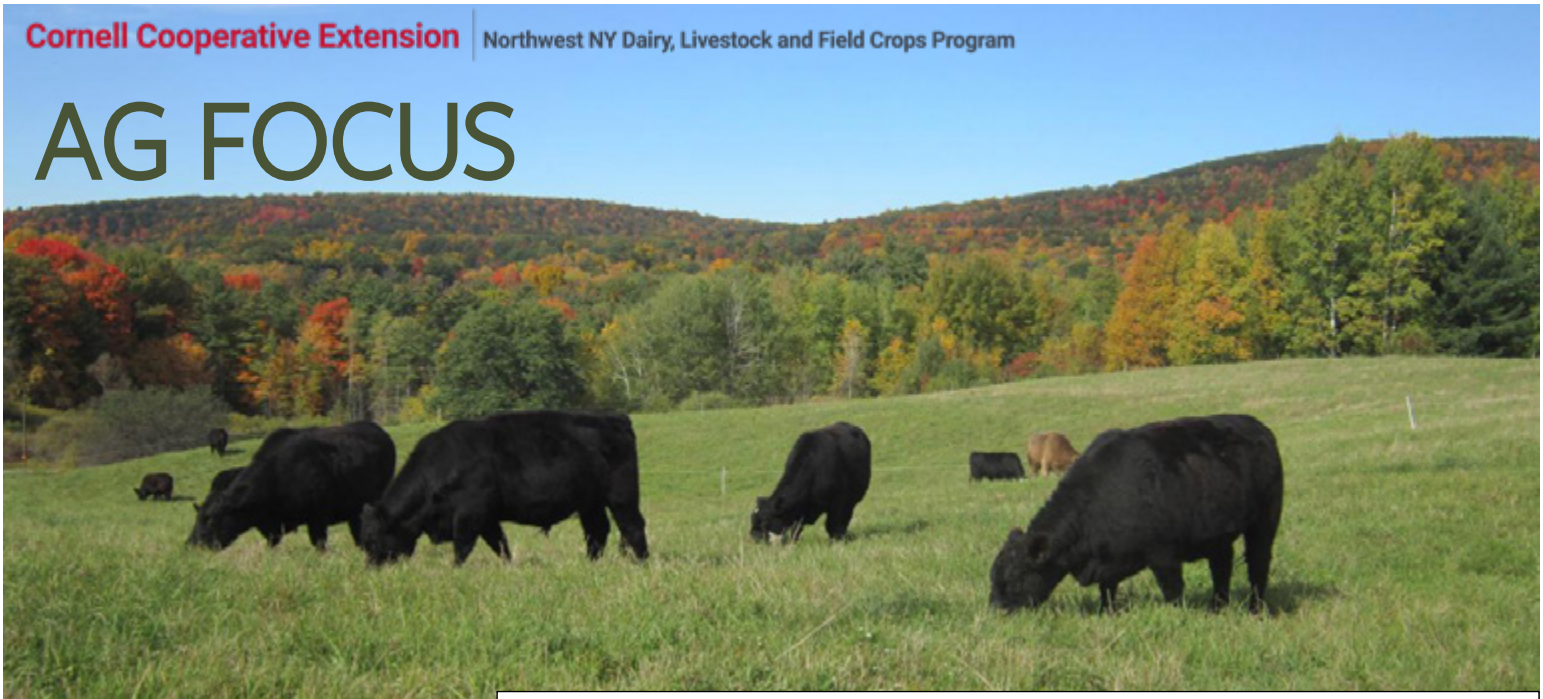
Cornell Cooperative Extension | Northwest NY Dairy, Livestock and Field Crops Program

AG FOCUS



This Issue

Comin' In Hot

Margaret Quaassdorff

According to researchers at University of Florida, late-gestation heat stress impairs productivity in cows and has negative transgenerational effects on calves. Pre-calving heat stress in cows leads to lower calf birth weight (about 10lbs less), and about 15lbs less at the time of weaning. Additionally, calves born to heat-stressed cows show impaired immune function (Ouellet et al., 2020; 10.1016/j.theriogenology.2020.03.011), and have a higher risk of getting sick due to a lower apparent IgG absorption (Monteiro et al. 2014; https://doi.org/10.3168/jds.2013-7891). Why do I bring these points up, now? The average high temperature in western NY for July 2025 was 81°F with many days reaching higher than 90°F, and both well above the heat stress threshold for dairy cows. Cows in late-gestation and dry-off phases are calving now, and this group of calves is going to be raised and weaned in the challenging weather transition into winter. Because of this, expect a greater incidence of disease in your calves this Fall, and take precautions and invest in cleanliness and immune boosting practices to help curb the risk.

For fun (and science, and making good business decisions later on), mark the calves born in mid-September through mid-November as "thermally imprinted, hot potatoes, pre-baked, broiled, scorchlings, etc." (be creative), and track their birthweights and incidence of disease, and mortality through the weaning period, and then compare them to calves born from cows that didn't experience heat stress during the dry period. It is suggested that calves from heat-stressed dams also experience a 32% reduction in herd longevity (Monteiro et al. 2016; https://doi.org/10.3168/jds.2016-11072). For those that remain in your herd, it might be interesting to continue to keep track of these animals as the negative effects of maternal heat stress can negatively affect the lactations of the offspring (Almeida et al., 2019). Heifers born to heat-stressed cows

Cont. on page 3

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A partnership between Cornell University and the CCE Associations in these ten counties:

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produce 11 lbs per day less milk throughout their first 35 weeks (245 days) of lactation (Monteiro et al., 2016). Negative effects also linger into the second and third lactations of offspring and are multigenerational. Multigenerational, meaning that granddaughters of heat-stressed dry cows produce approximately 9 to 11 lbs less energy-corrected milk during their first and second lactations as well.

From a different perspective, heifer price is good (for selling). Maybe it makes sense to raise heifers for your replacement program now, but if you can take advantage of the high demand for replacements, consider keeping only your best heifers for your program. On the flip side, if plan on buying replacements in the future, maybe be cautious about purchasing heifers born in the Fall of 2025 in order to make a good investment. If possible, check records on how many times it took to breed them, and ask to review treatment records too if possible.

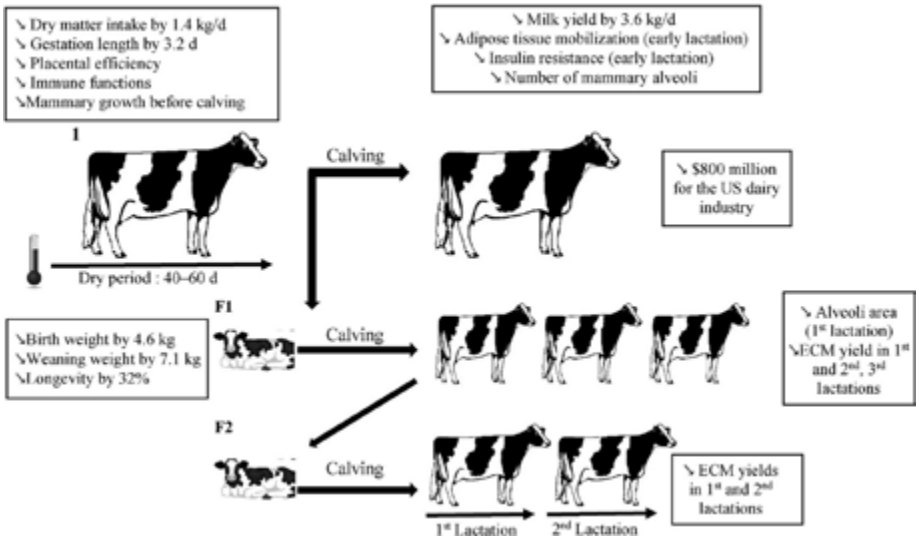

Figure. Summary of the performance impairments associated with the late-gestion heat stress for the dam (1), daughters (F1), granddaughters (F2), and dairy sector (2) reported in a series of study (where ECM= energy corrected milk). https://doi.org/10.1016/j.theriogenology.2020.03.011

Save The Dates!

2026 Corn Congress
January 14th, 2026

2026 Soybean & Small Grains Congress
February 11th, 2026

Check Out The NWNY Team Blog!

Features Crop Alerts, Dairy Alerts, Bilingual (Spanish) Resources, Upcoming Events: and more from our team members.

https://blogs.cornell.edu/nwny-dairy-livestock-field-crops/

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To sign up, employees can text their name and farm name to (585) 549-0630 on WhatsApp.

Achieving Soil Health, and Related Environmental Objectives by Way of Soil Health System Adoption: Case Study Economics, Zeliff Farms, Lake Ontario Watershed, New York

John Hanchar

This article contains information from "Economic Analysis of Zeliff Farms," WNY Pastureland Conversion & Soil Health Field Day, Zeliff Farms, Lake Ontario Watershed, NY, 2025-07-16. A final report is in progress.

Contributors

- Nicole Porter and Peter Zeliff, Zeliff Farms, Lake Ontario Watershed, NY
- Stephanie Castle, American Farmland Trust, NY Women for the Land Program < https://farmland.org/new-york-women-for-the-land>
- John Hanchar, CCE/NWNY DL&FC Program

Summary

- Farm business owners seek: a) research based information to better understand the benefits, and costs of soil health system adoption, and b) research based technical, and management suggestions for successful planning, and implementation.
- American Farmland Trust has built a valuable resource of methods, and case study stories that readers can use to learn about motivations, practices, system planning and implementation, and more < https://farmland.org/new-york-ag-stewardship>
- Recently shared case study analysis results for Zeliff Farms suggest the following: economic analysis comparing after versus before scenarios suggest that owners of Zeliff Farms, Peter Zeliff, and Nicole Porter, successfully planned and implemented a soil health system, while improving economic performance -- the return to land, and operator & family management inputs, a measure of profit, for the post adoption period exceeded the value for the pre adoption period.

Background

Farm business owners work to achieve economic, environmental, and community related objectives given available resources. Soil health system planning, and implementation provide key means for achieving objectives. Management decisions benefit from research based information that examines benefits, and costs of soil health system adoption. The work reported upon here was designed to answer "Can farm businesses achieve improved soil health, and other environmental objectives, while maintaining or improving economic performance?"

Methods, Data

Peter Zeliff, and Nicole Porter worked with analysts to develop a before, and after period comparison, where the before period represented cropping program, and other practices in place prior to adoption of a soil health system. The after period represented crop selection and rotation, tillage, nutrient management, cover crop, and other practices associated with a soil health system that achieved improved soil health, and other results. Revenue, cost of production, and returns (profit) concepts provided methods for the analysis. Profit, the measure of economic performance for the analysis, was defined as the return to land, and operator & family management inputs.

Analysts calculated values of production for land uses (crop and, or livestock), costs of production by land use, and returns by land use where each value represents an average, typical year for the before and after periods – before, around 2010, and after, 2024. Peter Zeliff, and Nicole Porter provided detailed, farm level information by land use for revenue, cost, and return calculations, including detailed information regarding crop selection and rotation, tillage practices, nutrient management, and cover crops. Acres available for both scenarios equaled 1,272 (Table 1). Analysts calculated differences by subtracting before period values from after period values.

Results

The sum of items that increase profit, $435,437 exceeded the sum of items that decrease profits, $390,081, yielding a difference of $45,356 (Table 2).

Table 1. Selected information, before and after scenarios, Zeliff Farms, NY Women for the Land Program.

Factor	Before Scenario	After Scenario
Acres available for use	1,272	1,272
Base year for scenario	Around 2010	2024
Crop selection, other land uses	Corn, and soybeans Acres divided equally	Corn (585 acres), soybeans (538 acres) in rotation Hay, 5 year stand (114 acres) Grass for pasture raised beef (35 acres grass)
Tillage	Multiple disk, culti-packer passes	Strip till corn, and soybean acres No till hay ground
Nutrient management	Fertilizer & lime, emphasis on N, P, K	N, P, K, lime, micros, biologicals based on input use
Cover crop	None	Following soybeans
Machinery complement	30 ft working widths, power units	similar

Achieving Soil Health, and Related Environmental Objectives by Way of Soil Health System Adoption Cont.

Table 2. Estimated difference in profit (return to land, and operator & family management inputs), whole farm analysis assuming 1,272 acres available, Zeliff Farms, before vs after comparison, all $ values reflect 2024 prices.

Items that increase profit (returns)		**Items that decrease profit (returns)**	
Total value of production, revenue increases		**Total value of production, revenue decreases**	
	$		$
Value of crop production	205,695		
Value of other land use, pasture raised beef	96,000		
Sum of all revenue increases	301,695	Sum of all revenue decreases	-
Cost of production decreases		**Cost of production increases**	
Seeds & plants	22,542	Fertilizer, lime & soil health admendments	216,506
Labor	37,318	Sprays, other crop inputs, other production inputs	108,810
Fuel & lube	44,075	Repairs & maintenance	
Fixed input costs, tractors	30,384	tractor	11,947
		equipment	21,889
		interest on operating capital	5,759
		Fixed input costs, equipment	25,170
Sum of all cost decreases	134,319	Sum of all cost increases	390,081
Sum of profit increases (a)	436,014	Sum of profit decreases (b)	390,081
		Difference return to land and…(a) minus (b)	45,933

Notes: 1) Fertilizer & lime item includes traditional N,P,K, micros, biologics, and other soil amendments; 2) ?'s, suggestions? Contact <jjh6@cornell.edu>, mobile phone (585) 233-9249

Reflecting on 2025 Yield Data: Turning Challenges into Opportunities

Jodi Letham

The 2025 harvest season has kept us all busy, and many farms across Northwestern New York are now beginning to reflect on yield outcomes. For those who track yield at the whole-farm, field, or even sub-field level, the results may have brought mixed emotions—some encouraging, others more discouraging. When yield results are less than expected, it is important to ask: was the challenge farm-wide, or confined to specific fields or field sections?

Whole-Farm Considerations: Weather as the Defining Factor

The 2025 growing season in Northwestern New York was marked by a series of abiotic stresses that shaped crop performance and yield outcomes. Weather variability proved to be the dominant factor influencing fields across the region.

Early in the season, cool and wet spring conditions delayed fieldwork and slowed crop emergence. While intermittent warm periods provided a timely boost for first forage cuttings, planting windows for corn and soybeans were often compressed, reducing stand uniformity. According to NOAA, March through May ranked as one of the warmest springs on record nationally, but this warmth was accompanied by frequent precipitation events that hindered timely operations.

By mid-summer, the pattern shifted. Portions of Western New York experienced heat waves and dry spells, with NOAA reporting July temperatures well above the long-term average, leading to drought stress in shallow soils and curling in corn leaves during critical reproductive stages. In contrast, other parts of the region received excessive rainfall, which contributed to waterlogging, nutrient leaching, and soil erosion in low-lying fields.

Adding further complexity, severe storms struck in late June and early July, bringing damaging winds and localized tornado activity. These events flattened crops in some western counties, further reducing yield potential and creating variability even within individual fields. By late August, another round of heavy rains and flash flooding complicated late-season crop management decisions.

Together, these unpredictable and extreme weather events contributed substantially to yield variability in 2025, underscoring the importance of integrating yield data with weather records to guide adaptive management strategies for 2026.

Beyond Weather: Management and Input Decisions

While weather remains beyond our control, it is important to evaluate other factors contributing to underperformance. Each year, farmers make strategic decisions around crop rotations, input use, and equipment investments. Yield data allows us to assess the outcomes of those choices. Whether this was your first year collecting yield data or you have been analyzing results for many seasons, the question remains: what story does the data tell?

The Value of Yield Data Analysis

Yield analysis provides a foundation for optimizing management and increasing returns on key investments such as seed, fertilizer, and crop protection. Yield maps can help determine which crops perform best in specific fields, where variable seeding or fertility may provide the greatest benefit, and whether changes in management practices are improving profitability.

Identifying yield trends over multiple seasons also supports precision management. Understanding variability across years helps determine if variable rate nutrient prescriptions are likely to increase yields, reduce costs, or both. In short, yield data enables growers to make more informed, data-driven decisions for the future.

Data Cleaning: A Crucial First Step

Before yield data can be fully leveraged, it must be properly cleaned and processed. Fortunately, this step is not as daunting as it may sound. For most farms, data cleaning requires just one to two hours per year. A typical approach involves selecting ten fields with known features, determining delay values for flow and moisture, and batch cleaning to correct errors across all harvested fields. The result is a more accurate dataset that can be confidently used to guide management decisions.

Next Steps

Now is the ideal time to reflect on your 2025 yield results, identify areas of opportunity, and prepare for the 2026 growing season. If you are interested in learning more about the yield data cleaning process—or would like assistance with cleaning and interpreting your farm's data—please feel free to reach out. **Email:** Jll347@cornell.edu , **Phone**: 585-689-3423

I look forward to collaborating with you in turning this year's challenges into future opportunities.

Resources:
How and Why to Clean Corn Yield Monitor Data http://nmsp.cals.cornell.edu/publications/factsheets/factsheet107.pdf
Importance of Knowing Yield http://nmsp.cals.cornell.edu/publications/factsheets/factsheet111.pdf

Fall Crop Topics

Mike Stanyard

Fall Wheat Herbicide Opportunities

I have been seeing a bunch of marestail in soybean fields. The seed has been blowing and dispersing with the wind and could have ended up in your wheat field. Marestail can act like a winter annual and germinate this fall right along with the wheat. This gives it a big head start in the spring, and it gets tougher to control the bigger it gets. If there is an opportunity to spray for weeds this fall, and you have lots of marestail in your wheat, it may be worth it. Who knows what the spring weather will be like next year.

Our traditional winter annual weeds: chickweed, mustards, purple dead nettle and even wild garlic and corn chamomile have been controlled by Harmony Xtra. However, our marestail population is resistant to ALS (Group 2) chemistry herbicides. This means that Harmony Xtra will not be effective. So, what can we use to take marestail out of the wheat?

Many states are recommending mixtures of Huskie (11 oz.) or dicamba (2 - 4 oz.) with Harmony Xtra. This allows for full spectrum of broadleaf control. I have been asked about the use of 2,4-D or dicamba on emerging wheat in the fall. I know that Ohio State discourages applications of 2,4-D to emerged wheat in the fall due to the risk of injury and yield reduction but found that fall applications of dicamba did not cause injury or yield loss in their research trials. Sharpen can also be used as a burndown or pre-emergence to control many broadleaf weeds including marestail in wheat. When using Sharpen for burndown, always include MSO at 1% v/v and AMS at 17 lb. per 100 gallons of spray solution.

Making Sure Grain Bins Are Ready for Harvest

Inspection is the key first step in preventing pest infestations. Take a tour around the outside of the bin. Check for loose bolts and cracks around the base. Look for signs of rodents and woodchuck holes under the bin. Make sure there are no bird nests in the vents and nearby augers. Get inside that bin and inspect for possible openings (light coming in where it shouldn't). Are there areas where moldy grain is stuck to the side of the bin? Go inside your empty bin after a rainstorm. Is there any water on the bin floor from a leaky vent? Are there any low spots in the floor where a support has fallen?

After inspecting the structure, sanitation is crucial! Eliminate any weeds growing within 30 feet of the bin. Insects can feed on weed seeds too! Clean up any spilled corn or soybeans around the bin, fan, and augers. This provides a refuge for insects that can eventually move into a clean bin.

Clean up all remaining grain on the floor of the bin. Take a long-handled broom and remove any grain stuck to the walls, around the door, supports, and in the fan opening. If there are a lot of fines remaining on the floor, clean up with a shop vacuum. Many fines accumulate in the space below the floor. Removing the floor and cleaning these out is not something you want to do every year! If you are continually having insect problems, seriously think about it.

There are a couple of insecticides that are labeled for empty bin treatment. These include Tempo SC Ultra, and bifenthrin products (Suspend SC), (D-fense SC), and (Centynal EC). There are also multiple modes of action products like Centynal Synergized Insecticide (bifenthrin + piperonyl butoxide), and Gravista and Diacon IGR Plus (bifenthrin + piperonyl butoxide +S-methoprene).

Soybean Harvest Aids

There are some soybean fields that just didn't get the weeds controlled in a timely manner. There have also been questions about herbicide recommendations to help dry down weedy soybeans to get wheat planted earlier. There are a couple products we can apply as harvest aids (Glyphosate, Gramoxone, Sharpen, Dicamba and Aim) but it is usually only for weed control, not speed up plant maturation. We can kill the soybean plants earlier but many of the herbicide label restrictions do not allow application until plants are fully mature. A summary of these products for soybeans is provided below.

- Dicamba - apply 8 - 32 oz/A (4 lb./gal products) as a broadcast or spot treatment after soybean pods have reached mature brown color and at least 75% leaf drop has occurred; soybeans may be harvested 14 days or more after a pre-harvest application.
- Sharpen - apply 1-2 oz/A at least 3 days prior to harvest, or 10 days for most effective desiccation. Soybeans should have at least 65% brown pods and 70% leaf drop with seed moisture of 30% or less.
- Gramoxone - can't be applied until 65% of the pods are brown or seed moisture is less than 30%. It also has a 15-day preharvest interval.
- Aim - apply 1-1.5 oz/A at least 3 days before harvest.
- Glyphosate - apply to soybeans 7 to 14 days before harvest (varies with product) after pods have lost all green color.

Cornell Cooperative Extension

Northwest NY Dairy, Livestock and Field Crops Program

GENEX

BOVINE REPRODUCTION & ARTIFICIAL INSEMINATION TRAINING

EN ESPAÑOL

Topics to be covered:

Bovine reproductive anatomy & physiology

Heat detection

Artificial insemination techniques

Proper semen thawing

Loading artificial insemination guns

Breeding cows (hands-on practice)

REGISTER NOW

Tuesday -Wednesday
October 14-15, 2025

9:30am- 3:30pm

Atwater Farms
9676 Lower Lake Road
Barker, NY 14012

$250.00 per person
includes materials and lunch for both days

Offered in Spanish only.
Pre-registration is required.
Limited to 10 participants.

For more info, contact:
Margaret Quaassdorff, MS
Dairy Management Specialist
585-405-2567
maq27@cornell.edu
https://nwnyteam.cce.cornell.edu/event.php?id=2606

Ask Extension: How Much Hay Will I Need to Feed my Cattle (or Goats or Sheep) This Winter?

Nancy Glazier

I get asked this question nearly every year, and this year was no different, usually getting a call or email shortly after Labor Day. A beginning farmer asked about feeding his beef heifers. He had purchased 200 bales of hay and wondered if that was enough.

To answer his question, I had to ask a few more questions. Most herds or flocks have mixed age groups – youngstock through mature. Growing animals may need to consume a higher percentage of their body weight while older animals will need less. I would use an average of 3% of their body weight to calculate how much they will eat. For example, a 1,300 lb cow would eat about 39 lbs of dry matter (DM) per day. This number can now be multiplied by the number of head. In this example with 10 head, 390 lbs DM are needed per day, conservatively estimating the need to feed hay for 210 days equals 81,900 lbs or about 41 tons DM. This would be about 44.5 tons if DM is 92%.

The questioning caller this year purchased 200 bales for 3 heifers. Is that enough for the winter? We calculated he would need about 3.2 tons. What do the bales weigh? These were small square bales. There can be a lot of variability, depending on how the baler is set. The load of hay could be weighed, or some individual bales could be weighed and averaged if you have scales on the farm. I'll estimate 50 lb bales, so this load would be 5 tons. That's the short answer.

There are some other things that need to be addressed. What if the hay quality is poor? Livestock may not be able to consume enough low quality hay to maintain body condition. A forage analysis should be done to check quality and decide if supplementation is needed. Sometimes hay may be good enough for mature animals but not youngstock. Is there a way to feed supplemental feed to just those that need it? This is often difficult with small herds or flocks. If the quality is too high, livestock may become overly fat and have metabolic issues at birthing. I have seen farms limit feed quality hay to alleviate chances of overeating. This can be done by putting out exactly the amount that will be eaten in a day or limiting access to the hay to 8-12 hours a day. When limit feeding, all animals need access to feeders or bunk space at one time. Otherwise, the boss animals will get fat and submissive ones get thin.

Hay waste can be an issue, depending on type of hayfeeder and location of feeding. Hay fed outside on the ground will lead to loss of more than 25%. Cone feeders with rubber tire bases tend to work well, with possibly 10% loss.

After feeding livestock for a few winters, estimating needs is easier. I try to be conservative with estimates to reduce the risk of running out too soon. Hay purchased late winter may be more expensive due to limited local supplies. Ideally, hay is stored in a barn or off the ground and covered outside. Excess can be fed the following winter or during times of drought while on pasture.

Plan now for winter feeding of livestock. Photo credit: Nancy Glazier

Pasture/Heavy Use Area Walk

Feor Farms

10/23/25

3408 Randall Rd
Ransomville, NY

To register contact Niagara SWCD at 716-434-4949 x 4

Cornell Cooperative Extension of Livingston County
NWNY Dairy, Livestock & Field Crops Team
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Mount Morris, NY 14510

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New Cornell Pathologist Filling Shoes of Gary Bergstrom

My name is Camilo H. Parada Rojas, and I have just joined Cornell as the new field crops pathologist in the School of Integrative Plant Science. My program will focus on diseases of major field crops in New York State, with an emphasis on supporting corn, soybean, small grains, and alfalfa growers in making disease management decisions. I plan to connect field trials with new tools in pathogen genomics to prepare for next-generation disease surveillance and diagnostics. In the coming weeks, I will share a short survey to learn what you see as the most pressing disease challenges across the state, your input will shape early priorities. I am new to Ithaca and look forward to meeting many of you at meetings and field days.

UPCOMING EVENTS

October 14-15

Dairy Bovine Reproduction and Artificial Insemination Training Course en Espanol

9:30 AM - 3:30 PM : Atwater Farms: $250

Registration:
https://nwnyteam.cce.cornell.edu/event.php?id=2606

October 23

Pasture/Heavy Use Area Walk
Feor Farms

3408 Randall Rd., Ransomville NY

Registration:
Contact Niagara SWCD at 716-434-4949 x 4