

Erie County Ag News

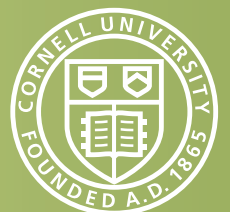
Cornell Cooperative Extension of Erie County

SUMMER/FALL 2019



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Ag Staff

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Agriculture and Natural Resources Educator
Sharon wears many hats including Invasive Species Management Integrated Pest Management in the areas of fruit, field crops and forestry; Agricultural Environmental Management Practice Education; Soil Testing and Nutrient Management; Pesticide Use and Safety; Diagnostics in coordination with Cornell faculty and staff; and Master Gardener Technical Support.



Becky O'Connor

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Farm to School Coordinator

Becky focuses on helping Erie County Schools incorporate more New York grown and raised foods into their school meals as a part of their Farm to School Program. She also assists schools with implementing other aspects of Farm to School; including education and marketing.



Elizabeth Buck

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Vegetable Specialist
Cornell Vegetable Program

Elizabeth's programming focuses on Fresh Market Vegetable production with emphasis on weed and disease management. For a list of all CVP specialists, visit <https://cvp.cce.cornell.edu/specialists.php>



Cheryl Thayer

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Local Food Distribution & Marketing Specialist
Harvest NY

Much of Cheryl's programmatic work focuses on finding solutions to some of the more pressing systemic barriers that hinder the development of the regional food system in Western New York.



Esther Kibbe

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WNY Berry Specialist with Harvest NY, with support from NYS Berry Growers Association
Esther supports berry growers in Erie County and across Western NY by advising on production practices, especially site preparation and pest & disease management.



Kathleen McCormick

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Agriculture Educator

Kathleen assists next generation farmers in search of land, and farmers preparing for retirement, by connecting them with one another and to the tools, educational resources, and technical experts they need to achieve their goals.

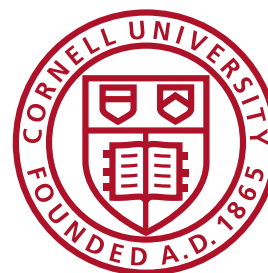


Jolie Hibit

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Agriculture Administrative Assistant

Jolie designs the Erie County Ag News, creates graphics and support materials for CCE Erie, updates web site content, and shares updates from and about CCE Erie on Facebook & Instagram.



Follow CCE Erie on social media to receive up to date news and announcements!

UPCOMING AGRICULTURAL EVENTS AROUND WNY

Beneficial Habitat Twilight Meeting **Thursday, Sept 26 :: 5:00-7:15pm** **Cornell AgriTech**

Learn about wildflower plantings to help with pest control, beneficial insects, and landscape pesticide decision making for managing pollinators. Presenters from NYS IPM and Cornell Department of Entomology.

1.5 DEC pesticide credits available for Categories 1a, 3a, 24, 25, and 10.

For more information call (607) 254-8800 or email eml38@cornell.edu

PRO-DAIRY Webinars

7 week courses designed for dairy business on-farm personnel (owner or employee) seeking to increase their knowledge of dairy management-completed entirely online.

- Calf and Heifer Management - begins September 13, 2019
- Forage Management - begins October 25, 2019
- Transition Cow Management - begins January 2020

Presented entirely in Spanish on the last Wednesday of the month at 12:30 p.m. Next series begins January 29, 2020.

2020 series topic: Milk Quality and Cow Comfort.

View the webinar here: <https://prodairy.cals.cornell.edu/webinars>

Master Gardener Fall Gardening Classes **September 10, 18, 26 :: 7:00-8:10pm** **CCE Erie, 21 South Grove St, East Aurora**

Erie County Master Gardeners present their annual Fall Gardening Classes.

Details and registration info on page 5 of this issue.

Women in Agriculture Summer Discussion Groups (WAVES):

This group is open to anyone professionally farming, including employees, and FFA/4-H youth age 16 & up who plan a career in horticulture.

Details and registration info on page 12 of this issue.

Farmland For a New Generation **Ask the Expert Workshops** **October 15, 29, November 12, 16 :: 6:30-8:00pm** **CCE Erie 21 South Grove St, East Aurora**

A series of workshops for farmland seekers wishing to find farms, and farmland owners wishing to find farmers!

- Tues. October 15: "Where Do I Find Farmland, and Can I Afford It?"
- Tues. October 29: "How Do I Market My Farmland?"
- Tues. November 12: "How is Farmland Valued?"
- Tues. November 26: "What is an Effective Lease Agreement?"

Details and registration info on page 15 of this issue.

Fall Maple Tubing Workshop **September 14 :: 9:00am - Noon** **Moore's Maple, 10444 Galen Hill Rd, Freedom**

\$10.00 per person or \$5.00 for CCE Wyoming Ag enrollees. Whether you are a new producer, a beginner producer, or a small commercial producer, this workshop will provide you with valuable information on methods, materials, management, and much more!

Contact Debra Welch for questions at 585-786-2251 ext 125 or djw275@cornell.edu.

To register, contact Lisa at 585-785-2251 ext 123 or lma96@cornell.edu

Priming the Pump: Setting-up the Transition Cow for Success

Timothy X. Terry, Harvest NY



Photo: R.J. Anderson

We all know that if you can get a cow or heifer through the three weeks pre-calving, calving, and then the three weeks post-calving without incident then it's very likely she will successfully complete the lactation. It's pretty safe to say that the transition is a very critical period in a dairy cow's life. Let's face it, you're basically trying to turn a couch potato into an Olympic-class athlete almost overnight.

When the system works it really works. However, when the 60-day cull rate begins to spike where is the first place we look to lay the blame? The nutritionist, right? Not quite, Univ. of Wisc. – Madison (UW-M) studies have shown that unless the diet is way off on protein, fiber, DCAD, etc. it doesn't even make the list. Fortunately, there are five other factors that exert a greater influence and all can be controlled with good management.

Fabulous Five

1. Adequate Bunk Space – This is the most important factor affecting animal performance. It's likely this is why we tend to think it is a nutritional rather than facilities problem – either way the animals are not getting the diet they require.

Ideally, you want all animals in both the prefresh and post fresh groups to be eating simultaneously (within group) to maximize the 90-minute period following fresh feed delivery and milking. If a more timid animal is excluded from eating at this time by more aggressive pen mates they generally will not eat as much when, or if, they return later on.

Figure on a minimum of 30" of bunk space per cow. Bunk length must be calculated on this spacing per cow not on the number of headlocks at the bunk. Standard headlocks are on 24" centers, and this is fine for the remainder of the herd. However, for these two groups the headlocks or vertical dividers must be 30" on center. Some sort of indexing barrier is preferable to a simple feed rail because when feeding at a rail a boss cow will often stand at an angle to the bunk thereby occupying two or three spaces (60"-90"). Headlocks or vertical bars encourages them to stand perpendicular to the bunk thus freeing up the other one or two spaces.

To avoid overstocking and reducing bunk space during calving surges multiply the average number of calvings for the period by 140% and calculate bunk length and pen size based on that number of animals. Yes, this may seem overbuilt, but how much production is lost and

money expended to treat early lactation maladies such as retained placentas, metritis, ketosis, milk fever, etc.?

2. Appropriately Sized Stalls - Late gestation cows, especially large framed breeds like Holsteins and Brown Swiss, require extra space when negotiating freestalls. On average cows are not getting smaller so the old freestall standard of 45" - 48" x 66" (brisket board) has been upgraded to 50" - 54" x 70" - 72". This is just for the prefresh and post fresh groups – the previous dimensions still work for the rest of the herd. However, a 45" x 63" freestall will accommodate smaller breeds like Jerseys.

Is it worth it? Dr. Ken Nordlund, faculty researcher at UW-M (emeritus), relates the story of a herd he worked with on some transition cow issues. Prior to upgrading the stalls to the new dimensions there was a disparity in ME corrected milk between the first calf heifers and the mature cows. The first calf heifers did well, but the mature cows showed a 2,000 lb. deficit. After retrofitting the stalls, the deficit disappeared.

If the groups are on bedded packs (or composted pack) figure on 100 – 120 square feet per animal on the pack. Feed alleys are in addition to this number.

3. Soft Stall Surfaces – We know that deep bedded sand is the gold standard in the milking barn, and it's no different here. Time budgets, hock lesions, locomotion scores, etc. are all improved on sand. However, when sand is not an option because of your manure handling system or other difficulty, deep bedded sawdust or chopped straw/hay works almost just as well. Unfortunately, according to UW-M studies mattresses didn't fare as well. In fact, they noted that animals housed on stalls with mattresses spent more time standing or perched in the stalls, less time eating, and produced as much as 8 lbs. less milk per day. However, mattresses with >2" of bedding fared almost as well as deep bedded sand and may be a reasonable substitute where sand is not an option. Concrete, however, even with

bedding or mattresses, is never an option for transition cows.

For bedded packs and composted packs figure on a minimum of 3" of bedding – sand, sawdust, straw – over a compacted, well drained subgrade.

4. Minimize social stress - No, that doesn't mean you take away their Facebook, Twitter, and SnapChat privileges. It does, however, mean you need to limit the addition of new animals to only once per week. Any time animals are added to an existing group social turmoil ensues for the next 24-48 hours while the new additions are initiated and pecking orders are re-established. Often these interactions are quite physical and can result in terminal injuries. As you can imagine daily or even 2X-3X per week additions keeps the group in a constant boil. This may seem innocuous, but think of it this way: if the animals are running around and butting heads they are neither eating nor resting. As a result stress hormones increase, dry matter intakes decrease, and body fat is mobilized, which leads to an increased likelihood of fresh cow diseases such as ketosis and DA's. Moreover, if animals are moved into the prefresh pen 3 to 10 days prior to calving the likelihood further increases.

In a perfect world, each week you would assemble a group of late gestation cows and heifers whose expected calving dates are within a ~7-day window and at least three weeks out. You could adjust that range based on the number of animals or if there are any large breaks in

Continued on page 5 >>



Photo: R.J. Anderson

Continued from pg 4 >>

the expected calving dates. The last thing you want to do is move only one animal (if it's at all avoidable) or overload the prefresh group (see #1 & #2).

In larger herds an all-in strategy could be implemented and the animals managed as a specific group. As animals freshen and the group is depopulated the pen should be cleaned and sanitized prior to the new group coming in. Obviously, this means there would have to be at least three, preferably four, smaller pens in order to rotate the groups in and out.

For smaller herds the far-off dry cow and prefresh pens could be located adjacent to one another with only a bar gate between them. From a social standpoint this is really just one large pen so moves of animals from one group to the next may go unnoticed. (Of course, there's always the potential for one boss cow to exhibit anti-social behavior.)

Just-in-time calving, where cows and heifers are moved just as the feet or head of the calf is showing, is gaining popularity on some larger dairies. Unfortunately, while it can be successful, this can also be a very labor intensive strategy. It requires 24-hour surveillance with someone walking past the pen every 30-60 minutes to pick up on cows in labor. The workers must be knowledgeable and observant enough to move the cow at just the right time – when calf parts are visible, not just mucous showing. Moving the cow too early increases the likelihood of stillbirth by 250%.

Time in these calving pens should only be hours not days. Cows tend to shed the most *Mycoplasma* and *Salmonella* right at freshening. So the pen should be cleaned and rebedded after each animal.

5. Effective Fresh Cow Protocols - As with the calving pens, so too, you need heads-up herdsmen and effective protocols in place to detect and treat early signs and symptoms of fresh cow maladies.

Research has shown some protocols common to successful fresh cow programs:

- ✓ Following cows to and from the parlor to observe behavior, gait, etc.
- ✓ Palpating udders in the parlor to check for fullness
- ✓ Time at feedbunk upon return to the pen – evaluating attitude and appetite
- ✓ Daily rectal temperatures
- ✓ Checking rumen motility with a stethoscope

So there you have it. Five manageable factors for promoting the success of the transition cow. ■



Scan code to register,
visit erie.cce.cornell.edu,
or call (716)652-5400 x176.

September 10 7:00pm - 8:10pm

Ecological Lawn Care

Brian Eshenaur, Cornell Univ.

Healthy Lawn Care Program

Jane Vohwinkel

September 18 7:00pm - 8:10pm

Composting for the Home Gardener

Emere Nieves

September 26 7:00pm - 8:10pm

Deer Resistant Plants for WNY Gardens

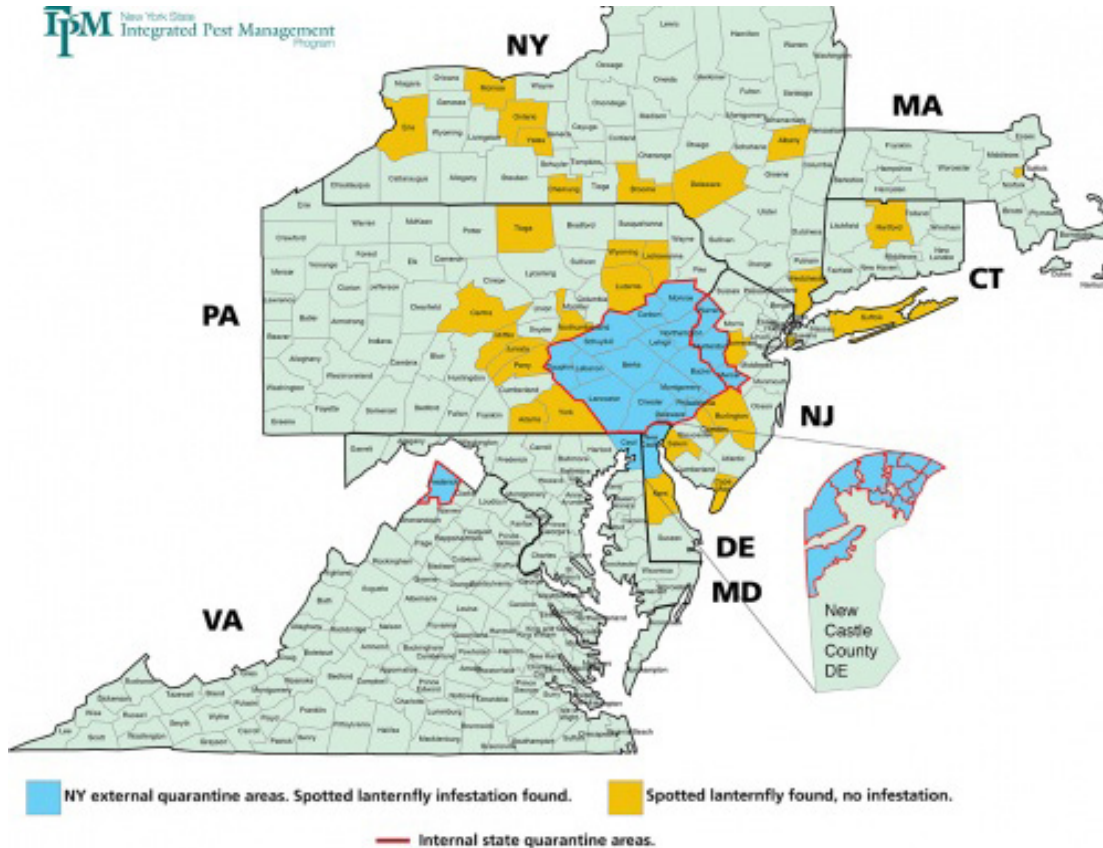
Carol Ann Harlos & Lyn Chimera

General Public: \$15 class or 3 classes for \$40

Master Gardeners: \$10 class or \$25 for 3 classes

Spotted Lanternfly Update

Sharon Bachman, Agriculture and Natural Resources Educator CCE Erie



In a map released in June a detection of a dead spotted lanternfly (SLF) life form was reported in Erie County. (See map above).

Establishment of this invasive insect in our area could have serious consequences for our area agricultural producers particularly grape growers. The insect also impacts trees and decreases home property values as they congregate in large numbers secreting honeydew which then leads to sooty mold. While the report in Erie County was followed up with surveys in the area of the detection to see if the insect could be located in natural areas and none were found, please familiarize yourself with its characteristics and life cycle and keep an eye out for this pest. (See NYS IPM Factsheet <https://ecommons.cornell.edu/bitstream/handle/1813/60603/spotted-lanternfly-NYSIPM.pdf>.) Also take necessary steps to not transport the pest if travelling or transporting items from areas within known infestations. New York State Department of Agriculture & Markets encourages all stake holders (especially those

transporting goods into or out of the regulated areas in southeastern PA) to take the free two-hour SLF permit training available from Penn State: <https://extension.psu.edu/spotted-lanternfly-permit-training> New York Department of Agriculture & Markets will recognize the PA permit as valid for items coming from any SLF regulated areas, regardless of the state of origin. At some point trucks entering NY that have stopped longer than to fuel up in the regulated area will need a permit. Best to be ready if asked for the SLF permit.

One possible bright spot in terms of managing this pest is that two strains of fungus have been identified attacking this insect in Pennsylvania. Researchers at Cornell are working to learn more about these biocontrol agents for SLF. Information on this research is available at: <http://wnews.cornell.edu/stories/2019/04/destructive-plant-pest-thwarted-two-native-fungi>.

<https://ecommons.cornell.edu/bitstream/handle/1813/60603/spotted-lanternfly-NYSIPM.pdf>

Continued on pg 30 >>

Vineyard Improvement Program Update

Kim Knappenberger Viticulture Extension Aid, LERGP

The New York State Department of Agriculture and Markets through the Lake Erie Regional Grape Program (LERGP) has established this reimbursement grant opportunity funded by the Southern Tier Agricultural Industry Enhancement Program. This program is available for Concord vineyards in the Southern Tier which includes Allegany, Broome, Cattaraugus, Chautauqua, Chemung, Chenango, Delaware, Steuben, Schuyler, Tompkins, and Tioga Counties as well as Erie and Niagara counties. Our goal is not to remove Concord grapes from the industry, but instead to remove abandoned or poorly producing Concord vineyards and then replace them with an agricultural commodity. This can even be with a new Concord vineyard. Removing sources of pest and infection will help neighboring commercial vineyards by reducing the amount of inoculum present and reducing the inputs required to keep those vineyards “clean”.

So far we have had 8 applicants for this program and are getting ready to distribute our first payment. Applicants have been submitted from Chautauqua, Steuben, Schuyler, and Niagara counties. The amount of Concord acreage represented on those applications amounts to over 98 acres and of those acres, about 40 are currently committed to being replanted as grapes, with the remainder changing to peaches, apples, raspberries, and some to seed crops.

If you have, or know someone that has, a vineyard that might resemble the one pictured here, take a look at the website to see what we can do to help. Go to lergp.com and click on the Vineyard Improvement Program button in the middle of the page.

The program requires that the Concord vineyard be removed and then replanted to whatever the grower/landowner decides will work best in their business plan, however the land does need to be returned to agricultural use. Because it is a reimbursement grant, payment is made once all of the work has been done and receipts submitted. As outlined on the website, the applicant can be reimbursed 50% of removal costs up to \$1,500 per acre and 25% of replant costs up to \$1,500

per acre for a total possible of \$3,000 per acre. Each applicant can apply only once and the reimbursement cannot exceed \$50,000.

The Vineyard Improvement Program began on October 15, 2018 and runs through October 15, 2022. Applications can be submitted online at lergp.com. We have a rolling application period. First come first served, until funds are expended. Priority will be given to abandoned vineyards close to vineyards in commercial production. Questions regarding this program can be directed to Kim Knappenberger at ksk76@cornell.edu.

The Lake Erie Regional Grape Program is a cooperative effort between Cornell and Penn State Universities; the participating Cornell Cooperative Extension Associations of Chautauqua, Erie, Niagara and Cattaraugus Counties in New York and Erie County in Pennsylvania; and participating industry partners National Grape Cooperative (Welch's), Constellation Brands and Walkers Fruit Basket. The LERGP extension team provides research-based educational programming for commercial grape growers throughout the year at venues across the Lake Erie grape belt. For more information on LERGP, call 716-792-2800 or visit our website at <http://lergp.cce.cornell.edu/> ■



Abandoned vineyard with large trees throughout.



Planting a Garden for Your Health: Gardening Provides Numerous Health Benefits for People of All Ages

Appeared in Buffalo Healthy Living June 28, 2019
Becky O'Connor, Farm to School Coordinator CCE Erie

If you're trying to boost your mood, improve your memory, or make new friends, consider planting a garden. Not only does it provide the immediate health benefit of bringing more healthy foods directly into your life, but hands-on gardening has been proven to increase the amount of fruits and veggies eaten by children and young adults. Youth exposed to and involved in garden-based education and gardening consume more fruits and veggies than their peers. Eating fruits and veggies as a child also leads to healthier eating as adults, reducing the risk for chronic diseases like diabetes, heart disease, and obesity.

The physical and social aspects of gardening help support overall health and well-being for all ages. For home gardeners, benefits include better nutrition, increased physical activity, reduced stress, and improved mental health. *Mycobacterium vaccae*, a soil bacterium in garden soil, when handled, has actually been proven to elevate mood and decrease anxiety.

Even hospitals have made use of healing gardens, and their benefit is currently being explored for veterans

and others who have experienced trauma. Gardening education has also been shown to help reduce behavioral problems in schools. And one Chicago housing project found that gardening helped improve concentration, productivity, and feelings of safety and well-being amongst its residents. In addition to adding beauty and bringing people together, gardening at the housing project provided opportunities for diverse groups such as seniors and teenagers to learn from each other.

For more information on starting a garden, contact Cornell Cooperative Extension (716) 652-5400. For information on gardening benefits, visit <http://gardening.cals.cornell.edu>.

Becky O'Connor is the Farm to School Coordinator for Cornell Cooperative Extension Erie County <http://erie.cce.cornell.edu>. ■

Katelyn Walley-Stoll and Josh Putnam Join New SWNY Dairy, Livestock, and Field Crops Program

Editor's Note: *The CCE Erie Agriculture team is excited to introduce you to the new Cornell Cooperative Extension Southwest NY Dairy, Livestock, and Field Crops Program (website at <http://swnydlfc.cce.cornell.edu>). The CCE Erie Board of Directors recently approved Erie's participation as a member county with this team, which also includes Allegany, Cattaraugus, Chautauqua, and Steuben Counties, and provides you with access to four specialists. In addition to the two specialists introduced here, Alycia Drwencke will join the team as the Dairy Management specialist starting on November 1st. The Livestock Management position is currently in the recruitment/hiring process.*

The Southwest New York Dairy, Livestock, and Field Crops Program is the newest Cornell Cooperative Extension regional program and covers Allegany, Cattaraugus, Chautauqua, Erie, and Steuben Counties. The Southwest New York Dairy, Livestock, and Field Crops regional specialists work with Cornell faculty and Extension educators to address the issues that impact the agricultural industry in New York by offering educational programming and research based information to agricultural producers, growers, and agribusinesses in the Southwestern New York Region.

Cornell Cooperative Extension is excited to welcome Katelyn Walley-Stoll as the Business Management Specialist and Josh Putman as the Field Crops and Forage Specialist with the newly formed Southwest New York Dairy, Livestock, and Field Crops Program with Cornell Cooperative Extension beginning July 2019.

Walley-Stoll will be working on programming related to financial management, business summaries, production economics, business planning, and market analysis while also working to identify the needs of the region. You can reach Katelyn by emailing kaw249@cornell.edu or by calling 716-640-0522.

Katelyn grew up on a dairy farm in Walton, NY that is still operated by her family. She earned her Bachelor's Degree in Animal Science and Agribusiness Management from Cornell University and her Master's Degree in Adult Learning from SUNY Empire State College. She has previously worked for CCE-Chautauqua as the Farm Business Management Educator since 2014 where she developed programs to assist local farmers, including the LEAF (Learn. Empower. Achieve. Farm.) workshop series. Katelyn operates Stoll Family Farm along with her husband and three young sons in Cattaraugus, NY where they raise diversified livestock and field crops. In her free time, she has a large garden and writes for the blog site "Her View From Home" on topics related to motherhood, mental health, and raising a family on a farm. She is looking forward to bringing personalized business management assistance to farms in the Southwest New York region and continuing to connect the agricultural industry to Cornell resources.

Putman will be working on programming related to integrated pest management, soil health, fertility, forage production and precision agronomy in row crop production in Southwest NY. You can reach Josh by emailing jap473@cornell.edu or by calling 716-490-5572.

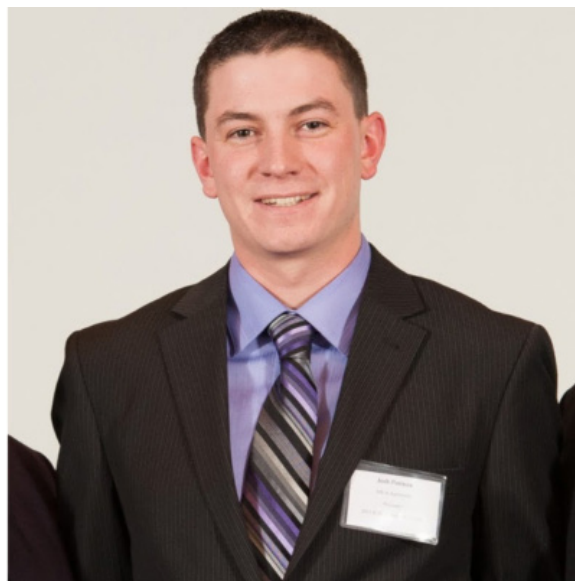
Josh grew up on a family owned dairy farm in Marion, NY that is still in operation. He earned a Bachelor's Degree in Agronomy with a specialization in Spanish Language from Wilmington College of Ohio. While attending Wilmington, he served as a bilingual translator on a large dairy operation and later worked at a swine facility as an assistant breeder and farrowing barn manager. He then earned his Master's Degree from Kansas State University where he worked with herbicide-resistant weeds in row crop production systems. He specialized in corn, sorghum, wheat, alfalfa and soybean production identifying various populations of glyphosate-resistant Palmer amaranth and tall waterhemp throughout the state. He and his wife,

Jodi, currently reside in Geneseo, NY where they assist with a dry hay production business, which they hope to fully manage and operate in the near future. They also enjoy their horses, dogs and hunting together.

The SWNY team is searching for a qualified candidate to fill a specialist position covering Livestock Management. For more information, or to apply visit erie.cce.cornell.edu. ■



Katelyn Walley-Stoll, SWNY Dairy, Livestock, and Field Crops Program from Cornell University Cooperative Extension



Josh Putman, SWNY Dairy, Livestock, and Field Crops Program from Cornell University Cooperative Extension



Buffalo Public Schools Launches NY Thursdays

Cheryl Thayer, Cornell Cooperative Extension Harvest NY, on behalf of the Buffalo Farm to School team

As an extension of the Buffalo Public School's long-standing farm to school (F2S) program, the Buffalo F2S team soft-launched NY Thursdays on June 13th at Waterfront Elementary, with full-scale rollout across the District to occur at the beginning of the 2019-20 school year. NY Thursdays is a NYS initiative that promotes the procurement of NY grown foods and processed items made using ingredients sourced from NY farms. Every Thursday in Buffalo Public Schools the school lunch tray will feature a multitude of NY farm products, to include our monthly Harvest of the Month featured item. There is no eligibility requirement to participate in NY Thursdays. Because we have such a well-established Harvest of the Month program in place which has featured NY produce every Thursday since 2015, we elected to hold off participation in this exciting statewide initiative until we were able to source the center of the plate from NY farms. Our ability to source the center of plate changed as a result of the Buffalo Board of Education's award of over \$1.1M to local farmers and small food producers, \$656,516 of which will be supporting local beef procurement. Featured on the June 13th menu was F. Wardynski and Sons' custom-made hotdogs, which include a 100% potato additive made by Buffalo-based company, Botaniline. The use of this all-natural potato ingredient reduces sodium by 25% (from 540mg to 460mg), total fat by almost 50% (from 15g to 8g), and contains more protein and iron per serving than that of comparable all-beef hotdog alternatives. Also featured were dried beans (Genesee Valley Bean Co.), salad greens (5 Loaves Farm), Concord grape juice (Welch's), NY Chips (Marquart Farms), Issa's wholegrain pita chips (Wild Hive Farm), Greek yogurt (Upstate Farms), and milk (Upstate Farms).

Logistics were considered (and brains were wracked) to source the center of the plate from NY beef farmers. Our Food Service Director and F2S leader, Bridget O'Brien Wood, often asserts "we're still reeling in this fish", or I guess in this case, these great many cows. It's fair to say we've learned some lessons to date, and we know there are a lot more to come. However, through a combination of creative thinking, sheer will, and strong relationships with our food, farm and community partners, we're sourcing 130Klbs more of local beef than we were this time last year, and for now, we're chalking that up as not

only as a win, but a great learning experience that we hope will benefit others. To hear firsthand our best practices, lessons learned and next steps specific to the local protein sourcing initiative, please consider attending the NY School Nutrition Association's F2S pre-conference session on 10/24/19 in Niagara Falls. Bridget O'Brien Wood will be presenting on all of the above and much more. ■



Buffalo Public Schools June 13th NY Thursdays soft launch at Waterfront Elementary School. Pictured from L-R: Bridget O'Brien Wood (Buffalo Food Service Director), Max Mahoney (GEM Food Brokers), Matt Kauffman (5 Loaves Farm), Peggy Rogers (F. Wardynski & Sons), Shawn Kelly, as the hotdog (Buffalo Food Service Asst. Supervisor), Skip Wardynski (F. Wardynski & Sons), Mark Celmer (Botaniline), James Cummins (NY Chips), Steve Mendola (Headwater Food Hub), Terrence Jenkins (Waterfront Elementary Principal). Front Row: Four Buffalo Public School Students. Photo credit: Cheryl Thayer



NY Thursdays lunch tray, from the June 13th soft launch. Featured items were sourced from F. Wardynski and Sons (hotdog), 5 Loaves Farm (salad greens), Genesee Valley Bean Co. (dried beans), Marquart Farms (NY Chips), Welch's (grape juice), and Upstate Farms (milk). Also sampled on June 13th were Issa's Flame Baked Whole Grain Pita Chips (Wild Hive Farm) and Greek yogurt (Upstate Farms). Photo credit: Ruth Conner

Monthly Women in Agriculture Discussion Group Continues!

Each meeting will feature an established, innovative Farm-her leading the group on a tour of her operation and sharing her expertise on business management and production. Several guest speakers, as well as Cornell Vegetable Program staff, will be brought in to act as resource-people for developing solutions to common production challenges.

The goal of the discussion group is to create a strong, professional resource network among farming women in western NY and to celebrate and recognize leading women growers.

Thanks to a grant from Farm Credit East's Northeast AgEnhancement program, participation is free and will include scouting materials and factsheets.

The selected crop themes are centered around horticultural production, with an emphasis on vegetables. Each meeting will include a snack break and time to explore topics of interest to the group. This group is open to anyone professionally farming, including employees, and FFA/4-H youth age 16 & up who plan a career in horticulture.

A FREE CCE Erie Ag Enrollment for the remainder of 2019 and all of 2020 will be included with participation. (Value \$25)

- **September 30 - Lockport: Apple Orchards, Vegetable Production, and Passive Farm Income**
- **November 11 - Warsaw: Christmas Trees, and Turning Farm Brush into Wreaths**

To register: Contact Jolie Hibit (716)652-5400x176 or jah663@cornell.edu.



Seed to Supper Summer Intern

Interview by Sharon Bachman, Agriculture and Natural Resources Educator Cornell Cooperative Extension Erie County

CCE Erie was pleased to have Clara Stillwell, CALS Seed to Supper Intern, join us for the summer. We had an opportunity to ask her some questions about the Seed to Supper Program, and about her time here before she headed back to campus:

What is the CALS summer internship program?

Cornell College of Agriculture and Life Sciences (CALS) and College of Human Ecology team up with various Cooperative Extension offices throughout the state that work on several projects that lead to better communities and projects statewide.

Why do you feel it is important for students to have an internship during their college career?

Unlike most other colleges, Cornell encourages and actually requires most students to participate in at least one internship before they graduate, depending on their major. This experience is something that sets us, as students, up for higher success rates after graduation. I feel that internships provide experience that classroom lectures simply cannot. Working in an internship related to your field of study allows for students to interpret everything we are taught in our classes into daily life and our work outside of school. Internships also provide excellent connections for future endeavors, and in my personal experience, my internship has provoked thoughts about issues that I haven't even spent time thinking about.

Tell us a little about yourself and what you are studying at Cornell?

I am currently a rising junior studying Agricultural Sciences through CALS at Cornell University. I am also minoring in business and hope to work within the food and consumer product good industry after graduation. I was recently accepted to study in the Dyson Cornell SC Johnson College of Business through the Food Marketing Fellowship, which is an honors program that provides students with programs that focus our interests within the food industry.

I was raised in Albion, NY with a strong influence from a supportive agricultural community. Competing in 4-H Fairs and FFA competitions compelled me to dive further into the study of agriculture, so one day I can make an impact on my community and many others as well.

You have been working on a project called Seed to Supper. What is Seed to Supper?

Seed to Supper is a program that provides a six part curriculum that teaches beginning adult gardeners how to produce their own vegetables on a low budget.

Each chapter of our curriculum provides insight and several instructions on how to build a sustainable garden that is beneficial for the gardener as well as the earth. A large part of our curriculum focuses on soil health and beneficial organisms, which will be around much longer than your summer garden. This information describes how to garden without harming the existing earth. I have been able to go on several garden visits and interact with many community gardeners and partners. I have worked on organizing workshops throughout my time here as


well as organizing a series of workshops to be completed after my time at Erie CCE. I have helped other community gardeners set up new programs to benefit their community, and I have assisted in teaching a feedmore class at the WNY Food Bank to help beginner adults learn more about integrated pest management.

Who is the faculty person connected to this internship and what other areas does she work on in addition to Seed to Supper?

Marcia Eames-Sheavly is my faculty advisor for this internship. She serves as a senior extension associate in horticulture at Cornell University. She aims to improve both youth and adult interactions within gardens and gardening activities. Marcia is also the children and youth program leader for Cornell Garden-Based Learning which provides a program that mirrors Seed to Supper, but with



Seed to Supper Intern Clara Stillwell at Juneteenth Festival 2019



a closer focus on children (Seed to Salad). Marcia heads several different projects that focus on her research in human development with a focus on interactions within the garden.

Tell us about an interesting experience you have had during the internship.

An interesting experience I had during this internship was one of my first experiences actually. I was able to attend the annual Juneteenth event to share what we do within Seed to Supper as well as facilitate a small activity making seed balls with children and other participants. This experience was exciting for me because I have never attended a Juneteenth event, and it was enlightening to see the joy and celebration that surrounded me. Our table was set up under a pavilion with other agricultural-based organizations and groups that also had displays and activities. It was interesting because I got to interact with several members of the Buffalo community that care very much about growing their own food as well as bettering their neighborhood.

When does your time here with CCE Erie end? Tell us a little bit about the presentations CALS interns make back on campus in the fall? What are your plans after graduation?

My last day working here for CCE Erie is August 6th, but I hope to always stay connected with extension. In the fall, CALS interns participate in an “intern social.” We do this social within the first couple weeks of classes and we invite several associates to join us. This is more of an event that benefits the incoming freshman and transfer students who have just begun to settle into campus. As I mentioned, Cornell really pushes for all students to have at least one internship during their undergraduate experience. When I transferred into Cornell, this internship requirement started as an incredibly daunting challenge, but I felt lucky to know I had at least two more summers to figure it out. I hope my presentation can relieve some of the stresses of my new classmates and can really highlight the benefits of having such an experience, whether it is required or not. As I mentioned above, I hope to continue my work within the food and cpg industry. I haven’t quite decided what specialization or field I want to work in, but as of now, I am hoping to do some sort of marketing or product development along with global procurement. ■



Sharon Bachman (left) and Seed to Supper Intern Clara Stilwell (far right) at Juneteenth Festival 2019



For more information about the Seed to Supper Project, visit <http://erie.cce.cornell.edu/gardening/seed-to-supper-project>

Looking for Farmland? Looking for Someone to Farm Your Land?

Ask the Expert Workshops for Farmland Seekers and Farmland Owners

Kathleen McCormick, Ag Educator CCE Erie

Cornell Cooperative Extension of Erie County (CCE Erie) is partnering with CCEs in Broome, Essex, Madison and Oneida Counties on a series of evening workshops about finding, affording, marketing, and leasing farmland. These “how-to” workshops are geared toward farmers and landowners, both farming and non-farming, who want practical advice on finding farmland or making their land available for agriculture. [Western New York participants will meet in East Aurora and join the workshop via video conference.](#) Participants from across the state will hear a presentation from each expert and then have a chance to ask questions. There will also be time to network with other farmland seekers and owners.

HOW DO I MARKET MY FARMLAND?

October 15, 6:30-8:00 pm

This workshop is for non-farming landowners who want someone to farm their land, but don’t know where to start. Our expert, Jennifer Fimbrel, will discuss different ways to approach farmers and realtors. As the Agricultural Navigator for CCE Dutchess County, Jennifer facilitates communication and collaboration among county and municipal officials, the farming community, agricultural organizations and other agencies as they work to address issues affecting agriculture and agribusiness in Dutchess County. Working with these diverse stakeholders has given her insight into effective outreach methods.

HOW DO I FIND FARMLAND? CAN I AFFORD IT?

October 29, 6:30-8:00 pm

This workshop is for farmers looking for land. Two experts will team up to introduce on-line tools designed to help farmland seekers. Alex Morency, from American Farmland Trust-NY, will discuss the New York Farmland

Finder, a searchable on-line database that helps farmland seekers and owners find each other. It is free and simple to use. Users can create a farmer profile that describes the desired property or a farm profile that describes the available property. Alex is the New York Program Assistant. She is experienced with website management and outreach. She can provide insight into profiles that get results.

Michael Parker, from the National Young Farmer Coalition, will discuss the Finding Farmland Calculator, an on-line mortgage calculator that teaches farmers about their financing options and creditworthiness. Users can build multiple purchase scenarios and then compare the total costs, monthly payments and personal scores on several financial ratios. Results can be downloaded for meetings with loan officers. As the Land Access Program Associate, Mike understands issues facing beginning farmers trying to find land. With abundant experience in direct-marketing for farms and a degree in accounting, he can help farmers find clarity when it comes to making financial decisions about farmland.

HOW MIGHT A FARMER USE MY LAND? HOW MUCH SHOULD I CHARGE?

November 12, 6:30-8:00 pm

This workshop is for landowners and land seekers. Land is not created equal. Soil, water resources, infrastructure and improvements all influence appropriate agricultural use and value. Our expert, Nicole Tommell from CCE’s Central New York Dairy, Field Crops and Livestock team, will discuss how to evaluate land for agricultural uses and how to set realistic land values. Nicole is the team’s Farm Business Management Specialist. A combination of education and hands-on farm management experience, have given Nicole a thorough understanding of how land impacts farm profitability. She has a Bachelor of



Technology degree from SUNY Cobleskill in Agricultural Business and a Master's degree in Agricultural Education from North Carolina State University. She has also managed the diversified cattle operation she owns with her husband.

HOW DO I WRITE A FARMLAND LEASE?

November 26, 6:30-8:00 pm

This workshop is for landowners and land seekers. Leases are tools that landowners can use to obtain an agricultural assessment. Land seekers can use leases to start or grow a farm business. Our expert, Jerry Cosgrove, Of Counsel at Scolaro Fetter Grizanti & McGough, P.C., will discuss how to develop a simple lease that protects both the lessor and the lessee. Jerry brings a farming background and legal experience to his work. He grew up on a central New York dairy farm and has a long history of finding creative solutions to agricultural, conservation, farm transfer and rural development challenges. He has worked for the American Farmland Trust and served as a deputy commissioner for the New York State Department of Agriculture and Markets. Jerry has a law degree from Cornell University and is a member of the New York State Bar and the American Agricultural Law Association.

Farmland for a New Generation New York (FNG-NY)

This workshop series is one of the many events being sponsored by the American Farmland Trust as part of its Farmland for a New Generation program. The program was developed in response to the impending transfer of nearly two million acres of New York farmland that will occur as the baby boomer generation retires. In addition to educational events, FNG-NY has a website to help farmers seeking land connect with landowners who want to keep their land in farming (<https://nyfarmlandfinder.org>). Users can post a farmer or farm profile, search for farmers or farmland, learn about upcoming events and browse resources.

Workshop Registration

The cost to attend is just \$10 per farm or household per workshop and includes two registrations. For those who would like to attend all four workshops, the package cost is \$30.

Workshops will take place at CCE-Erie's East Aurora campus. Register using URL Code below, or on line at https://reg.cce.cornell.edu/2019_Ask_the_Experts_Workshop_214. For more information, please contact Kathleen McCormick by phone (716-652-5400, x146) or email (km864@cornell.edu). ■



Find a Farm



Find a Farmer



Kathleen McCormick Joins Agriculture Program Staff at CCE Erie County

New educator will assist with Farmland for a New Generation program

Cornell Cooperative Extension of Erie County (CCE Erie) is pleased to welcome Kathleen McCormick to the Agriculture staff. Kathleen will be working as a Regional Navigator in the Farmland for a New Generation New York (FNG-NY) program. This program, coordinated by the American Farmland Trust in partnership with New York State, CCE Erie, and organizations across New York State, keeps land in farming by helping new farmers and the younger generations of farm families find farmland, and retiring farmers and other farmland owners successfully transfer their farmland. You can reach Kathleen by email (km864@cornell.edu) or phone (716- 652-5400, ext 146).

With family roots in the cornfields of Iowa and the ranch lands of Wyoming, Kathleen has a keen appreciation of those who make their living from the land. “I am thrilled to be working on this project. I didn’t grow up on a farm, but I have lots of extended family who did and such happy memories of visiting them— watching my cowboy cousins wrestle calves on branding day at Uncle Carl’s place, going for a ride with Uncle Dave in his big John Deere, collecting eggs with Aunt Irene, cranking the ice cream maker for Aunt Virginia. I want to help make sure farm life continues to be an option for families who want it.” Kathleen grew up in Southern California, in a housing tract surrounded by orange groves and strawberry fields, the last remnants of what was once the 110,000-acre Irvine Ranch. Her desire to see land stay in agriculture comes from the dismay she felt seeing those groves and fields gradually turn into a sprawl of roads, housing and strip malls.

Kathleen came to Western New York (WNY) to join the faculty of the Department of Exercise and Nutrition Sciences at the University of Buffalo. While there, she established a federally funded research program in muscle cell biology and taught exercise science. In 2007, Kathleen decided to make a career change that would let her spend more time outdoors. Most recently, she worked for the WNY Partnership for Regional Invasive Species Management (WNY PRISM) where she was part of a team that focuses on improving management of an invasive grass (*Brachypodium*

sylvaticum) in New York and the Great Lakes Basin. She came to WNY PRISM from the Western New York Land Conservancy (WNYLC) where she completed ten land protection projects, oversaw the annual monitoring program of all protected properties (~6000 acres), and coordinated management activities on sixteen nature preserves. Prior to joining WNYLC, Kathleen was program manager for Keep Western New York Beautiful, a not-for-profit that supports grassroots community improvement efforts. In this capacity, she worked with block club leaders, property owners, and staff from municipalities, schools and not-for-profits on community cleanups and tree plantings, food system planning, and an award-winning phytoremediation project. Kathleen has a Ph.D. in kinesiology from the University of Wisconsin-Madison, an M.A. in ecological landscape design and planning from the Conway School and a B.S. in biology from the University of California-Irvine. Kathleen’s training and experience has taught her that healthy land means healthy people. She is delighted to be part an organization that is doing so much to support agriculture. ■



Kathleen McCormick, Agriculture Educator and Regional Farmland Navigator Cornell Cooperative Extension of Erie County

Input Needed on Beef Enterprise

Michael J. Baker, PAS, PhD Beef Cattle Extension Specialist

Financial analysis of beef stocker enterprises across the US has shown that in 7 of the last 10 years, summer grazing of cattle has been profitable. Despite the abundance of high-quality forage, inexpensive grazing land, and purchased feeder prices below the national average, the number of stocker operations in New York is small. Why?

The Cornell Beef Extension program and the NYS Department of Agriculture and Markets have teamed up to answer this question. Whether you are actively farming or exploring options, your feedback will be very helpful in discovering the main barriers to entering this profitable enterprise, which is flourishing in bordering states but struggling to get some traction here in NY. Analysis of the data from this survey will be used to support the competitiveness and profitability of NYS beef producers.

Depending on your answers the survey takes approximately 5 minutes or less. Your participation is confidential.

To participate in the short survey, please go to:

https://cornell.qualtrics.com/jfe/form/SV_6JzgTTY6b6PhzLv

For more information, contact Audia Denton, Project Manager, 607-255-8497, ad982@cornell.edu or Michael Baker, Cornell Beef Extension Specialist, 607-255-5923, mjb28@cornell.edu.

Funded by the New York State Department of Agriculture and Markets project “Stocker cattle: Using underutilized grasslands to improve economic viability of the Southern Tier while providing viable careers for beginning farmers.” ■





PUTTING DOWN ROOTS: FARMER MICROGRANTS

GUIDELINES

PURPOSE

American Farmland Trust (AFT) is offering *Farmer Microgrants* (“Grants”) to support farmers in hiring professional advisor services to secure access to farmland, develop or implement farmland transfer plans or conserve farms for agricultural use.

DESCRIPTION

Grants are available for up to \$2,500 per project. A project may involve an individual farmer, a farm family or a group of farmers with a cooperative business.

ELIGIBLE ACTIVITIES

Grants can only be used by farmers to hire professional advisor services relating to their farmland access, transfer or conservation needs. Eligible activities may include but are not limited to:

- Hiring an attorney to develop a farm lease
- Hiring a financial or estate planner to assist with a farm transfer plan
- Paying transaction costs associated with purchasing a farm or developing an agricultural conservation easement

AWARD PROCESS

To be awarded, a farmer’s application must meet the Purpose and Eligible Activities criteria, as determined by AFT. If approved, AFT will send written notification in the form of a *Letter of Award* to the farmer. Expenses incurred prior to receiving written notification of approval may not be reimbursable by the grant.

The advisor may be, but does not need to be, identified at the time an application is submitted. However, all advisors must be approved by AFT for advisors to receive final funding in support of the applicant farmer.

Funding is provided only under the following conditions: 1) An applicant shall engage the services of an advisor, confirmed by AFT, to complete the project described in the farmer’s approved application; and, 2) Upon completion of the services, unless otherwise agreed upon in writing, AFT



must receive an invoice from the advisor or farmer that details the services provided and the cost per service, together with such other reasonable documentation from the advisor or farmer that AFT may require to demonstrate satisfactory completion of the proposed project. AFT shall disburse approved grant funding within 30 days after receipt of a satisfactory invoice, and may, at its sole discretion, disburse the funding directly to the advisor. AFT shall have no obligation to disburse amounts in excess of the approved grant or for services not completed or approved by AFT. Any advisor expenses that exceed the grant maximum amount are the responsibility of the farmer. Any unspent grant funds may be dedicated towards further advisor services for the farmer, pending written AFT approval.

TIMELINE

Applications will be accepted on a rolling basis until available funds are expended. All services supported by the grant must be completed by December 31, 2019.

HOW TO APPLY

To apply, farmers should submit a completed *Farmer Microgrants Application* (Application) to AFT. Farmers are encouraged to call AFT to discuss their project and any questions prior to applying. Applications may be submitted electronically to tbiello@farmland.org or mailed to:

*American Farmland Trust
c/o Tim Biello
112 Spring Street, Suite 207
Saratoga Springs, NY 12866*

QUESTIONS

Contact Tim Biello at (518) 581-0078 x305 or tbiello@farmland.org

ACKNOWLEDGEMENT

These grants are made possible thanks to the generous support of members of American Farmland Trust.

FOR MORE INFORMATION

American Farmland Trust coordinates Farmland for a New Generation New York and the Hudson Valley Farmlink Network in partnership with organizations throughout New York State to assist farmers and farmland owners. Visit these websites for more information about the partner organizations, upcoming events, online resources, lists of available farmland and more:

- *Farmland for a New Generation New York:* nyfarmlandfinder.org
- *Hudson Valley Farmland Finder:* hudsonvalleyfarmlandfinder.org

Natural Methods for Long-Term Management of Japanese Beetles

Esther Kibbe, Western New York Berry Specialist, Harvest NY



Many growers and homeowners have commented on the severity of Japanese beetle feeding damage this year. These voracious insects are a common sight in the summer months on many horticultural and ornamental crops. They prefer roses, grapes, corn, hollyhocks, raspberries, blueberries and many others. What most people don't know is that the grub or larval stage of the beetle is possibly even more destructive than the adult beetles. Japanese beetles are an invasive pest that have become established throughout the Eastern United States over the past hundred years. The adult females lay eggs in the soil, usually in grassy areas, during the summer feeding season and then the grubs feed on the roots through the fall and again in the spring before emerging as adults, usually June through August. This feeding activity of the grubs causes millions of dollars of damage to turf grass annually.

Any effective management strategy will need to take into account both the adult and larval stages of the beetles' life cycle. True control would require an area-wide treatment approach, so you will probably always see some beetles that fly in, but the damage will be less devastating. Most homeowners and growers would prefer not to use broad-spectrum insecticides if possible. Thankfully, there are organic and natural methods of reducing the population of beetles living and reproducing in your immediate area.

One approach might be to avoid planting crops or plants that are attractive to Japanese beetles, but this isn't always a viable option, since so many of our favorite food crops are affected.

Spraying or trapping the beetles can be immediately effective, but as they are capable of flying long distances, new ones will quickly show up if you have attractive plants. If you choose to spray the beetles, there are numerous chemical products available to homeowners at garden centers – simply look for ones with Japanese beetles listed on the label. Organic spray options include pyrethrin (Pyganic), Azadirachtin (Azera, Azaguard, many others), *Beauveria bassiana* (Botanigard, Mycotrol, many others). Some of these may be available locally or in specialty stores, but all can be found online.

You may have seen those pheromone-attractant bag traps and wondered if they work. Research has shown that they will catch up to 75% of local beetles, but the results are often less than ideal, as the remaining 25% will be attracted to the area and damage nearby plants, so be sure to place them some distance away from the plants you are hoping to protect.

A long-term approach is to treat the grubs in the soil, which will both prevent damage to your lawn or turf, as well as reducing the adult beetle population during the summer.

Spraying or trapping the beetles can be immediately effective, but as they are capable of flying long distances, new ones will quickly show up if you have attractive plants.

There are chemicals labeled for this purpose, which may be found in commercially available formulations. Look for products labeled for grub control in turf, as they might not necessarily say it is for Japanese beetles, but they are one of the major grub pests. However, these would

need to be reapplied every year to control new grubs. As always, chemicals must be applied according to the label directions.

For growers and homeowners hoping to avoid chemical insecticides, there are some promising biological alternatives to try. These are living organisms, so it can take a little longer to achieve control, but they should eventually become established in the soil ecosystem and provide long-term control of the beetle larvae.

Nematodes – there are several species of nematodes (microscopic round worms) which are known to parasitize Japanese beetle and other grubs in the soil. Some of those which have been demonstrated to effectively reduce grub populations are *Steinernema carpocapse* and *Heterorhabditis bacteriophora*. These nematodes are available to purchase, mostly online, due to the short shelf-life of the living organisms, but check with your local stores or supplier to see if they have them in a fridge or on order. You can search for the specific species name, or some commercially available products to look for are Nemaseek, Nemashield HB, Nemasys G and many others. Check the label for the species names listed above, as some other common nematode products are not as effective on Japanese beetle grubs. Nematodes can be applied to the soil throughout the growing season, preferably when the soil is warm and not too dry. Plan to apply the nematodes to the turf or soil as soon as the product arrives, or store in a cool place. Do not save the product from year to year, better to apply it all and let the nematodes reproduce and increase in the natural environment. Follow the application instructions on the product label, and remember to remove any filters from your sprayer equipment (if used) to avoid straining out your beneficials! Water the area after application every few days, as the nematodes move best through moist soil.

Milky spore – a bacterium, *Bacillus papillae*, which infests the gut of feeding grubs and kills them, releasing more spores to the soil environment. Over time (several years), this bacterium can suppress the beetle population, especially if treatment is widespread. The spores can be purchased at garden centers or from online retailers. It should be applied in the early fall. Follow rate and application instructions on the label. This may not be the best option for New York, as the bacteria reproduce most rapidly in warm, moist climates.

Bt – a related bacteria, *Bacillus thuringiensis*, can also provide some control of Japanese beetle grubs, though

it is better known for control of lepidopteran (caterpillar) species. Check with local suppliers to see if living Bt cultures are available. This should be applied to the soil in the spring or fall.

Parasitic wasps – while none are available for purchase, it is encouraging to know that there are several species of (tiny, harmless) wasps which use the Japanese beetle grubs as a food source for their young. These wasps seek out and lay their eggs in the beetles. *Tiphia vernalis*, a parasite of the Japanese beetle grub, and *Istocheta aldrichi*, a parasite of the adult, have been introduced from Japan and become established in some areas of the US providing natural control of the beetle population. ■

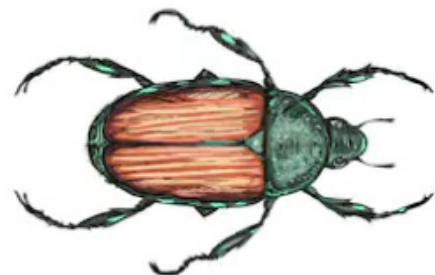
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Managing the Japanese Beetle: A Homeowner's Handbook, USDA, https://www.aphis.usda.gov/plant_health/plant_pest_info/jb/downloads/JBhandbook.pdf

For growers and homeowners hoping to avoid chemical insecticides, there are some promising biological alternatives to try. These are living organisms, so it can take a little longer to achieve control, but they should eventually become established in the soil ecosystem and provide long-term control of the beetle larvae.



Management and Mythology Part II

Timothy X. Terry, Harvest NY

In a previous issue I introduced the concept of Pygmalion and Galatea Effects – better known as the Power of Manager's Expectations and the Power of Self-expectation, respectively. I also promised to give you some ideas for cultivating the Galatea Effect.

Encouragement

Here are some of the ways you can encourage and cultivate the Galatea Effect.

1. Check yourself.

Managers are more effective at communicating low expectations to subordinates than they are high expectations. Actions speak louder than words, and so does silence. In fact, silence can say to the employee, "It doesn't matter" or "I don't really care". Remember that insurance company with the high, average, and low producers? They tried to repeat the experiment at another office, unfortunately, it failed. In the follow-up analysis, they discovered that the manager did not believe that he had anything but mediocre or poor performers. He adamantly denied that he ever vocalized that belief. Nevertheless, the staff picked up on it, consciously or not, and behaved accordingly. So the Take Home Message is: believe that your staff is capable of doing quality work and they will. If you know someone is struggling spend a little extra time coaching them or reassign them to a more appropriate task or team.

2. Provide increasingly challenging job / project assignments, but make sure they succeed at each level before moving to the next level.

ALWAYS acknowledge the win as they "move up the ladder". This doesn't have to be elaborate. It can be as simple as genuine praise in front of their coworkers or a hand written note in their pay envelope. This will also help you out with item #1 because it is an action that reinforces their perception of your confidence in them.

3. Allow them to participate in potentially successful projects that will bring improvement to the immediate enterprise and/or the operation as a whole.

Galatea Effect is a compelling factor in employee performance because an individual's opinion of their abilities and odds of success will determine their level of performance.

The key word here is "potentially". If it is too easy it won't encourage them to stretch their abilities toward self-improvement. If it is too hard or impossible to complete they will settle for a significantly lesser goal. In one manufacturing company, for example, they found if they set the monthly production quotas too high (unattainable) the actual output was only about 80% of that quota. However, if they backed it off a bit to what was reasonable but challenging they met quota almost every time (~90%).¹

Caveat to items 2 & 3- As managers we are so happy when we have an employee who is interested and willing to gain new skills or fine-tune existing ones that we often forget that they are still only human with mental and physical limitations. It is very easy to assign them one more job or a new responsibility because we want the project or operation to succeed. However, at some point in time we have to refrain from additional assignments and/or remove some existing responsibilities from their plate. Failure to do so will burn them out and you'll likely lose the valuable employee.

4. Provide one-on-one coaching.

This should be not only for their weaknesses, but even more so for their strengths, remember you're trying to take them to the next level. If your operation is such that you cannot personally provide the coaching then you should assign a successful senior employee as a mentor. I know this flies in the face of what really happens out there – the new employee is just thrown in with the rest of the crew to be



trained by the crew. But do you remember the child's game of telephone? Player 1 whispers something to Player 2 who whispers it to Player 3 and so on down the line. The last player then repeats out loud what he was told. The response is usually hilarious and little if anything like the initial phrase. So it goes with procedures that may have been handed down three to four times, or more – they may look little or nothing like what was originally put in place. Therefore, mentoring is a good use of your senior talent. Often they are excited to share their knowledge, and you get single source consistency. In the case study insurance company new hires were always placed in the high performance group to be trained and mentored by them. Who better to train them than the best of the best?

5. Keep the messages the employee receives consistent up and down the chain-of-command.

You can't build them up to their face and then trash talk them behind their back. This goes, too, for any middle

managers even if they don't have a direct supervisory relationship. Feedback should be positive and developmental even if it's correctional in origin.

6. Provide developmental opportunities that satisfy the interests of the individual as well as what the business needs from the employee.

Understand, these may be mutually exclusive. The trick is to find the right balance of opportunities that provide for the business and honor the employee needs and desires.

I realize this may sound rather clinical and/or "pie-in-the-sky, but with some thought and creativity they can be implemented in any agricultural enterprise. Labor is usually the second largest expense on a farm, so why not make the most of that investment?

"Harness the power of the employee's self-expectations to ensure powerful, productive, improving, and successful work performance. You'll be happy and feel rewarded when the employees exceed your expectations—and theirs." ■

**"Your attitude, not your
aptitude, will determine
your altitude"**
Zig Ziglar

¹J. Sterling Livingston, "Pygmalion in Management", Harvard Business Review (January 2003), <https://hbr.org/2003/01/pygmalion-in-management>

²Susan M. Heathfield, "The 2 Most important Management Secrets: Pygmalion and Galatea Effects", The BalanceCareers (July 2018), <https://www.thebalancecareers.com/pygmalion-and-galatea-effects-1918677>

New Farmers.gov Feature Helps Producers Find Farm Loans that Fit Their Operation

A new online tool can help farmers and ranchers find information on U.S. Department of Agriculture (USDA) farm loans that may best fit their operations. USDA has launched the new Farm Loan Discovery Tool as the newest feature on farmers.gov, the Department's self-service website for farmers.

"Access to credit is critical in the agriculture industry, especially for new farmers," said Bill Northey, Under Secretary for Farm Production and Conservation. "This new interactive tool can help farmers find information on USDA farm loans within minutes. We are working to improve our customer service, and part of our solution is through improving how farmers can work with us online."

USDA's Farm Service Agency (FSA) offers a variety of loan options to help farmers finance their operations. From buying land to financing the purchase of equipment, FSA loans can help. Compared to this time last year, FSA has seen an 18 percent increase in the amount it has obligated for direct farm ownership loans, and through the 2018 Farm Bill, has increased the limits for several loan products.

USDA conducted field research in eight states, gathering input from farmers and FSA farm loan staff to better understand their needs and challenges.

Farmers who are looking for financing options to operate a farm or buy land can answer a few simple questions about what they are looking to fund and how much money they need to borrow. After submitting their answers, farmers will be provided information on farm loans that best fit their specific needs. The loan application and additional resources also will be provided.

"We received suggestions from both farmers and our staff on how to improve the farm loan process, and we wanted to harness this opportunity to be more efficient and effective," Northey said. "This feature is one step in our efforts."

How the Tool Works

Farmers who are looking for financing options to operate a farm or buy land can answer a few simple questions about what they are looking to fund and how much money they need to borrow. After submitting their answers, farmers will be provided information on farm loans that best fit their specific needs. The loan application and additional resources also will be provided.

Farmers can download application quick guides that outline what to expect from preparing an application to receiving a loan decision. There are four guides that cover loans to individuals, entities, and youth, as well as information on microloans. The guides include general eligibility requirements and a list of required forms and documentation for each type of loan. These guides can help farmers prepare before their first USDA service center visit with a loan officer.

Farmers can access the Farm Loan Discovery Tool by visiting farmers.gov/fund and clicking the "Start" button. Follow the prompts and answer five simple questions to receive loan information that is applicable to your agricultural operation. The tool is built to run on any modern browser like Chrome, Edge, Firefox, or the Safari browser, and is fully functional on mobile devices. It does not work in Internet Explorer.

About Farmers.gov

In 2018, USDA unveiled farmers.gov, a dynamic, mobile-friendly public website combined with an authenticated portal where farmers will be able to apply for programs, process transactions, and manage accounts.

The Farm Loan Discovery Tool is one of many resources on farmers.gov to help connect farmers to information



Farm Loan Discovery Tool

Answer a few short questions to learn about USDA farm loans that might be right for you. USDA also offers other funding opportunities to help farmers, ranchers, and forest landowners finance their business. Explore the [Fund page](#) to learn about these programs.

Note: This tool is not optimized for Internet Explorer. Use Chrome, Edge, or Safari for the best experience.

1 Are you looking for a farm loan?

Farm Loans can be used to start, expand, sustain, or make changes to your farm.

Yes



No



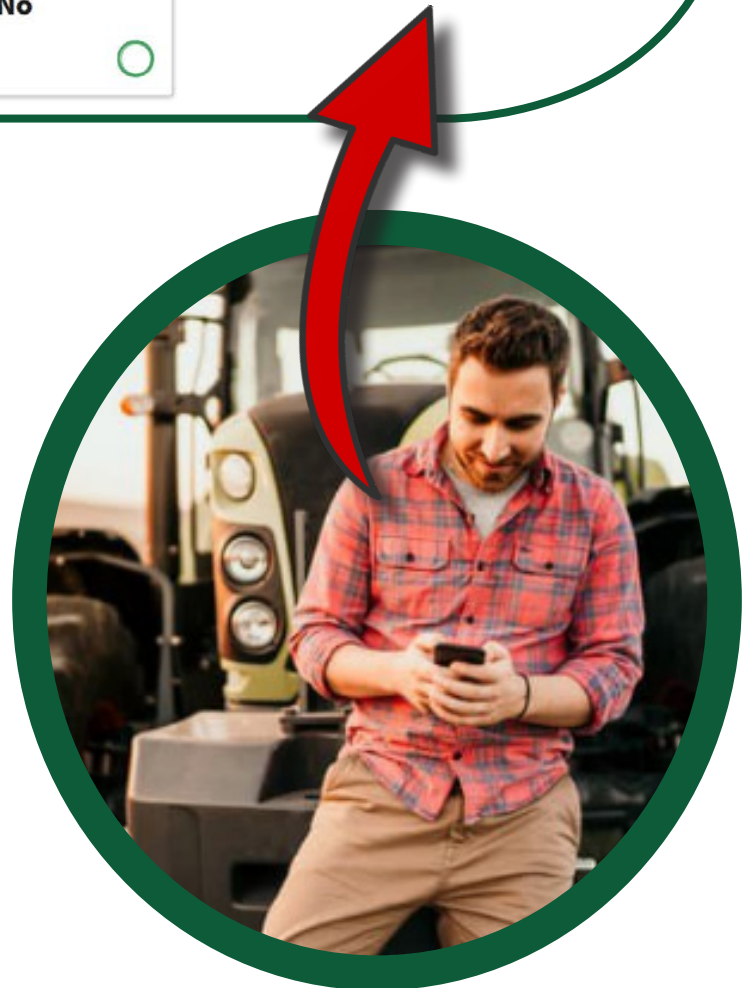
Screenshot of Farm Loan Discovery Tool from farmers.gov/fund

that can help their operations. Earlier this year, USDA launched the My Financial Information feature, which enables farmers to view their loan information, history, payments, and alerts by logging into the website.

USDA is building farmers.gov for farmers, by farmers. In addition to the interactive farm loan features, the site also offers a Disaster Assistance Discovery Tool. Farmers can visit [farmers.gov/recover/disaster-assistance-tool#step-1](#) to find disaster assistance programs that can help their operation recover from natural disasters.

With feedback from customers and field employees who serve those customers, farmers.gov delivers farmer-focused features through an agile, iterative process to deliver the greatest immediate value to America's agricultural producers – helping farmers and ranchers do right, and feed everyone.

For more information or to locate your USDA Service Center, visit [farmers.gov](#). USDA is an equal opportunity provider, employer, and lender. ■



Wet Spring Weather Can Severely Impact Forage Quality for Entire Year

Fay Benson, South Central New York Dairy & Field Crops Team

This year a farmer's decision on whether to use Prevented Planting payments is complicated by the potential for further "Market Facilitation Program" payments being made by the government.

Once again we find ourselves watching the calendar days flipping by and continued wet weather keeping farmers from working in the field. If the wet weather continues to keep farmers from planting their corn and soybeans, it prevents a timely harvest of first cutting hay crops. This not only reduces the quality, but sets the stage for the rest of the hay harvest throughout the summer. However, those farmers who purchased crop insurance on their corn or soybeans can sleep a little easier at night. This is because they can receive payment for those fields that are too wet to plant or are drowned after they are planted by using the "Prevented Planting" or "Replant" options of their crop insurance policy.

A number of farmers I have interviewed claim their sole reason for buying crop insurance is for the prevented planting option, which is available on any of the "buy up" policies. Prevented planting decisions should be made as you approach the final planting date for the crop. In New York, June 10th is the Final Planting Date for soybeans, and for silage and grain corn. If you choose to plant after this date, you will receive a 1% guarantee reduction for each consecutive day after June 10th.

Replant payments

To qualify for Replant payments, you must have a loss of the lesser of 20 acres or 20% of the insured planted acres. Be sure to contact your crop insurance agent once you decide replant is needed. Do not destroy any evidence of the initial planting before reporting the loss to your sales agent.

Prevented Planting

A grower can make a prevented planting claim on any insurable cause of loss that keeps them out of the fields prior to 6/10/2019, provided the cause is general in the area and other requirements are met. If a farmer applies for prevented planting, they will receive 55% of the crops guarantee for corn and 60% of the crop's guarantee for soybeans. When signing up for crop insurance farmers have the option to increase their prevented planting coverage by 5% of their guarantee by paying an additional premium.

One added decision farmers will need to make this year is the possibility of payments similar to last year's "Market Facilitation Program" (MFP). Under the MFP rules for last year, if a Prevented Planting payment was made, those acres receiving payments would have had no bushels to apply towards the MFP. The USDA has not yet released information on a program for this year. For more information about MFP, please visit: <https://www.farmers.gov/manage/mfp>.

If your planting is delayed or prevented due to an insurable cause of loss, be sure to notify your crop insurance agent in writing within 72 hours of the final planting date for the affected crop.

Additionally, if you participate in Farm Service Agency (FSA) programs, it is important to report your prevented planting acreage within 15 calendar days after the final planting date for the crop in order to receive prevented planting acreage credit.

For agricultural risk management and crop insurance resources please visit: <https://agriskmanagement.cornell.edu>.

Cornell University delivers crop insurance education in New York State in partnership with the USDA, Risk Management Agency. This material is funded in partnership by USDA, Risk Management Agency, under award number RM18RMETS524C018. ■

Crop Insurance: Claim Guideline

Lucas Clifton, Program Specialist University of Delaware Targeted States RME



How do I initiate a claim?

Call your crop insurance agent and follow up in writing (keep a copy for your records). Your crop insurance company will arrange for a loss adjuster to inspect your crop. It is your responsibility to call your crop insurance agent and initiate this process.

How do I Know when to file a claim?

Any time you have crop damage that will adversely affect your yield, or the value of your crop, you may be eligible to file a claim. The loss adjuster will determine whether your yield falls below the yield guarantee stated in your crop insurance policy. This applies to revenue guarantee policies as well as to traditional yield protection policies.

Most policies state that you (the insured) should notify your agent within 72 hours of discovery of crop damage. As a practical matter, you should always contact your agent immediately when you discover crop damage.

In some cases, you may discover a loss while you are harvesting (a row crop for instance). Stop harvesting and contact your agent right away.

In the event of losses, you must file notice immediately after each unit is harvested (within 15 days) and before the end of the insurance period. For sweet corn and corn cut for silage, you must file notice at least 15 days before harvest begins.

How soon should I expect an adjuster?

In practice, there are different levels of urgency for crop inspectors. If you are still within the window of opportunity to replant your crop, or switch to another crop, contact your crop insurance agent immediately.

The insurance company should make every effort to get an adjuster out right away. If, later in the growing season, your crop is wiped out by a hurricane, for example, or if a severe drought has damaged your crop, you still need to contact your agent — but the urgency for an inspection depends on your intentions. If you want to destroy the crop (perhaps to plant a cover crop), then an adjuster needs to come out first — before you do anything. If, on the other hand, you intend to continue to care for the crop and harvest what you can, there is less urgency for the adjuster to make the inspection immediately. Even so, an assessment of damage should be done as soon as practical.

While you wait for the adjuster, remember these rules: Do not destroy any of your crop. Do not disk. Do not plow. Do not replant. Do nothing to destroy your crop until you have permission from a claims adjuster or an insurance company representative.

Remember: Don't destroy the evidence

What should I expect from the adjuster?

Continued on page 29 >>

The adjuster should contact you to schedule an inspection. He or she will expect and welcome your presence and help during the inspection. The adjuster will be interested in what you have to say.

You can expect the adjuster to be familiar with your policy and to explain your options.

You should have your Farm Service Agency (FSA) documents ready to show the number of acres and locations of your insured crops. The adjuster should have copies of your crop insurance policy documents and your Actual Production History (APH).

How is my crop yield calculated?

For some crops, counting plants within a sample area at various locations in the field is a part of the process. For other crops, determining the weight of ears of corn per bucket or numbers of soybeans in a beaker is part of the process. Adjusters may take pictures of your fields. They may check with your neighbors on the condition of their crops and they may check with the local elevator operator for average yields in the area. They may even consult local weather data.

Calculating crop yield is not guesswork. It is a disciplined process. Your adjuster has extensive classroom and field training and is constantly studying to maintain his or her certification.

Your responsibilities:

Report damage promptly!

- Before replanting (many policies have replanting payments).
- Within 72 hours of discovery of damage.
- 15 days before harvest begins (if loss is possible).
- Within 15 days after harvesting is completed (by insurance unit) or the end of the insurance period.

Caution: Do not destroy evidence that is needed to support your claim without clear direction from the insurance company, preferably in writing.

For more information:

To find a crop insurance agent, visit the RMA online locator at: <http://cli.re/gzPVWY>. For more information on crop insurance options in New York, visit: <https://agriskmanagement.cornell.edu>.

Cornell University delivers crop insurance education in New York State in partnership with the USDA, Risk Management Agency. This material is funded in partnership by USDA, Risk Management Agency, under award number RM18RMETS524C018. ■



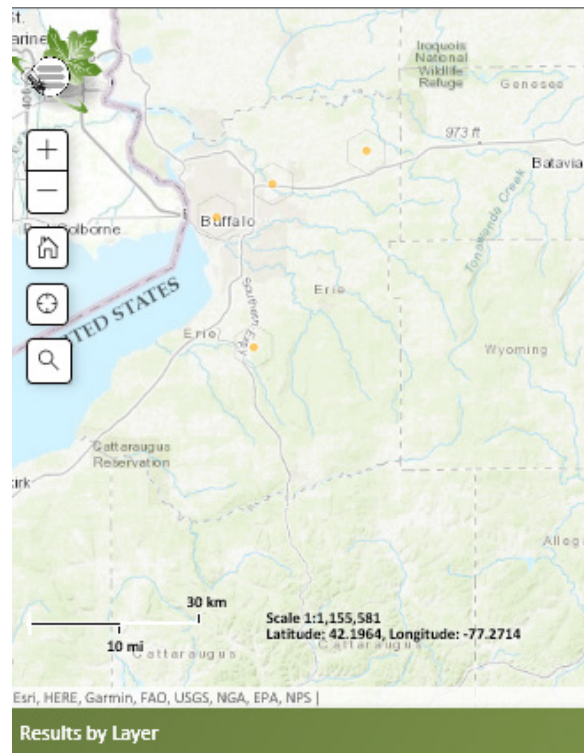
Photo courtesy of USDA.gov

Reports of Crazy Snake Worms in Rural and Urban areas of Erie County

In July and August, there have been a hand full of reports of Jumping Worms aka crazy snake worms (*Amyntas* species) in Erie County. See the map to right of Erie County from NY iMapInvasives.

To learn more about this species and its potential impacts, read WNY Partnership for Regional Invasive Species Management (PRISM) profile https://www.wnyprism.org/invasive_species/jumping-worms/.

For a quick explanation of the ecological impacts of this species see the Claymation video created by Cornell's Department for Natural Resources: <http://ccecolumbiagreene.org/resources/jumping-worm-claymation-video> ■



FALL MAPLE TUBING WORKSHOP AND LOW INVERT RESEARCH



- Sugarbush with Sap Ladder
- 100 Sugar Maple, 140 Soft Maple (Red Maple)
- NYS Maple Specialist Steve Childs' Low Invert Research

Host: Moore's Maple, 10550 Galen Hill Road, Freedom, NY

To register contact: Lisa at 585-786-2251 or e-mail lma96@cornell.edu or register online at: https://reg.cce.cornell.edu/MapleTubing-2019_256

JOIN US and learn about MAPLE TUBING—Installation and Practical Use

Sat. Sept. 14th, 2019

9:00 AM to Noon

Moore's Maple, 10444 Galen Hill Road, Freedom, NY

Whether you are a new producer, beginner producer, or a small commercial producer, this workshop will provide valuable production information on methods, materials, management, and much more. Sign up today! Cost: \$10 or \$5 for Ag Dept Enrollees

Refreshments Served

For
Information
and Directions
Contact:

Debra Welch at
585-786-2251
or e-mail djw275@cornell.edu
**Cornell Cooperative Extension
Wyoming County**

SOIL HEALTH AND COVER CROP FACTS

Ten Ways Cover Crops *Enhance* Soil Health



Photo Credit: Rob Myers, North Central SARE

ABOUT SOIL HEALTH

Soil health is a hot topic these days, one that is justifiably receiving considerable attention from farmers and their farm advisors.

Whereas in the past, soil testing and evaluation focused more on chemical and physical measures, new research has shown that the biology of the soil is very important to its overall health and productivity.

An incredible diversity of bacteria, protozoa, arthropods, nematodes, fungi and earthworms create a hidden food web in the soil that affects how crops grow, how soil nutrients are cycled and whether rainfall is quickly absorbed into the soil and stays where crop roots can access that moisture.

The USDA Natural Resources Conservation Service (NRCS) has identified four basic principles or approaches for maintaining and improving soil health:

- Keep the soil covered as much as possible
- Disturb the soil as little as possible
- Keep plants growing throughout the year to feed the soil
- Diversify crop rotations as much as possible, including cover crops

Farmers can support these principles by using cover crops, which are conservation plantings of fast-growing annuals such as rye, clovers, vetches and radishes. Cover crops protect and improve the soil when a cash crop is not growing. In the case of summer commodity crops like corn and soybeans, cover crops can keep the soil covered in fall, winter and early spring. They make it easier to use no-till or other conservation tillage approaches that disturb the soil less, and they help with weed control. Plant diversity is helpful for soil organisms because it gives them a greater variety of food sources, and cover crops are an easy way to diversify a crop rotation that may otherwise see only one or two crops grown in a field. Adding cover crops to a rotation can greatly increase the portion of the year when living roots are present for soil organisms to feed on.

10 Key Impacts of Cover Crops on Soil Health

Besides contributing to the four basic goals or principles for soil health, there are a number of specific ways that cover crops lead to better soil health and potentially better farm profits.

1 Cover crops feed many types of soil organisms

Most fungi and bacteria that exist in the soil are actually beneficial to crops. Many of these soil fungi and bacteria feed on carbohydrates that plants exude (release) through their roots. In return, some fungi and bacteria will trade other nutrients, such as nitrogen or phosphorous, to the crop roots. While cover crops directly feed bacteria and fungi, many other soil organisms eat the fungi and bacteria, including earthworms and arthropods (insects and small crustaceans like the “roly poly”). Thus cover crops can help support the entire soil food web throughout the year.

2 Cover crops increase the number of earthworms

Earthworms are usually the most visible of the many organisms living in the soil. Cover crops typically lead to much greater earthworm numbers and even the types of earthworms. Some earthworms, like nightcrawlers, tunnel vertically, while other smaller earthworms, like redworms, tunnel more horizontally. Both create growth channels for crop roots and for rainfall and air to move into the soil.

3 Cover crops build soil carbon and soil organic matter

Like all plants, cover crops use sunlight and carbon dioxide to make carbon-based molecules. This process causes a buildup of carbon in the soil. Some of that carbon is rapidly cycled through the many organisms in the soil, but some eventually becomes humic substances that can gradually build soil organic matter. A higher level of soil organic matter improves both the availability of nutrients and soil moisture for crops.

www.sare.org/covercrops

4 Cover crops contribute to better management of soil nutrients

By building soil organic matter, cover crops can gradually impact the need for some types of fertilizer. Just as important to nutrient management is the way cover crops can scavenge or collect any nutrients left at the end of a growing season, such as nitrogen left in the field after corn is done growing. The cover crop will hold that nitrogen rather than letting it escape into tile lines leading to rivers and lakes or drain away into groundwater. Eventually that nitrogen will be released the next season to help the next year's cash crops.

5 Cover crops help keep the soil covered

When it rains on bare soil, the soil is much more likely to erode, form an impermeable crust and then overheat in summer when exposed to direct sun. Some bare soils can reach 140 degrees, hot enough to kill soil organisms and stress the crop from both heat and excessive soil moisture evaporation. The residue of a cover crop like cereal rye can protect the soil while cash crops are getting established and keep it from getting too hot.

6 Cover crops improve the biodiversity in farm fields

Generally, the more plant diversity in a field and the longer that living roots are growing, the more biodiversity there will be in soil organisms, leading to healthier soil. Growing mixes of cover crops or adding a few different cover crop species to an overall crop rotation—such as cereal rye before soybeans, and oats, radishes or crimson clover before corn—improves diversity. Many Corn Belt commodity farmers are adding a third cash crop to their rotation, usually a small grain such as wheat, and then using the earlier harvest of wheat to grow a more diverse mix of covers for several months. They sometimes graze those cover crop mixes for extra profit and because animal manure benefits soil biology.

7 Cover crops aerate the soil and help rain go into the soil

It's not just earthworms that open up soil channels for rain, but also the roots of the cover crops themselves. This is particularly the case where soil disturbance is minimal from tillage. The extra rain that gets into the soil instead of running off can make a big difference for crop yields, such as in mid-to-late summer in the Midwest, when the rain can come fast in thunderstorms and be followed by long dry spells. The extra aeration created by cover crop roots and earthworms also benefits crop roots and other soil organisms.

8 Cover crops reduce soil compaction and improve the structure and strength of the soil

The typical solution to compaction from heavy farm equipment has been more tillage, but that provides only the briefest of benefits while compounding the problem in the long term. Excess tillage destroys soil structure, while cover crops and the soil organisms they feed create the glue (glomalin) that binds soil particles together, leading to better soil aggregation and strong soil structure. Research has shown that cover crops (with an assist from earthworms) help loosen compacted soil even more effectively than subsoiling equipment, which takes a lot of diesel fuel. A field with cover crops and minimal tillage, or better yet no-till, will lead to much better soil structure without compaction issues.

9 Cover crops make it easier to integrate livestock with field crops

Beef cattle and other livestock are usually kept in pastures and out of crop fields, which has some conveniences but is not ideal for soil health. Think of buffalo herds foraging on prairies and you can see how natural systems evolved to have an integration of plants and grazing animals. The manure from livestock grazing on cover crops in a grain field can be beneficial for building organic matter and soil health. It is also a great way to get immediate profit from cover crops, as certain cover crop species can be very high-quality forage in late fall or early spring.

10 Cover crops greatly reduce soil erosion and loss

On many fields that have some slope to them, half the topsoil has already been lost from the days when they were first farmed. The future success of farming and our food supply depends on keeping the topsoil we still have, and cover crops are exceptional at helping stop erosion. Using no-till with cover crops can reduce erosion to a tiny fraction of what it would otherwise be in a conventional corn and soybean system. Even with some light tillage, a field with cover crops is still much better protected, especially with winter annual cover crops like cereal rye.

Summary

Methods of improving soil health come back to the core principles identified by NRCS, including a greater diversity of plants, keeping the soil covered, having living roots in the soil throughout the year and disturbing the soil less. As we learn more about soil biology, it's clear that even modest use of cover crops makes a big difference for soil health. Further information on cover crops, including publications and videos of farmers talking about cover crops and soil health, are available from SARE at www.sare.org/covercrops. More information and fact sheets on soil health are available from NRCS at www.nrcs.usda.gov/wps/portal/nrcs/main/national/soils/health and from the Soil Health Institute at www.soilhealthinstitute.org.



SOIL HEALTH
INSTITUTE

This publication was developed by Dr. Rob Myers, North Central SARE Regional Director of Extension Programs. The SARE program is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2014-38640-22173. Learn more at www.sare.org.

The Soil Health Institute is a national non-profit organization working to safeguard and enhance the vitality and productivity of soil through scientific research and advancement.

December 2017

Bacterial Leaf Streak Prevalence and Commonly Asked Questions

Andrew Friskop, Extension Plant Pathology, Cereal Crops

Joel Ransom, Extension Agronomist, Small Grains and Corn

We have observed high levels of bacterial leaf streak (BLS) in research plots and have fielded several questions from individuals across the state. Also, the NDSU IPM survey scouts identified BLS in 31% of the fields this past week. Both of us have written about BLS in previous crop and pest reports and this week we will expand on some of the most commonly asked questions.

Field Diagnosis

It is important to remember the different type of symptoms the bacterial pathogen can cause. Although we are most familiar with leaf disease symptoms, the pathogen can cause purpling of the grain spikes (black chaff) and cause yellow-purple lesions to form on the peduncle (stem tissue below the head). Purpling of the heads with striations along the glumes are both identifying features of black chaff (Figure 1). Peduncle lesions are often found on heads with black chaff or flag leaves with BLS (Figure 2). The peduncle lesions are not associated with lodging or any other disorders that may lead to problems at harvest. Black chaff can be confused with a fungal disease known as *Stagonospora* glume blotch. Although both can look similar to each other, here are a few tips to separate the two in the field.

- (1) Check the variety. Knowing the susceptibility of a variety to bacterial leaf streak or *Stagonospora* leaf blotch can start pointing you in the right direction.
- (2) Examine the flag leaves. Having a high level of BLS on the flag leaf will likely mean the spike symptoms are black chaff.
- (3) Review the field history. For example, if fungicides have been applied, the field has looked clean prior to flowering, and a thunderstorm came through around heading, black chaff is likely the diagnosis.

- (4) Look for fruiting bodies or bacterial ooze. Dark pepper grain fruiting bodies in the lesions on the spike are a sign for the *Stagonospora* glume blotch pathogen, whereas bacterial ooze (shiny exudate) will be a sign of the BLS pathogen.



Figure 1. Black chaff on two wheat spikes. Notice streaks along the glumes of the spikelet.



Figure 2. Purple to yellow lesions on stem tissue directly below the spike (peduncle). These lesions are caused by the BLS pathogen.



Figure 3. (A) Spring wheat variety with 30-40% damage on the flag leaf. (B) Spring wheat variety with 100% flag leaf damage.

Relationship Between Diseased Leaf Area and Yield Loss in Wheat

One of the most commonly asked questions pertaining to BLS is yield loss. As a reminder, healthy green leaves during grain filling are the major source of carbohydrate that end up in the grain. The tissue comprising the spike, the stem and remobilization of carbohydrates and proteins from other plant tissues are also important contributors to grain development.

Field observations in Idaho in the 1980s reported that BLS caused yield losses as high as 40%. Other research completed in high rainfall environments estimated yield losses of 5% when 10% of the flag leaf had BLS and up to 20% yield loss when 50% of the flag leaf was damaged (Duveiller et al., 1993). Another study on spring wheat estimated yield losses of 13-34% when 100% of the flag leaf was damaged (Shane et al.).

Although all of these studies provided a good estimate of yield loss, it can be difficult to apply these yield loss metrics to the current situation. For example, the research studies listed above documented disease early in the growing season (around tillering). This year it appears most of the bacterial infections started when the state experienced strong thunderstorms in late June/early July and most of the wheat crop was headed or entering early stages of flowering. Therefore, the flag leaf was not likely infected until the heading to flowering growth stages. It is likely yield loss will occur in the impacted fields, but placing a specific yield loss number on these fields is difficult. This is further complicated by the fact BLS can be patchy in the field (i.e., areas prone to wind damage, headlands, etc). Regardless, if we use the relationships discussed above, one might expect yield loss of about 15% on the variety in Figure 3A and about 30-40% on the variety in Figure 3B. We think most of the yield loss in impacted fields this year will range from 1 to 15%. ■

MASTER FOREST OWNER (MFO) VOLUNTEER PROGRAM

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What is a Master Forest Owner?

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About the Master Forest Owner Program

The Master Forest Owner program provides private woodland owners of New York State with the information and encouragement necessary to manage their forest holdings wisely and sustainably. All MFO volunteers are graduates of an intensive four-day training program where they learn about sawtimber and wildlife management, woodland economics, and ecology. All active MFOs continue to receive periodic information updates, attend refresher classes, and maintain contact with natural resources managers from private, public and academic organizations.

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Erie County

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