Welcome to February—and this year is a leap year! This month’s newsletter is full of some promising research findings that will help farmers and gardeners grow better crops using less pesticides. Advances in genetics, UV light and more promise brighter futures in the fields.

Winter is typically workshop and conferences time for farmers and gardeners, and this year is no different. From hemp to native plants to homesteading and vegetable gardening, there are plenty of opportunities to learn more about growing crops and ornamentals. Take some time to look at all the offerings listing in this newsletter, and if you don’t see a topic covered, let me know—I can probably find you a workshop in the wider region that will cover it.

If you are looking for DEC pesticide credits, take a look at the Plant STNY DEC day on March 4th. Here is the link to that event: http://tioga.cce.cornell.edu/events/2020/03/04/plant-stny-dec-credits-day

So enjoy this last month of winter, and especially that once-every-four-years leap day and learn more about the wonderful world of growing plants or raising livestock.
Workshop in Chemung County

Workshop: Starting Your Vegetable Garden

February 26, 2020; 2:00 – 3:00 PM. Starting a vegetable garden at home is a great way to spend time with children or spend time outdoors in the sun. Planting a garden with vegetables also rewards you with nutritious fresh vegetables, enjoyment and economic savings. Join Cornell Cooperative Extension of Chemung County to learn how to start a vegetable garden. No space? Don’t worry! We will also talk about square foot gardening, vertical gardens, container gardening, etc.

Speaker: Jingjing Yin, Horticulture Educator at CCE of Chemung County

Place: Steele Memorial Library (large conference room), 101 E Church Street, Elmira, NY

Workshop fee: Free, but a $3 suggested donation helps support our Horticulture program.

Please register with Chemung CCE at 607-734-4453, or jy578@cornell.edu.

Homesteading and Gardening Classes in Tioga County

The popular Homesteading Series is back for 2020! I am still booking up some workshops but here are some of the upcoming workshops:

February 1, 9 am Introduction to Beekeeping (snow date: 9 am Feb. 15)

Want to know what is the buzz about keeping bees? Join beekeeper Larry Huggins to learn what is involved in becoming a beekeeper. Learn beekeeping basics from an expert! Snow date: Feb 15th.

February 15 10:30 am Introduction to Making Maple Syrup

Learn all about making some maple syrup for your family and friends by tapping a few maple trees on your property. It is a fun, healthy activity for the whole family. Just in time for the 2020 season, learn how to identify maple trees, what materials you need to tap, and boiling the maple sap into delicious maple syrup.

February 29 9 am to noon   Seed to Supper

All classes are $5 per person, and children and CCE Tioga volunteers can attend at no cost. Classes are at 56 Main Street in Owego in the CCE Tioga conference room. Please call CCE Tioga’s office at 607-687-4020 to register for the classes.

March 7 9 am to 10:15 Growing Small Fruit in the Home Garden

Strawberries, blueberries, and other small fruit are some of the tastiest foods you can grow in a home garden. In addition, eating berries is great for your health! Come to this workshop to learn all about growing these wonderful fruits. You will learn about the best varieties to grow in your garden, how to prepare the soil for the berries, planting, growing and winter care. Roger Ort, CCE Schuyler, is an expert on growing fruit for the home garden.

March 7 10:30 am to 11:30 am Growing Unusual Fruit

Do you want to be the envy of your gardening friends? Serve them a fragrant Russian quince straight from your tree. Have you ever heard of medlars or shipovas? Interested in growing unusual fruit in your own garden? Then join us for expert Roger Ort, CCE Schuyler, for a fun-filled introduction to growing exciting fruits. Many of these fruits have a long and storied history--but are simply overlooked in American gardens. Start a new tradition!

March 21 9:00 AM - 10:15 AM  Raising Laying Chickens

Have you been thinking about getting your own small flock of laying hens? Layers not only provide wonderful fresh, healthy eggs for your table, but they eat...
garden bugs and are fun to watch! Come to this one hour presentation and learn about having a flock of your own.

March 21, 2020, 10:30 AM - 11:30 AM Raising Meat Chickens
Did you know that you can raise a freezer full of healthy, farm-fresh chicken in about two months, start to finish? Have you been thinking about raising meat chickens? Then this presentation is for you! Learn how to order chicks, start them right and then raise them so you get plump, delicious chicken for your table.

April 11, 10 am to 11:30 AM No Till Gardening
Are you interested in building up your soil’s capacity to grow beautiful vegetables but don’t want the task of annual tilling? Join us and learn from gardening guru Jen Cramer how to have a wonderful no-till garden.

All classes are $5 per person, and children and CCE Tioga volunteers can attend at no cost. Classes are at 56 Main Street in Owego in the CCE Tioga conference room.

Please call CCE Tioga’s office at 607-687-4020 to register for the classes. We prefer you register so we can contact you in case of inclement weather.

Lost in translation: Organic matter cuts plant-microbe links

By Blaine Friedlander, Cornell Chronicle

Soil scientists from Cornell and Rice University have dug around and found that although adding carbon organic matter to agricultural fields is usually advantageous, it may muddle the beneficial underground communication between legume plants and microorganisms.

In a symbiotic relationship, microbes called rhizobia act like agricultural “butlers” to fetch nitrogen from the air for the legume plants. When carbon is added to the soil, it helps the soil retain nutrients, but it can repress plant-microbe communication by up to 70%, according to new research published Jan. 29 in Science Advances.

“The communication connection gets a lot of static, you might say,” said Johannes Lehmann, professor of soil and crop sciences. “With carbon amendments to the soil, the plants and the microbes cannot chemically communicate as well anymore. They can’t ‘hear’ each other.”

Lehmann is a senior author of “Soil Organic Matter Attenuates the Efficacy of Flavonoid-Based Plant-Microbe Communication.” Lead authors are former Cornell postdoctoral researcher Tara M. Webster, from Lehmann’s lab, and Ilenne Del Valle, a doctoral candidate at Rice University.

For more than a century, scientists have known about the symbiotic relationship between legumes and rhizobial microorganisms. To help the soil’s microorganisms and plants interact, flavonoids (plant and fungus metabolites) act as chemical “telephones,” but higher amounts of organic carbon – such as compost or wood chip mulch – in the soil hinder that communication. Webster said that while adding carbon to soil does benefit legume plant growth, scientists must understand how it affects communication. The researchers were surprised to find that dissolved carbon moving through water in the soil disrupted signals.

“We weren’t expecting that,” she said. “But the takeaway here is, it’s good that we know. It helps to understand this interaction.”

Most knowledge of how microbes talk with plants comes from lab experiments in water, where it is easy to measure the chemicals the microbes and plants share, Webster said.

The legume plants use molecules of the flavonoids naringenin and luteolin to call for microbial nitrogen, but with dissolved carbon, these flavonoids were thwarted in their search for able microbes.

“The legume plants use molecules of the flavonoids naringenin and luteolin to call for microbial nitrogen, but with dissolved carbon, these flavonoids were thwarted in their search for able microbes.

“We don’t always grow our plants in just water. We grow them in soil,” Webster said. “It’s a new angle to look at, but the carbon in the soil is having some interaction here. It’s not just plants and the microbes by themselves.”
UV light may be ripe to replace chemicals in fungus fight

By Sarah Thompson | Cornell Chronicle  May 2, 2019

Thanks to the work of an international, multidisciplinary team of researchers led by Cornell AgriTech’s David Gadoury, farmers may no longer have to rely exclusively on fungicides to suppress destructive plant pathogens like powdery mildew.

Over the last five years, the Light and Plant Health project team has refined the science and applied technology behind using ultraviolet (UV) light to kill the fungi that causes powdery mildew (PM), opening the door for the technology’s use to control other plant pathogens.

“In more than three years of trials, UV light applications worked as well as or better than available fungicides, killing 95 percent of PM in field strawberries. We’ve seen similar results in field and greenhouse trials of basil, roses, grapes, strawberries, rosemary and cucumbers,” said Gadoury, senior research associate in the Section of Plant Pathology and Plant Microbe-Biology, in the School of Integrative Plant Science.

Recent research from Gadoury’s lab – in collaboration with the U.S. Department of Agriculture’s Vitis Gen2 grape research project – indicates that UV light may also control downy mildew, one of the most destructive plant pathogens for a variety of plants.

In research trials at Cornell AgriTech over the past few months, pretreatment of grapevines with UV light activated their natural resistance to infection, something that the downy mildew pathogen can usually evade. The research suggests that UV light pretreatments may boost overall plant defenses against pathogens.

Controlling crop diseases is a complicated process of managing resistance to available treatments while fighting multiple pests on multiple fronts. Gadoury said that if farmers can knock out pathogens that are difficult to suppress with fungicides, they can more efficiently manage the remaining diseases and insect pests. Using UV light to do this allows growers to use fewer fungicides, preserve their effectiveness and see significant savings.

This option is especially critical for organic growers, who often have a more limited arsenal of control measures. And for high-value specialty crops like strawberries, grapes and greenhouse cucumbers – some of the most heavily treated with fungicides – using UV light could expand organic production.

The team’s work is supported by a $1.7 million Organic Agriculture Research and Extension Initiative grant from the USDA, as well as by major grants from the USDA Specialty Crop Research Initiative, the USDA Crop Protection and Pest Management program, and the National Research Council of Norway.

The relationship between science and UV light technology is strikingly simple. Fungi have evolved light-sensing systems, which they use to control their development. They also have a system that rapidly repairs DNA damaged by constant exposure to UV light.

Eight years ago, project partners Aruppillai Suthaparan and Arne Stensvand, at the Norwegian Institute of Bioeconomy Research (NIBIO), discovered that powdery mildew fungi shut down this repair mechanism at night. The researchers were then able to exploit this weakness, exposing fungi to a small amount of UV light at night – killing the pathogen without harming the plants.

To move this critical discovery out of the lab required the
combined talents of a diverse project team from Cornell, the University of Florida Gulf Coast Research and Education Center, Rensselaer Polytechnic Institute, the USDA Agricultural Research Service Grape Genetics Research unit, the Norwegian University of Life Sciences and the National Institute of Bioeconomy Research in Norway.

The team has now defined UV light wavelengths and doses for a variety of crops and conditions while also developing inexpensive, efficient lighting and delivery systems, such as low-tech tractor attachments.

This year, farmers will have more chances to see the effects of UV light on crops. Working with leading growers and extension divisions across the U.S., the team will conduct nearly 20 trials with strawberries, squash, pumpkins, cucumbers, grapes, hops, basil and industrial hemp. In New York, the first commercial grapevine field trial will run in Hammondsport, New York, at Bully Hill Vineyards, which also is a sponsor and partner in related research at Cornell AgriTech.

“Sustainable viticulture is a foundation on which Bully Hill has built its success, and UV technology is a game changer for our spray program. We’re at the mercy of Mother Nature when applying fungicides, and powdery mildew is constantly evolving to combat the effectiveness of current formulations,” said Greg Taylor, director of sales and son of winery founder Walter Taylor. “We are also enthusiastic about the prospect of using UV technology against downy mildew. If commercially viable, this will only increase the technology’s value.”

Sarah Thompson is a freelance writer for Cornell AgriTech.

FSA Encourages Producers to Enroll Soon in Agriculture Risk Loss and Price Loss Coverage Programs

WASHINGTON, D.C., Jan. 15, 2020 – USDA’s Farm Service Agency (FSA) encourages agricultural producers to enroll now in the Agriculture Risk (ARC) and Price Loss Coverage (PLC) programs. March 15, 2020 is the enrollment deadline for the 2019 crop year.

Although more than 200,000 producers have enrolled to date, FSA anticipates 1.5 million producers will enroll for ARC and PLC. By enrolling soon, producers can beat the rush as the deadline nears.

“FSA offices have multiple programs competing for the time and attention of our staff. Because of the importance and complexities of the ARC and PLC programs; and to ensure we meet your program delivery expectations, please do not wait to start the enrollment process,” said FSA Administrator Richard Fordyce. “I cannot emphasize enough the need to begin the program election and enrollment process now. Please call your FSA county office and make an appointment soon to ensure your elections are made and contracts signed well ahead of the deadlines.”

ARC and PLC provide financial protections to farmers from substantial drops in crop prices or revenues and are vital economic safety nets for most American farms.

The programs cover the following commodities: barley, canola, large and small chickpeas, corn, crambe, flaxseed, grain sorghum, lentils, mustard seed, oats, peanuts, dry peas, rapeseed, long grain rice, medium and short grain rice, safflower seed, seed cotton, sesame, soybeans, sunflower seed and wheat.

Until March 15, producers who have not yet enrolled in ARC or PLC for 2019 can enroll for both 2019 and 2020 during the same visit to an FSA county office unless yield updates are requested. Additionally, farm owners have a one-time opportunity to update PLC payment yields that take effect beginning with crop year 2020. If the owner accompanies the producer to the office, the yield update and enrollments may be completed during the same office visit.

Fungus Could Help Control Emerald Ash Borer

By Ed Ricciuti for Entomology Today © Reprinted with permission of the author.

Canadian scientists have figured out how to hit the tree-killing emerald ash borer (Agrilus planipennis) where it really hurts by employing a fatal fungus that turns mating into a way of decreasing, not increasing, its numbers. Male emerald ash borers infected with the fungus on contact inside a small chamber readily transmit it females during mating, with both dying thereafter, according to research published in the Journal of Economic Entomology.

The fungus involved is the ubiquitous Beauveria bassiana. Its snowy spores cause white muscardine disease, lethal to many insects, and it has figured prominently in the history of science. In the early 1800s, Italian bacteriologist Augustino Bassi determined that the disease, which was wiping out silkworms that were the basis of a thriving industry northern Italy and France, was caused by a fungus, leading him to describe how some diseases are caused by parasites. His insight anticipated the later affirmation of the germ theory of disease by Louis Pasteur and Robert Koch. Today, the fungus is used as a control for a host of harmful insects, including grasshoppers, locusts, bed bugs, and house flies. The emerald ash borer may be next on its hit list.

Continued on next page
The emerald ash borer (EAB) beetle was detected for the first time in North America in Detroit, MI, and Windsor, ON, Canada, in 2002, but examination of tree rings suggests that it was present from the early 1990s. Newly-hatched larvae chew through the bottom of the egg and tunnel by D-shaped holes into the ash tree host, where they feed on phloem and xylem tissues, destroying the plumbing that distributes food and water and killing the tree. The borer has claimed thousands of ash trees as it has spread to 35 U.S. states and five Canadian provinces.

When the beetles come into contact with the white, powdery spores of the fungus, the spores germinate, penetrate the cuticle of the insect, and grow inside the insect’s body, killing it. White mold grows out of the dead insect and generates new spores, which can then spread to other beetles and repeat the process.

“EAB males are the promising vector to transmit mycosis to their partners during mating,” write the authors. “[The results of the study] strengthen the potential of the fungal autodissemination device as a powerful biological strategy to control EAB populations.”

During experiments, male borers were placed in a chamber containing a beanbag-like pouch, made of fiberglass mosquito netting filled with pearl barley, whose surface had been inoculated with a suspension containing the fungus. Males picked up the fungus when they crawled over the pouch. They were then allowed to have contact with females and successfully transmitted the fungus.

“To reduce the risk of indirect contamination [of females] associated with insect movement, females were glued on the surface of all experimental units,” says Claude Guertin, Ph.D, one of the authors on the paper.

The research followed up previous work by Dr. Guertin and colleagues on the development of a system that would allow the beetles to infect themselves by contact.

The use of fungus as a control tool may provide managers of forests, including trees in urban areas, with an alternative to chemical insecticides. The research suggests that, as in some other insects, males are better transmitters of the fatal infection than females. The lethal effect of the fungus can be enhanced by the fact that some males mate with at least two females, multiplying the control impact.

Ed Ricciuti is a journalist, author, and naturalist who has been writing for more than a half century. His latest book is called Bears in the Backyard: Big Animals, Sprawling Suburbs, and the New Urban Jungle (Countryman Press, June 2014).

Genetic marker discovery could ease plant breeders’ work

By Sarah Thompson, Cornell Chronicle, January 21, 2020

Plant breeders are always striving to develop new varieties that satisfy growers, producers and consumers.

To do this, breeders use genetic markers to bring desirable traits from wild species into their cultivated cousins. Transferring those markers across species has been difficult at best, but a team of grapevine breeders, geneticists and bio-informatic specialists at Cornell AgriTech in Geneva, New York, has come up with a powerful new method.

Their research is detailed in “Haplotyping the Vitis Collinear Core Genome With rhAmpSeq Improves Marker Transferability in a Diverse Genus,” published Jan. 21 in Nature Communications.

The team’s new technique for developing genetic markers improves markers’ transfer rate across grapevine species by leaps and bounds – from 2% to 92%. With it, breeders worldwide can screen their collections and find out immediately which vines have the traits they want – regardless of what varieties they are, where they came from or which species their parents were.

“This new marker development strategy goes well beyond grapes,” said co-author Bruce Reisch, professor of horticulture in the College of Agriculture and Life Sciences, and leader of Cornell’s Grapevine Breeding and Genetics Program. “It’s applicable for breeding and genetic studies across different grape breeding programs, plant species and other diverse organisms.”

 Breeders bring desired traits from native species into cultivated ones by identifying the DNA markers that point to trait-associated genes, selecting plants that carry them and breeding across species. For grapevines and other plants, though, evolution has reshuffled the genetic deck so fully.
that markers developed using certain grapevine species don’t work with wild species or their hybrids.

Yet it’s essential that breeders have reliable markers for creating new grape varieties with improved flavor, weather- or disease-resistance – especially as climate change increases disease pressure and alters the growing range for many cultivated varieties.

To create the genetic markers, the research team used new automated DNA sequencing technology to create a “core genome” for grapevines, matching important regions shared between 10 species’ genomes. Using powerful new rhAmpSeq genetic mapping technology, they targeted those regions to develop robust DNA markers.

Of the 2,000 markers the team developed, 92% matched with four grape families spanning the diversity of the *Vitus* (grapevine) genus, including related species that diverged 20 million years ago.

The researchers have already applied these new markers to more than 22,000 grapevines, including those within the USDA Agricultural Research Service’s national grapevine collection. The markers also reliably map muscadine grapes, a subspecies native to the southeastern U.S. and a major source of disease resistance genes.

Other grape species native to North America and Asia also are better adapted to varied climate and soil conditions, in addition to disease resistance.

“This tool is much more powerful than we realized,” said co-author Lance Cadle-Davidson, adjunct professor in Cornell’s School of Integrative Plant Science and a research plant pathologist with the USDA’s Grape Genetics Research Unit in Geneva. “It opens up so many new opportunities to make connections where none existed before. Now we’re all speaking the same language.”

Co-lead authors were Cheng Zou, postdoctoral researcher at the Cornell Biotechnology Institute, and Avinash Karn, postdoctoral researcher in the Reisch lab.

This breakthrough in translating the grapevine genome into a common language for breeders is central to the mission of VitisGen2, the second iteration of a multi-institution research project from which the new marker development strategy emerged.

“This is game-changing work – and it’s only the beginning,” said Donnell Brown, president of the National Grape Research Alliance, an industry-led nonprofit representing the research interests of wine, juice, raisin and table grapes. “From here, we can greatly accelerate the genetic exploration that will help us improve fruit and production quality and, ultimately, respond to the threats of pests and diseases, a changing climate and more.”

Co-lead authors were Cheng Zou, postdoctoral researcher at the Cornell Biotechnology Institute, and Avinash Karn, postdoctoral researcher in the Reisch lab.

*This work was supported by grants from the U.S. Department of Agriculture and the National Science Foundation.*

Sarah Thompson is a freelance writer for Cornell AgriTech.
Tioga County Soil and Water Conservation District Celebrates 75th Anniversary

By: Miranda Palmer, Tioga County Soil and Water Conservation District

On November 27, 1944, the Tioga County Legislature, decided to make the preservation of the county’s natural resources a priority. In doing so, the legislature authorized the creation of what is today known as the Tioga County Soil and Water Conservation District. The District’s core mission is to assist individual landowners, groups and units of government with any natural resource concern that is brought before it. This may take the form of technical advice, technical assistance or finding a solution through another entity. As the District celebrates our 75th anniversary this year, District Manager Wendy Walsh reflected on the programs, projects and staff that have worked to strengthen the conservation ethic in our county and protect our natural resources. Over the years, the District has strived to develop programs that deliver benefits to our municipalities, landowners and agricultural operations in the county. Our primary focus has been on meeting local needs but also making sure the work we do will provide both regional and watershed wide improvements.

Across the United States, there are nearly 3,000 conservation districts. The core mission of each district is to conserve and promote healthy soils, water, forest and wildlife. Whether decades ago or here and now, protecting resources is a crucial cause. Over the last few years, the District has purchased two no-till drills to assist farmers with no-till planting, purchased a hydroseeder to assist municipalities with the seeding of critical areas, and expanded office spaces for our growing staff. Ron Dougherty, current Tioga County Soil and Water Board Member explains, “Wendy Walsh and the current Soil and Water team deserve a great deal of credit for all they do in continuing this 75 year legacy of preserving Tioga Counties’ natural resources.”

Today the Tioga County Soil and Water Conservation District assists with:

**Agricultural Conservation** – By working with local farms, the District focuses on the preservation of natural resources through the implementation of conservation practices. Some of these practices include the installation of riparian buffer areas, no-till plant-ing, purchased a seeder to assist municipalities with the critical areas, and expanded office spaces for our growing staff. Ron Dougherty, current Tioga County Soil and Water Board Member explains, “Wendy Walsh and the current Soil and Water team deserve a great deal of credit for all they do in continuing this 75 year legacy of preserving Tioga Counties’ natural resources.”

**Agricultural Conservation** – By working with local farms, the District focuses on the preservation of natural resources through the implementation of conservation practices. Some of these practices include the installation of riparian buffer areas, no-till planting, and purchased a hydroseeder to assist municipalities with the seeding of critical areas.
planting, structural practices such as heavy-use protection areas, and planting cover crops.

**Urban Conservation** – A District favorite of many community members is our annual tree and shrub seedling sale, held in April of every year. The sale gives an opportunity for rural landowners to learn more about backyard conservation practices that can help promote healthy soil and water on their property and throughout the community.

**Environmental Education** – Every year the District makes it an effort to put boots on the ground and participate in education and outreach events throughout the county. You’ll catch us at the Tioga County Fair, the Candor Daffodil fest, and even in schools throughout the county. We also love to partner with local community groups to hold pot up events and plant riparian areas!

**Stream Conservation** – By walking and inventorying different watersheds throughout the county, our staff is able to take information gathered to monitor stream health and prioritize areas in need that are consistently affected by flooding, debris damage, and erosion. The District works with towns, municipalities, and private landowners to provide technical assistance to promote stream health throughout the county.

As programs and services continue to grow, the District looks forward to making natural resource conservation and preservation in the County a priority. To learn more about the District, visit us at Tiogaswcd.org, stopping by our main office located at 183 Corporate Drive Owego, or giving us call 607-687-3553. Be sure to follow us on Facebook @TiogaSWCD for updates and program opportunities! Here’s to another 75 years!

**Online Food Hub Looking to Partner with Local Producers**

By Megan Griffiths, Tioga County Economic Development and Planning

Delivered Fresh, an online food hub based in Northern Pennsylvania, is looking to expand and partner with producers in Tioga County and the surrounding area. Delivered Fresh hosts an online website where customers can purchase goods from all participating producers. They then aggregate products from local producers and deliver it later in the week the customers at convenient drop of locations. They look to support small to medium sized farms in the marketing of their products.

There will be an informational session with the owner of Delivered Fresh, David Nowacoski, on February 11 at 10 am at the Engelbert Farms Store and Creamery, located on West River Road, Nichols, NY.

For more information about Delivered Fresh, visit deliveredfresh.localfoodmarketplace.com or email info@deliveredfresh.store.

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**WE COUNT IN TIOGA COUNTY!**

The United States 2020 Census is coming and responding is important because...

- Reapportionment of our elected officials’ districts at the national, state and county levels are based on the decennial census 100% population count.
- Nearly $700 billion in federal funding is allocated annually to states, municipalities, school districts and non-profit organizations based on the decennial census 100% population count. $73 billion is allocated to NYS.

To ensure our voices are heard for political representation and federal funding, it is essential that a resident from every Tioga County household complete and submit the US 2020 Census Form on April 1, 2020 and be counted.
Modern On-Farm Preparedness: Updates & Strategies for Managing Human Risk

Most farms operate in an environment characterized by significant uncertainty, where managing risk is a daily concern. Risk management conversations often emphasize how to deal with uncertain yields and prices. However, people are also a source of risk for farm businesses. Extension Risk Management Education defines human risk management as “the ability to keep all people who are involved in the business safe, satisfied and productive.” Any activities that improve human health and well-being, family and business relationships, or employee management will contribute to a farm’s overall human risk management picture.

This winter, Cornell Cooperative Extension has teamed up with the NY State Cattle Health Assurance Program, the American Dairy Association, and the New York Center for Agriculture and Health to help farms expand their human risk management capacity. Their Modern On-Farm Preparedness program includes a series of presentations and webinars intended to address various aspects of health, safety, employee management, and public relations that farms face in today’s world.

The series will take place on five consecutive Thursday afternoons from January 23 to February 27. You can tune in to watch the webinars from home on your computer or mobile device, or join us for a group viewing and discussion. Farms can register to attend all five sessions, or register for individual sessions. Registration is $10 per session.

To register, visit our website: https://scnydfc.cce.cornell.edu/events.php or contact Donette Griffith by email at dg576@cornell.edu or by phone at 607-391-2662. For questions, contact Betsy Hicks by email at bjh246@cornell.edu or by phone at 607-391-2673.

Modern On-Farm Preparedness Schedule

Jan 30 – F.A.R.M 4.0 Update. The F.A.R.M program is evolving as farmers implement the program. Learn about how farmers have used and gained benefits and how you can use the FARM program. Webinar & Discussion: 1 -2 pm. Broadcasts: Farm Credit East in Homer & CCE Tioga

Feb 6 – Activist Preparedness. This session will address several aspects of dealing with activists, including good hiring practices, available resources for support, and a plan of who to contact if something happens on your farm. Learn how to talk about videos taken on another farm and how to prepare your employees for these events. Webinar & Discussion: 1 -2 pm. Broadcasts: Farm Credit East in Homer & CCE Tioga

Feb 13 – Social Media Preparedness. How to respond to negative comments on farm pages. Resources to tap into and people you can call for effective responses. Farm Credit East 1 -4 pm.

Feb 20 – Disease Outbreaks and Biosecurity. Do you have a plan in place if there is a disease outbreak on the farm? Dr. Melanie Hemenway, State Veterinarian, will provide concrete steps to deal with disease outbreaks and make biosecurity recommendations for prevention. Webinar: 1 -2 pm. Broadcasts: Farm Credit East in Homer & CCE Tioga

Feb 27 – On Farm Safety: Prevention, Prevention, Prevention. Yet accidents still happen. This session will focus on prevention and also address accident response. E-Z Acres in Homer: 1 -4 pm.
Energy Saving Programs for Farms & Farmers

1. NYSERDA Agriculture Energy Audit Program
   - Free energy audits to farmers (NYSERDA pays contractors over $1,000) to help identify ways to save energy and money.
   - Lighting, refrigeration, cooling, heat pumps, biogas, solar—possible areas of study
   - → Apply online or printed form to NYSERDA

2. USDA Rural Energy for America Program (REAP)
   - Grant covering 25% of cost of energy efficiency or renewable energy improvements, as well as loan guarantees
   - → Apply through local USDA office

3. NYSEG Rebates
   - Rebates for HVAC systems, steam traps, controls and thermostats, boiler and chiller tune-ups and more
   - → Mail in paper application to NYSEG

4. Solar Incentives
   - Federal solar tax credit covers 26% of cost; additional NYSERDA rebate
   - Can be combined with USDA grant (see above)
   - → Get quotes from solar contractors

More Programs & Information
- Additional programs for residential audits, heat pumps, solar installations, etc.
- Personalized help available from energy advisers. Contact Karim Beers at (607) 272-2292 or go to www.smartenergychoices.org.
News, Notes and Workshops for Tioga and Chemung County Farmers and Gardeners

Exploring the Small Farm Dream: Is Farming Right for You?
Tuesdays, February 4th-25th
6-8:30pm
Cornell Cooperative Extension of Broome County

During this four part series participants will begin to think through small scale farming as a business (rather than a hobby), learn what it takes to start and manage a farm business and decide whether that is something they want to pursue. Click here for more information: [https://reg.cce.cornell.edu/winter2020farmexplorer_203](https://reg.cce.cornell.edu/winter2020farmexplorer_203). Veterans attend for free.

USDA Reminds Producers of Feb. 28 Deadline for Conservation Reserve Program General Signup

WASHINGTON, D.C., January 28, 2020 – The U.S. Department of Agriculture (USDA) reminds agricultural producers interested in the Conservation Reserve Program (CRP) 2020 general signup to enroll by February 28, 2020. This signup is available to farmers and private landowners who are either enrolling for the first time or re-enrolling for another 10- to 15-year term.

“This is the first opportunity for general sign up since 2016, and we want producers and private landowners to know that we have just one month remaining,” FSA Administrator Richard Fordyce said. “It is critical that they make their final determinations and submit offers very soon to take advantage of this popular conservation program.”

Farmers and ranchers who enroll in CRP receive yearly rental payments for voluntarily establishing long-term, resource-conserving plant species, such as approved grasses or trees (known as “covers”), which can control soil erosion, improve water quality and develop wildlife habitat on marginally productive agricultural lands.

CRP has 22 million acres enrolled, but the 2018 Farm Bill lifted the cap to 27 million acres.

Signed into law in 1985, CRP is one of the largest private-lands conservation programs in the U.S. It was originally intended to primarily control soil erosion and potentially stabilize commodity prices by taking marginal lands out of production. The program has evolved over the years, providing many conservation and economic benefits. Marking its 35th anniversary in 2020, CRP has had many successes, including:

- Preventing more than 9 billion tons of soil from eroding, enough soil to fill 600 million dump trucks;
- Reducing nitrogen and phosphorous runoff relative to annually tilled cropland by 95 and 85 percent respectively;
- Sequestering an annual average of 49 million tons of greenhouse gases, equal to taking 9 million cars off the road;
- Creating more than 3 million acres of restored wetlands while protecting more than 175,000 stream miles with riparian forest and grass buffers, enough to go around the world 7 times; and
- Benefiting bees and other pollinators and increased populations of ducks, pheasants, turkey, bobwhite quail, prairie chickens, grasshopper sparrows and many other birds.

The CRP continuous signup is ongoing, which enables producers to enroll for certain practices. FSA plans to open the Soil Health and Income Protection Program, a CRP pilot program, in early 2020, and the 2020 CRP Grasslands signup runs from March 16, 2020 to May 15, 2020.

To enroll in CRP, contact your local FSA county office or visit [fsa.usda.gov/crp](https://fsa.usda.gov/crp). To locate your local FSA office, visit [farmers.gov/service-locator](https://farmers.gov/service-locator).

Cider Production

Feb 22nd and 9-11 for class/tasting, 11-12 optional orchard tour at Eves Cidery 308 Beckhorn Hollow Rd. Van Etten, NY 14889. Contact Roger Ort at CCE Schuyler for details. 607.535.7161 or email rlo28@cornell.edu

New Tools Available to Help Farms Manage Overtime Regulations

On January 1, 2020 New York farms will have to pay overtime wages for nearly all employees that work over 60 hours a week. Researchers and extension educators from Cornell University have developed several tools to help New York farms manage through these changes, including spreadsheets and worksheets.

[https://agworkforce.cals.cornell.edu/regulations/overtime/](https://agworkforce.cals.cornell.edu/regulations/overtime/)
Peter Levatich Rural Landowner Seminar

Feb 29th- February 29th from 9:30 to noon at the Spencer-Van Etten High School on State Route 34, Spencer, NY. The Southern Finger Lakes Chapter of the NY Forest Owners Association (www.nyfoa.org) invite you to their popular annual “Peter Levatich Rural Landowner Seminar”. This year’s theme is: “Agroforestry in Action: Experiences from Local Tree Farms”. Four agroforestry experts will share experiences from their own farms on how integrating forestry and farming have helped them achieve their goals.

Attendance is free and open to the public. Light refreshments and door prizes. Pre-registration is NOT required, but questions can be referred to Brett Chedzoy at Schuyler CCE: bjc226@cornell.edu, or by phone: 607-535-7161. In the case of cancellation due to extreme weather, notification will be posted by 9:00 p.m. on Friday, Feb. 28th at CCE’s forestry forum: www.cornellforestconnect.ning.com


Wednesday, February 12th from 6:00 to 8:00 pm. Join Cornell Cooperative Extension at the Silver Spoon Café – 323 Owego Street; Montour Falls, for an evening of informative presentations by state and federal agency representatives who work with rural landowners on projects ranging from conservation and wildlife habitat to woodlot and farmland management. Presenters include: Pat Lafler – Service Forester with the NYS Dept. of Environmental Conservation; Erin Paczkowski – Resource Conservationist with the USDA Natural Resources Conservation Service; and John Mietz – County Executive Director with the USDA Farm Service Agency. This event is free and open to the public and light refreshments will be served. Registration is not required, but for more information please contact Brett Chedzoy at Cornell Cooperative Extension of Schuyler County by email (bjc226@cornell.edu) or by phone (607-535-7161). In the case of extreme weather cancelation, please check the Schuyler CCE website in advance: http://cceschuyler.org

Attention: Gardeners: Creation of a new American Rose Society Chapter!

There are many gardeners who grow roses or would like to grow roses in the Finger Lakes and Southern Tier who would be greatly served by having a local chapter. A local club would provide opportunities for meeting gardeners throughout our region, learning about growing roses, and visiting private and public gardens featuring roses. The counties in our region could include: Broome, Chemung, Schuyler, Seneca, Steuben, Tioga and Tompkins. If you are interested, please contact me. It would be great to have our first meeting sometime this winter. Lee Ginenthal, Der Rosenmeister Nursery derrosenmeister@gmail.com 607-351-1336

The USDA National Scrapie Eradication Program Needs Our Help!

The USDA is currently seeking producers to let them sample mature sheep, 14 months of age to 6 years of age, for scrapie disease at slaughter or when an animal is found dead, euthanized, or slaughtered on the farm. The sampling involves taking the obex (brain stem) and a lymph node from the head. The USDA needs to increase the number of samples to maintain a minimum number so New York State remains in "consistent status". If New York State does not reach this minimum there will be severe consequences for our state. As an incentive to producers, the USDA is offering free scrapie tags to producers who have at least one eligible sheep sample.

If you can provide such sampling opportunities, please contact Shelley Vitela: Shelley Vitela, Animal Health Technician, New York, Phone: 607-201-8962 Email: Shelley.R.Vitela@usda.gov 500 New Karner Road, Albany, NY 12205
Philadelphia Flower Show Bus Trip

Monday, March 2
7:00 a.m. to 9:30 p.m.
Registration Deadline: February 18
Cornell Cooperative Extension of Broome County is offering a bus trip to the PHS Philadelphia Flower Show on Monday, March 2, 2020 with the snow date of Friday, March 6, 2020. This year’s Flower Show theme is “Riviera Holiday”. The world’s leading floral and garden designers will immerse visitors in the sights, scents, and tastes of the Mediterranean Riviera. Join Broome County Master Gardeners to attend the world’s longest-running and largest indoor flower show. The cost is $90.00 per person. Price includes bus fare and ticket to the garden show. The registration deadline is Tuesday, February 18, 2020. The busses will leave the Cracker Barrel parking lot at 7:00 a.m. There will be a pick up and drop off stop at the McDonalds on State Route 11, Hallstead, PA for our friends to the south. Please choose your pick-up site on the online registration. There will also be a rest stop on the ride down and on the way home. To register please call 607-584-9966 or visit: www.ccebroomecounty.com/gardening.

Season Extension and Low Tunnel Construction
Saturday, March 21st
1:00 to 2:00 p.m.
CCE Broome Ag. Development Center
You can easily add 2 weeks to the start and end of the growing season by the use of low tunnels, (frost blankets with supports). Construct you own 4 ft. low tunnel hoops and learn tips and techniques from Master Gardener Volunteers at Cutler Botanic Garden. Hoop material, ½ inch EMT, will be provided. Please dress for the weather and bring a pair of garden gloves. The cost of this class is $15 and includes 3 hoops. Each hoop is 4 ft. wide, 4 ft. tall. Additional hoops will be available at the class for $5 each. Class size is limited so pre-registration is required. To register please call 607-584-9966 or visit: www.ccebroomecounty.com/gardening.
Farm Bureau is not just for dairy farmers! If you have any type of farm: beef, sheep, nursery, hemp, etc., think about joining Farm Bureau. Farm Bureau is YOUR advocate for farming issues!!

Maintaining a strong agriculture community and ensuring a vibrant future for Tioga County’s Rural Landscape

NYFB Members Save With Our Business Partners

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