tr>
<tr>
<td>by Mike Stanyard</td>
<td></td>
</tr>
<tr>
<td>NY’s Malting Barley Grain to Beverage Value Chain</td>
<td>5</td>
</tr>
<tr>
<td>by John Hanchar</td>
<td></td>
</tr>
<tr>
<td>2023 Soybean &amp; Small Grains Congress</td>
<td>7</td>
</tr>
<tr>
<td>Bovine Reproduction &amp; A.I. Training Course</td>
<td>7</td>
</tr>
<tr>
<td>Creating a New York Soybean Yield Database</td>
<td>8</td>
</tr>
<tr>
<td>by Jodi Letham</td>
<td></td>
</tr>
<tr>
<td>Biochar: Overview &amp; Outlook for Practical Use</td>
<td>9</td>
</tr>
<tr>
<td>by Nancy Glazier</td>
<td></td>
</tr>
<tr>
<td>Is Decreasing Replacements the Right Strategy?</td>
<td>10-11</td>
</tr>
<tr>
<td>by Kaitlyn Lutz</td>
<td></td>
</tr>
<tr>
<td>Dystocia Workshop</td>
<td>11</td>
</tr>
<tr>
<td>Dairy Works Here: Camel Edition</td>
<td>13-14</td>
</tr>
<tr>
<td>by Margaret Quaassdorff</td>
<td></td>
</tr>
<tr>
<td>Forage &amp; Pasture Management Workshop</td>
<td>14</td>
</tr>
</tbody>
</table>

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NYS’s Malting Barley Grain to Beverage Value Chain:
An Example of Cornell University/College of Agriculture & Life Sciences’ Land Grant Mission
Resources at Work  By John Hanchar

Background
For about a decade now, barley to beverage value chain participants are able to engage in economic activities stimulated by state policies designed to first establish, and then increase economic activity in a grain to beverage sector. Activity has been limited by lack of seed suit- ed to NYS’s growing conditions, and that meet NY value chain maltsters,’ brewers’ and distillers’ quality standards for malt. Mark Sorrells, Professor of Plant Breeding and Genetics, Cornell University/College of Agriculture & Life Sciences (CALS), and co-principal investigator of the bar- ley development program, “Born, Bred and Brewed in New York,” notes “... [when they passed the 2012 law] ... there was no malting barley being grown in New York.” While barley for animal feed has been grown in NYS, malting barley had not been grown since Prohibition, which went into effect 100 years ago. A decade ago, primary barley varieties available to NYS growers were bred for the more-arid West and Midwest. To be successful, growers needed barley seed varieties designed to with- stand NYS’s wet climate and fungal pressures, and an understanding of best management practices.

Achieving Improved Results within the Value Chain
Growers, maltsters, brewers, distillers and others collabo- rated with CALS’ land grant teaching, research, and exten- sion expertise to ensure that value chain participants have access to the inputs, for example, seed, in desired quantities that meet quality standards and characteristics when needed. In 2022 the new seed was distributed to about 30 NYS farmers who have learned to grow barley, with the help of Cornell Cooperative Extension educators. Sorrells notes that, “In four years, record time, we went from our first cross to a spring malting barley variety for release, ... about one-third the normal time it takes to develop a malting barley variety.”

Today, the sector as a whole, across the state benefits from improved results. Gary Bergstrom, Professor of Plant Pathology, Cornell University/CALS, and co-principal investigator of the “Born, Bred and Brewed in NY Pro- gram” said, “When we started out planting an acre of barley, it was a 50-50 chance whether it would be bought by a malt house or end up as animal feed. Now, greater than 80% of our harvest is acceptable for malting.”

Another indicator of progress is a set of survey results. Consider the survey of value chain participants conducted at the December 14, 2022 Empire State Barley & Malt Summit attended by 100+ growers, maltsters, brewers, distillers, educators and researchers. None of the 15 growers present disagreed with the statement, “Growers are able to obtain seeds with the characteristics, traits, specs, etc., needed.” Compare this to results from a first quarter 2021 survey where about 70% of growers disagreed with the same statement – quite a difference considering that many of the same growers participated in both surveys. Two of the 10 maltsters present disagreed with the statement, “Maltsters are able to obtain grain inputs with characteristics, traits, specs, etc., needed.” Compare this to the results from a first quarter 2021 sur- vey where about 70% of growers disagreed with the same statement – again, quite a difference considering that many of the same maltsters participated in both surveys.

Selected comments from participants illustrate progress.

Dennis Nesel, Maltster and Co-Owner of Hudson Valley Malt. “The biggest cause for celebration this year (2022) is the arrival of new Cornell-bred barley varieties, de- signed to withstand New York’s wet climate and fungal pressures.” “These new varieties take some of the risk off the shoulders of the grower and give us the opportunity to really deliver on the promise of craft beers and spirits grown here, malted here, brewed here and enjoyed here in New York.”

Professor Gary Bergstrom, Cornell University/CALS. “Cornell research and extension efforts have resulted in a core group of NYS farmers who are consistently growing malting barley to meet the quality standards for malt.”

Sources:
3) Article from January 2023 issue of Ag Focus regarding results from a survey of barley to beverage value chain participants.
# 2023 Soybean & Small Grains Congress

**February 15th, 2023 (Batavia Quality Inn & Suites) | February 16th, 2023 (Waterloo Quality Inn)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30-9:50AM</td>
<td>Registration, Sign-up for DEC &amp; CCA Credits, Visit Exhibitors</td>
</tr>
<tr>
<td>9:55AM</td>
<td>Opening Introductions and Announcements: Mike Stanyard</td>
</tr>
<tr>
<td>10-11AM</td>
<td><em>Catch My Drift: Keeping Pesticides Where They Belong</em></td>
</tr>
<tr>
<td></td>
<td>Jason Deveau, Application Technology Specialist, Ontario Ministry of Farm &amp; Rural Affairs</td>
</tr>
<tr>
<td>11-11:30AM</td>
<td><em>Meet the New Cornell Weed Scientist – Future Research Plans &amp; NY Needs</em></td>
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<tr>
<td></td>
<td>Vipan Kumar, Weed Scientist, Cornell University</td>
</tr>
<tr>
<td>11:30AM-12PM</td>
<td><em>Disease Management Issues in Small Grains and Soybeans</em></td>
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<tr>
<td></td>
<td>Gary Bergstrom, Plant Pathologist, Cornell University</td>
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<tr>
<td>12-1:25PM</td>
<td>LUNCH &amp; VISIT EXHIBITORS</td>
</tr>
<tr>
<td>1:30-2:15PM</td>
<td><em>Managing Wheat Yield Potential Utilizing the YEN Program (Grower Panel)</em></td>
</tr>
<tr>
<td></td>
<td>Dennis Pennington, Small Grains Specialist, Michigan State University</td>
</tr>
<tr>
<td>2:15-2:45PM</td>
<td><em>Effective Programs for Controlling Marestail in Soybean</em></td>
</tr>
<tr>
<td></td>
<td>Mike Hunter, Field Crops Specialist, CCE/NNY Team</td>
</tr>
<tr>
<td>2:45-3PM</td>
<td><em>Small Grains Updates</em></td>
</tr>
<tr>
<td></td>
<td>Mike Stanyard, Field Crops Specialist, CCE/NWNY Team</td>
</tr>
<tr>
<td>3-3:15PM</td>
<td><em>Our First 100 Bushel Soybean Yield Contest Entry in NY! Review of 2022 Contest</em></td>
</tr>
<tr>
<td></td>
<td>Mike Stanyard, Field Crops Specialist, CCE/NWNY Team</td>
</tr>
</tbody>
</table>

We hope you can join us for this in-person event. Cost: $60 per person, includes lunch

Registration Information is available on the NWNY Team Website: [https://nwnyteam.cce.cornell.edu/](https://nwnyteam.cce.cornell.edu/)

---

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Creating a New York Soybean Yield Database  By Jodi Letham

Yield monitor data allow for evaluation of both spatial and temporal yield variability for all fields, soil types, and management zones within a specific farm. This information can be used to identify yield limitations, evaluate alternative management practices, conduct on-farm research, assess nutrient balances and efficiencies, and determine yield potentials of soil types and fields. Altogether this knowledge is useful for development of management zones that can lead to increased yield and yield stability over time. When three years or more of data are available, the yield data can then be used to develop yield stability maps for farmers for improvements in nutrient management. The grain yield data obtained with yield monitoring equipment contain a variety of errors due to machine and operating characteristics such as (1) rapid velocity changes; (2) travel time/crop flow delay between harvest location and the location of the sensors that read volume and moisture content; (3) start pass delay, end pass delay as flow ramps up/down; (4) unknown harvester width, (5) overlapped data near end of rows; and (6) stops in fields: crop throughput near 0 speed => erroneously high yields. Thus, data cleaning is needed before yield data can be used to set yield potentials and develop management zones.

In the past three years, work has focused on soybean yield data as part of a regional project to evaluate soil type-specific yield potentials on individual farms and to develop a yield potential database for soybeans, which currently does not exist. Once yield monitor data is cleaned a farm report will show the yield for (1) the farm per year of data submitted, (2) each of the fields for which we received yield records in the current year, and (3) yields per soil type within a field (current year as well). Calculated acres per field were derived from actual cleaned data points and hence will not match with the overall field acres based on the boundary file. Yield data are then grouped by soil type to generate “frequency distributions or histograms” so averages per soil type can be determined. Acres received and cleaned to date: 7,790 acres.

In blue are the results for the year for which the report is generated with average yields per soil type reported on those charts. In green/yellow you would see all the yield data (all years combined) for that soil type on your farm (i.e. each field that has that specific soil type represented is included in those soil-specific histograms). Thus, this becomes more meaningful as more years are added in the future. Additional farms and acreage with soybean yield data are needed to continue building the database. If you would like to participate, contact Jodi Letham at jll347@cornell.edu.

Source:  

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- June 19: Agritourism Pricing Workshop: How to figure out what your customers will bear
- July 17: Marketing Your Agritourism Operation

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Biochar production has been practiced for thousands of years. The concept has come back to the forefront as a way to retain soil nutrients, improve crop production on poorer soils, and mitigate climate change. The ancient process used open fire; the current process uses pyrolysis, a thermochemical process that involves heating somewhat dry organic matter in an oxygen-deficient or reduced environment. This generates the solid biochar, bio-oils (a liquid), and gaseous products (syngas). Each of the products have their own properties and uses. Research is underway to utilize biochar in feed, as bedding, cover for digesters, as well as other applications.

Kathleen Draper gave an overview of biochar at Corn Congress. There are a lot of options for feedstuffs to make biochar and maintaining proper temperature. Her talk focused on retaining nutrients. Application, placement, and incorporation are important.

In November about 20 people and I toured the Cornell Pyrolysis lab with Dr. Johannes Lehmann and post-doc associate Dr. Andrew Hubble where they are working on a project to burn dairy manure and treat and use the product as a soil amendment. The biochar would be treated with liquid nutrients and applied to the soil. This process would retain the added nutrients, possibly capture excess plus reduce the volume of manure. As part of the Cornell lab’s work, there will be an on-farm dairy demonstration site at Spruce Haven Farm in Cayuga County. The amount of manure that will be involved in this demo is from 200 cows. Digestate from an anaerobic digester will be utilized with a solids separator. The way I understand it for dairy manure, there is a two-step burning process to destroy any possible pharmaceuticals in the waste.

The company that is building the kiln is Biomass Controls, located in Woodstock, CT. Since this is an evolving technology, they will lease the kiln to the farm and charge an hourly fee for use. I found out they delivered the first batch of equipment to the farm and will be working on assembly off-farm and then delivering the unit once assembled.

Of the products produced through pyrolysis, the liquid and biochar are energy dense. The kiln requires a lot of energy to fire, but once running it can utilize the bio-oils for fuel.

This is a very brief overview of the principles of biochar. I am waiting to learn more from the on-farm demo project. Stay tuned for field days and more information as that project progresses. This will help ground-truth the concept and help decide if it is a viable option for other farms. For more information, visit https://pyrolysis.cals.cornell.edu/.

Biochar Production

Diagram of the biochar production.
Is Decreasing Replacements the Right Strategy? By Kaitlyn Lutz

The dairy industry has widely adopted the strategy of decreasing the number of heifers reared with the goals of minimizing unnecessary heifer inventory and cost. Largely this has been accomplished through the use of selective sexed semen and beef semen as well as genomic testing. The argument makes sense. The cost to rear a heifer is about $2,300 (Geiser 2019) and the average springing heifer price at Empire Livestock at the end of 2022 was $1,300. This results in a loss of approximately $1,000 when you must sell springing heifers due to space constraints, let alone the risk of culls whereby this cost increases.

However, the strategy of minimizing heifer numbers has been recently called into question by a group at Cornell. The article, Herd turnover rate reexamined: a tool for improving profitability, welfare, and sustainability, was published in the American Journal of Veterinary Research last month and can be found at https://bit.ly/3kf88zA.

The conclusion that the authors come to is that increased herd turnover rate and increased available replacements has the potential to increase profitability, welfare and sustainability. The authors note that “managing to a targeted herd turnover rate leads to incorrect decision-making and often compounds problems within the herd.”

For example, a herd owner sets the farm’s goal to the industry average of 37% annual herd turnover. The herd manager is faced with a Salmonella dublin outbreak in his calves. He elects to cull all calves infected, knowing they will likely be carriers of the disease in the future. Fast forward two years: the cull rate is lowered since the manager is compensating for the dip in heifers calving in. Is the herd owner happy because the cull rate is lower? Probably. Is this a good indicator of herd profitability and performance? Arguably, no. It reflects past events and consequent decisions that reflect many moving parts.

Profitability
The authors dispute the idea of holding onto cows until you have recouped their rearing costs. These costs, they explain, are sunk costs which have already been accounted for. If a more productive animal is available to take that animal’s place, even if she is a fresh heifer, it is a profitable trade. In short, this maximizes the profit per available “stall”. Getting back to replacements, the authors touch on the concept of fixed vs. marginal costs.

The cost of rearing one more heifer is not the same as rearing the first heifer. This is because the fixed costs (i.e., facilities, labor) don’t increase for that last heifer, only the marginal costs (i.e., feed, breeding). When it comes to heifer rearing, these marginal costs account for approximately 50% of the total costs according to two studies from 2019 that the authors cited. This does not hold true if you are sending heifers to a custom heifer rearer with costs fixed per head per day.

Welfare
This is where things get more nuanced. In this paper, the authors make the point that high turnover rates are often equated to poor animal health and welfare. However, this assumes that cows are culled due to disease and injury, which the authors assert is “much less common in modern dairy management systems”.

Instead, they suggest higher available replacement inventory allows for more efficient culling of underperforming animals whilst replacing them with a younger animal with higher genetic potential. The example given is culling a fresh cow vs. a late-lactation cow. It is a better welfare decision, according to the authors, to cull the late-lactation animal when she is heavier, has lower risk of disease and is more fit for transport rather than keeping a marginal cow through calving. Of course, this assumes that you knew this cow was marginal prior to dry-off and your fresh cow culls are not due to disease initiated during the dry or fresh period.

At this point, I want to bring to your attention a second paper that was published by Albert De Vries, a professor at the University of Florida, in the Journal of Dairy Science in (Continued on page 11)
2020. This paper is an easy to read review of herd longevity over the years and can be found at https://bit.ly/3XbqWOz. When it comes to welfare, De Vries suggests that “the dairy community might focus on reducing the likelihood that animals lose value through poor welfare instead of accepting that culling itself is likened to a welfare concern”.

We can expect pressure from consumers regarding animal welfare issues to continue to increase, and one consumer concern is herd longevity. Dairy farmers will be asked to take a hard look at their management practices, why they are in place, and if they meet today’s consumer standards.

The answer to the ideal replacement inventory and culling strategy will be different for every dairy farm. What this article has made me think about is clarifying your dairy’s long-term goals and values. Is your dairy able to add deep bedded sand to improve cow comfort to improve healthy herd longevity? Is your dairy able to add on a new heifer barn to increase replacement inventory to allow for more aggressive culling? Will you pair that with a strategic genetic improvement program? There are always more questions than answers, but I hope this new perspective sparks a conversation at your next profit team meeting. I, for one, challenge your dairy to start with consistent recording of cull remarks. No matter what strategy you align with in terms of turnover rates and replacement inventory, you can’t manage what you don’t measure, and knowledge is power.

Upcoming Webinars

February 13, 2023 - Noon (CST)
“Supporting Calf Immunity for Health & Growth” - Amelia Woolums, D.V.M., Mississippi State University

March 13, 2023 - Noon (CST)
“Boosting Milk Components” - Mike Hutjens, University of Illinois

Dystocia Workshop

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Cornell Cooperative Extension

March 22, 2023
Location TBA

March 23, 2023
Keystone Mills, Romulus, NY
10:30am-2:30pm
Offered in English & Spanish

For more details: https://avnyteam.cce.cornell.edu/events.php

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Dairy Works Here: Camel Edition

By Margaret Quaassdorff

My travels during winter break this year sent me to Missouri. And if you know me, you know that any new place I go, I look for a dairy farm to tour. It so happens that near Miller is the United States’ largest camel dairy which has 200 dromedary (one-hump) camels.

Sam Hostetler is the owner of Hump-Back Dairys in Missouri, and he works with his family on his newly designed milking parlor. He kindly gave me a tour the day after Christmas. I learned that he is one the few, if not the only camel dairy in the United States that has a pasteurized milk ordinance (PMO). They harvest, bottle, package, and market bottled milk and milk powder to distributors in the West and Pacific Northwest, as well as to local consumers in Missouri.

Their parlor allows for four camels to be milked at one time, and they are milked twice daily. At the time of my visit, he currently had 30 or so camels in milk towards the end of their lactation, with another batch coming to calve in the next season. In camels, typically the milk let-down is triggered by the suckling effect of the calf (Nagy et al. 2022), so cows need their calves with them in the parlor to stimulate and start the flow of milk. The parlor is uniquely designed with a corral adjacent to the milking stall that allows for calves to come in with the cows and stay safely out of the way. High producing camels on this dairy make about 30 pounds per day, are in milk for about a year, and have a gestation length of 12 months. At the time, I didn’t think to ask how much the calf drinks, or even needs from the amount harvested, but now I’m curious. There have been studies conducted on dairy camels in intensive systems elsewhere in the world, and it has been suggested that total milk yield is influenced by several factors such as breed, lactation length, parity, calving season, year, milking frequency, milking method, photoperiod, production system, and pregnancy (Nagy and Juhász, 2016, Boujene-nane, 2020).

The lactating camels at Hump-Back Dairys are fed a mixture of high-quality alfalfa and brome grass, and a grain mixture consisting of alfalfa pellets, oats, and black sunflower seeds, which they receive in the parlor. They are also supplemented with a vitamin and mineral mix, and especially like salt. I noticed that the pens were pretty dry, but then so is camel manure. As an animal hailing from arid climates, they are wonderful at retaining water. Research would say that a lactating dairy camel drinks about 10-12 gallons of water per day, and a 620 kg (~1350 lb) lactating dromedary requires approximately 2% of their body weight in dry matter intake for daily milk production (Schmidt-Nielsen et al., 1956; Nagy et al., 2022). Heat stress is rarely a problem under normal watering conditions, and they do fine in the cold as well. Dryness of the environment and air is the key when managing camels and preventing health issues, as their feet and bodies are not designed to tolerate extended wet conditions.

Sam generously offered a taste test, and I could not resist. Camel milk is rich, slightly salty, smooth and has a pleasant flavor. After Sam showed and talked about milk processing, labeling, freezing, storage, and packaging, we continued chatting in his office. Having previously milked high-quality Holsteins, Sam told me that you judge a nice-looking dairy camel similarly to a nice dairy cow. She must have dairy quality, elegance, strength, and good udder confirmation.

So how popular is camel dairying? I have yet to find out how many there are in the United States as most are very small and are using camel milk for the less-regulated cosmetics industry. According to surveys, the number of camels [worldwide] has been continuously increasing in the

(Continued on page 14)
last few decades and has reached approximately 40 million head of Bactrian and dromedary camels and this number is expected to increase to above 60 million in 25-years’ time (Fae, 2020). In parallel with the number of animals, the world’s annual camel milk production has also increased from 0.63 million tonnes in 1961 to 3.15 million tonnes in 2020 (FAO, 2020; https://www.fao.org/faostat/en/#data/QCL); this is a 5-fold increase over the 60-yr period. With this quantity, camels are the fifth most important dairy animals, following cattle, water buffalo, goat, and sheep (Faye and Konuspayeva, 2012).

I have now been to 3 camel dairies in the United States, and though I am not an expert yet, I think this form of dairying is fascinating, and would love to share and discuss with others who are also camel dairy curious.

Photo 2—Mature lactating dromedary camels eat a mixture of alfalfa and bromegrass hay, a mineral and vitamin mix, as well as a grain mix. Photo by M. Quaassdorff.

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**Forage and Pasture Management Workshop**

Saturday, February 25, 2023

9:30am - 3:30pm
Pioneer High School
12125 Countyline Rd, Yorkshire

The registration fee is $40/person. Registration is required by February 10th.

To Register: Use https://reg.cce.cornell.edu/Forage_Management_Workshop-23_202
the QR Code below or Contact Lynn Bliven at lao3@cornell.edu or (585) 268-7644 ext 18

Keynote: Getting the Most Out of Your Pastures & Hayfields Without Breaking the Bank
Dan Steward, WNY Crop Management

**Stored Forage Track:** Stored Forage Economics • Making Quality Hay and Balage Panel • Analyzing Forage Reports to Match Livestock Needs

**Pasture Track:** Setting up a Grazing System • Handling Livestock Safely • Equine Pasture Management

This event is hosted by:

**Cornell Cooperative Extension**

CCE Allegany, CCE Chautauqua, CCE Livingston, CCE NWNY Dairy, Livestock & Field Crops Team, CCE SWNY Dairy, Livestock, & Field Crops Team
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February 2023

**NY Certified Organic Meeting** - **February 14, 2023** at Jordan Hall, Geneva, NY. For more information, contact Bryan Brown at byran.brown@cornell.edu.

**Soybean & Small Grains Congress** - **February 15, 2023**: Quality Inn & Suites, Batavia, NY OR **February 16, 2023**: Quality Inn, Waterloo, NY. For more details, visit the NWNY Team’s website - [https://nwnyteam.cce.cornell.edu/](https://nwnyteam.cce.cornell.edu/).

**NY Pork Producers Annual Meeting** - **February 18, 2023** at the Quality Inn, 2468 NYS Route 414, Waterloo, NY. Topic: Small Scale Production. Register online: [https://newyorkpork.org/event/new-york-pork-producers-2023-annual-meeting/](https://newyorkpork.org/event/new-york-pork-producers-2023-annual-meeting/). For more information, contact Krista Jaskier at info@newyorkpork.org or 716-697-3031.

**Where is Agritourism Allowed?** - **February 20, 2023**. Free webinar. For more details, visit [https://nwnyteam.cce.cornell.edu/event.php?id=2022](https://nwnyteam.cce.cornell.edu/event.php?id=2022)

**WNY Hay and Forage Workshop** - **February 25, 2023** at Pioneer High School, County Line Road, Yorkshire, NY. For more information, contact Lynn Bliven at lao3@cornell.edu or 585-268-7644 ext. 18.

March 2023

**Bovine Reproduction & Artificial Insemination Course** - **March 7-8, 2023 (9:30am-3:30pm)**. Location TBA. More details coming soon, visit the NWNY Team’s website for information - [https://nwnyteam.cce.cornell.edu/events.php](https://nwnyteam.cce.cornell.edu/events.php)

**Protecting Your Agritourism Operation: Liability & Insurance**. **March 20, 2023**. Free Webinar. For more details, visit [https://nwnyteam.cce.cornell.edu/event.php?id=2022](https://nwnyteam.cce.cornell.edu/event.php?id=2022)

**Dystocia and Calving Class** - **March 22**: Location TBA. **March 23**: Keystone Mills, Romulus, NY. Offered in English and Spanish. Visit the NWNY Team’s website for information - [https://nwnyteam.cce.cornell.edu/events.php](https://nwnyteam.cce.cornell.edu/events.php)

**DC305 for Spanish Speakers** – **March 2023**. More details coming soon. Visit the NWNY Team’s website for information [https://nwnyteam.cce.cornell.edu/events.php](https://nwnyteam.cce.cornell.edu/events.php)

**New Agricultural Supervisory Leadership Course: Employee Development & Training** - **March 3-April 13** with weekly Zooms Thursdays 3-4PM. Presented by Cornell’s Agricultural Workforce Development team. For more information, visit the Ag Workforce Development website - [https://agworkforce.cals.cornell.edu](https://agworkforce.cals.cornell.edu)